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EU Transport Policy and Legal Framework in the Green Deal Era  
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## **EU Transport Policy and Legal Framework in the Green Deal Era**

### **Abstract**

The aim of this thesis is to provide a comprehensive overview of the European Union's transport policy and legal framework in the Green Deal era. By analyzing the Sustainable and Smart Mobility Strategy, the Fit for 55 package, and the Efficient and Green Mobility package, the study sheds light on the dynamics of the EU's transport measures and their implications for private and public investment decisions. The study considers the implementation progress of the Sustainable and Smart Mobility Strategy through the Connecting Europe Facility and InvestEU. Furthermore, the study considers the 2022 Guidelines on State Aid for Climate Environmental Protection and Energy. Moving forward, the thesis highlights the need for a robust EU accountability mechanism to ensure transparency and the effective use of EU funds. Furthermore, it proposes that the European Ombudsman should play a vital role in guaranteeing that EU institutions comply with accountability requirements when access to information requests are lawfully denied.

### **Keywords**

EU Transport Policy, Green Deal, Sustainable and Smart Mobility Strategy, Fit for 55 Package, Efficient and Green Mobility Package, State Aid Rules, Accountability Mechanism, Private and Public, Investment, Transparency. Ombudsman Statute

## **Πολιτική Μεταφορών και Νομικό Πλαίσιο της ΕΕ στην Εποχή της Πράσινης Συμφωνίας.**

### **Περίληψη**

Σκοπός αυτής της μελέτης είναι να παρέχει μια ολοκληρωμένη επισκόπηση της πολιτικής μεταφορών και του νομικού πλαισίου της Ευρωπαϊκής Ένωσης στην εποχή της Πράσινης Συμφωνίας. Αναλύοντας τη Στρατηγική Βιώσιμης και Έξυπνης Κινητικότητας, το πακέτο Fit for 55 και το πακέτο Αποδοτικής και Πράσινης Κινητικότητας η εργασία ρίχνει φως στη δυναμική των μέτρων μεταφορών της ΕΕ και τις επιπτώσεις τους στις αποφάσεις ιδιωτικών και δημόσιων επενδύσεων. Η μελέτη εξετάζει την πρόοδο υλοποίησης της Στρατηγική Βιώσιμης και Έξυπνης Κινητικότητας μέσω του μηχανισμού «Συνδέοντας την Ευρώπη» και του InvestEU. Επιπλέον, η μελέτη εξετάζει τις Κατευθυντήριες γραμμές του 2022 για τις κρατικές ενισχύσεις στους τομείς του κλίματος, της προστασίας του περιβάλλοντος και της ενέργειας. Προχωρώντας, η μελέτη υπογραμμίζει την ανάγκη για έναν ισχυρό μηχανισμό λογοδοσίας της ΕΕ για τη διασφάλιση της διαφάνειας και της αποτελεσματικής χρήσης των κονδυλίων της ΕΕ. Επιπλέον, προτείνει ο Ευρωπαίος Διαμεσολαβητής να διαδραματίσει ζωτικό ρόλο διασφαλίζοντας ότι τα θεσμικά όργανα της ΕΕ συμμορφώνονται με τις απαιτήσεις λογοδοσίας όταν νομίμως απορρίπτονται αιτήματα πρόσβασης στην πληροφορία.

### **Λέξεις-κλειδιά**

Πολιτική Μεταφορών της ΕΕ, Πράσινη Συμφωνία, Στρατηγική για Βιώσιμη και Έξυπνη Κινητικότητα, Πακέτο Fit for 55, Πακέτο Αποδοτικής και Πράσινης Κινητικότητας, Κρατικές Ενισχύσεις, Μηχανισμοί Λογοδοσίας, Ιδιωτικές και Δημόσιες Επενδύσεις, Διαφάνεια, Καταστατικό Διαμεσολαβητή

## **Introduction**

The European Green Deal aims for climate neutrality by 2050, with the transport sector playing a crucial role in this transformation. This sector produces about a quarter of the EU's greenhouse gas (GHG) emissions and is the only sector where these emissions have grown since 1990. Over 70% of transport emissions come from road transport. Passenger cars account for nearly half of these emissions. Aviation and waterborne transport make up for most of the rest, while rail contributes less than 1%. The European Commission aims at 90% reduction in transport emissions compared to 1990 levels in 2050 in order to make Europe carbon neutral.

The transport sector needs significant changes to meet the EU's sustainability goals. The European transport policy aims to create a sustainable transport system that supports a fully integrated and competitive Europe. The European Green Deal outlines policies to achieve this (ref. COM(2019)640 final). Furthermore, the European Commission released its Sustainable and Smart Mobility Strategy. This strategy forms the backbone on how green and digital transformation can be achieved in the EU transport system and also make it resistant to future crisis. It also aims to ensure that the EU remains a global leader in clean transport.

On 14 July 2021, the Commission adopted the 'Fit for 55 package'. Several of the proposals it contains already deliver on what has been announced in the sustainable and smart mobility strategy. The package includes revisions of the EU Emissions Trading System (ETS), the Energy Tax Directive, the Renewable Energy Directive (RED), the Directive on deployment of alternative fuel infrastructure, and the Regulation setting CO<sub>2</sub> emission performance standards for new passenger cars and for new light commercial vehicles.

On 14 December, the Commission published a second package of proposals to support a transition to cleaner, greener transport. The package consists of revisions of the regulations on Trans-European Transport Network (herein after TEN-T) and Intelligent Transport Systems (herein after ITS), a new EU urban mobility framework (non-legislative), and a new Action Plan: boosting long-distance and cross-border passenger rail (non-legislative).

This study aims to present the fundamental constituents of the EU's transport policy and legislation in the Green Deal era with a focus on energy and the environment. In so doing, the study presents a chronicle of how the Commission's initiatives materialized into concrete legal commitments in the transport sector. Moreover, the study identifies policy gaps, as well as challenges and opportunities in the implementation of the EU's legal framework in the transport sector.

The study is structured as follows: chapter 1 summarises the Sustainable and Smart Mobility Strategy. Chapter 2 is devoted to the binding rules introduced by the Fit for 55 Package for transport while chapter 3 presents the Efficient and Green Mobility Package. In chapter 4, the realization and implementation progress of the Sustainable and Smart Mobility Strategy, through the Connecting Europe Facility and InvestEU, is analysed. Chapter 5 is concerned with the 2022 Guidelines on State Aid for Climate Environmental Protection and Energy highlighting potential policy gaps. The thesis concludes with a discussion on the importance of effective accountability mechanisms and reflects the recommendations of the study.

## Chapter 1

### Sustainable and Smart Mobility Strategy

On December 9, 2020, the European Commission released the Sustainable and Smart Mobility Strategy (ref. COM(2020)789). The goal of this initiative is to modernize the EU transportation network so that it is more digital, environmentally friendly, and crisis-resistant. The objective is to achieve a 90% reduction in emissions by 2050 through a smart, competitive, safe, accessible, and cheap transportation system, as stated in the European Green Deal. The Sustainable and Smart Mobility Strategy underpins the Commission's initiatives to that end.

By converting current fleets to low- and zero-emission cars and increasing the use of renewable and low-carbon fuels, the Commission is committed to lower the transport sectors dependence on fossil fuels. It also seeks to promote greener forms of transport, in particular rail and inland waterways. Finally, the Commission intends to internalize external costs to accurately represent the environmental impact of transportation.

The strategy sets out an action plan of concrete policy measures, structured around 10 key areas for action (“flagships”) with specific actions to be taken over the following years to bring the EU transportation system into line with the goals of the European Green Deal and the objectives of the EU’s Digital Strategy. The strategy specifies the milestones to be achieved by 2030, 2035, and 2050. By 2030, the goal is to have at least 30 million zero-emission cars on European roads and for 100 European cities to achieve climate neutrality. High-speed rail traffic will double across Europe, and scheduled collective travel for journeys under 500 km will be carbon neutral. Additionally, large-scale deployment of automated mobility and market readiness of zero-emission marine vessels are expected.

Large, emission-free airplanes are expected to be ready for the market by 2035. The Commission expects almost all new heavy-duty vehicles, vans, buses, and cars to be emission-free by 2050. The Commission also expects the Trans-European Transport Network to be completed. Finally it is expected that rail freight traffic will double while inland navigation and short sea shipping will increase by 50%.

The main objectives of the strategy's horizontal areas of action are promoting healthy and sustainable interurban and urban mobility, advancing automated and connected mobility, encouraging innovation through data and artificial intelligence, strengthening the transport single market, guaranteeing equitable and just mobility for all, improving safety and security in transportation, and

preserving the EU's standing internationally.

Stevens (2023) recently argued that organizations focusing predominantly on expertise-based lobbying are anticipated to be more likely to secure policy success. In that he argued that the Commission primarily seeks to assess the level of political support when setting its policy priorities whereas it mainly requires expert knowledge when designing its policy proposals. Related to that it is interesting to note a request from the European Committee of the Regions that local and regional authorities have access to the EUCARIS<sup>1</sup> system as expressed in its opinion on the Sustainable and Smart mobility strategy (ref. 2021/C 440/03).

In the Parliament, an own-initiative draft report on the plan was developed by the Committee on Transport and Tourism (TRAN). This emphasized the need for greater ambition in a number of sectors, particularly with regard to the deployment of zero-emission mobility in road transport, sea transportation, and aviation. It suggested that public charging infrastructure have enforceable targets and that carbon-neutral options for planned group travel should be accessible for distances up to 1000 km, by 2030 (ref. TRAN(INI)2021/2046).

The Sustainable and Smart Mobility Strategy was welcomed and the Commission's vision was supported by the Council (ref. ST-8824/2021-INIT). In its conclusions, adopted on June 3, 2021, the Council emphasized the importance of analyzing policy impacts on the modal shift, economic and social cohesion, environmental performance, system efficiency, infrastructure charges, service levels, and working conditions (ref. ST-8790/2021-INIT). According to the Council, such analysis should supplement regular policy evaluations to measure the degree of effective market opening and technical harmonization.

Moreover, the Council expressed strong support for the Commission's ambitious vision to prioritize rail as a key component of smart and sustainable mobility. In that, the Council stressed that rail transport accounts for only 0.4% of transport-related CO<sub>2</sub> emissions, even though it handles 8% of passenger transport and 19% of freight transport across Europe. The Council emphasized that achieving a true modal shift will require rail traffic volumes growth to outpace economic growth. Additionally, it highlighted the necessity of developing high-speed and international rail services between major urban hubs to meet the objectives of the Sustainable and Smart Mobility Strategy. The Council also welcomed the Commission's plan to present an action plan aimed at boosting long-distance and cross-border passenger rail services and called on the Commission to study eventual European-level schemes to support rail operators.

In my opinion, among the most notable initiatives outlined in the Sustainable and Smart Mobility Strategy for achieving the ambitious transport emissions reductions are those within the Fit

<sup>1</sup> EUCARIS is an intergovernmental application for a network of national vehicle registration databases.

for 55 package, which are presented in the next chapter.

## Chapter 2

This chapter is devoted to the binding rules introduced to the transport sector through the Fit for 55 Package. These are connected to the EU Emissions Trading System (ETS), the Social Climate Fund, the Renewable Energy Directive (RED), the Alternative Fuel Infrastructure Regulation (AFIR), the Refuel-EU aviation regulation, the FuelEU maritime regulation, the CO<sub>2</sub> emissions for new cars and vans regulations, and the CO<sub>2</sub> emissions for trucks buses and trailers regulation. Finally, it outlines the proposal for a revised energy taxation directive which has yet to be agreed upon by the co-legislators.

### Fit for 55 Package

The Fit for 55 package consists of a set of interconnected proposals (ref. COM/2021/550 final). More specifically the package strengthens eight existing pieces of legislation and introduces five new initiatives across various policy areas and economic sectors, including climate, energy and fuels, transport, buildings, land use, and forestry. These aim at achieving a fair, competitive, and green transition by 2030 and beyond. The policy mix adopted aims to balance pricing, targets, standards, and support measures, notably through the new Social Climate Fund and enhanced Modernisation and Innovation Funds.

To reach the 2030 target, the package proposed a revision of the Renewable Energy Directive, raising the 2030 target to 40%, up from 32%. Moreover, it proposed gradually extending the current EU Emissions Trading System (ETS) to the maritime sector from 2023 to 2025 to strengthen carbon pricing in the transport sector. It also proposed the phasing out of free emissions allowances for aviation operators. Finally, it proposed that the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) be implemented through the EU ETS Directive to address aviation emissions globally.

Starting in 2026, emissions trading was proposed to apply to road transport in a separate system focused on upstream fuel suppliers, placing the responsibility on fuel producers rather than individual households or road transport users. Emissions from road transport were proposed to be capped and reduced over time to ensure a decrease in total emissions.

In addition to carbon pricing, the Fit for 55 package included four proposals promoting

cleaner vehicles and fuels in a technologically neutral manner. First, the revision of CO<sub>2</sub> emission standards for new cars and vans aiming to further reduce greenhouse gas emissions, and provide a clear and realistic pathway towards zero-emission vehicles. Second, the Alternative Fuels Infrastructure Regulation aimed at ensuring the necessary deployment of interoperable and user-friendly infrastructure for recharging and refuelling cleaner vehicles across the EU. Third, the ReFuel EU Aviation Regulation which focuses on increasing both the demand for and supply of sustainable aviation fuels (SAF). Fourth, the FuelEU Maritime Regulation which aims to boost the demand for and consistent use of renewable and low-carbon fuels in the maritime sector.

These measures were to be complemented by a revised Energy Taxation Directive, with the aim to make cleaner fuels more attractive across all transport modes and close loopholes for polluting fuels. However, this proposal has yet to be adopted.

### **EU Emissions Trading System (EU ETS) for Transport**

The EU Emissions Trading System (EU ETS) is a cornerstone of the European Union's policy to combat climate change and its key tool for reducing greenhouse gas emissions cost-effectively. The system operates on a cap-and-trade principle. This means that a cap is set on the total amount of certain greenhouse gases that can be emitted by installations covered by the system. Within this cap, companies receive or purchase emission allowances, which they can trade with each other.

The Parliament formally adopted both directives on 18 April 2023, and the Council on 25 April 2023, while the Directive entered into force on the twentieth day following that of its publication in the Official Journal of the European Union i.e. 16 May 2023 (ref. Directive (EU) 2023/958 and Directive (EU) 2023/959). The EU ETS has increased its overall ambition. By 2030, the sectors covered by the EU ETS are required to reduce their emissions by 62% compared to 2005 levels. This ambitious target underscores the EU's commitment to achieving a climate-neutral economy by 2050.

For the first time, emissions from maritime transport are included within the scope of the EU ETS. The obligations for shipping companies to surrender allowances will be phased in gradually: 40% of verified emissions from 2024, 70% from 2025, and 100% from 2026 (Article 3gb of Directive (EU) 2023/959). Initially, most large vessels will be included, while offshore vessels will first be subject to the 'MRV' regulation (Monitoring, Reporting, and Verification) before being incorporated into the EU ETS. Additionally, non-CO<sub>2</sub> emissions such as methane and nitrous oxide are included in the 'MRV' regulation from 2024 and in the EU ETS from 2026.

The aviation sector is also undergoing significant changes under the EU ETS. Free emission allowances for the aviation sector will be gradually phased out. Full auctioning will be implemented from 2026. However a maximum of 20 million allowances will be reserved until 31 December 2030 to incentivize the transition of aircraft operators from fossil fuels. The EU ETS will apply to intra-European flights, including flights to the United Kingdom and Switzerland while, the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) will be applicable to flights between Europe and third countries participating in CORSIA during the period from 2022 to 2027. Transparency on aircraft operators' emissions and offsetting will be improved. Moreover, a monitoring, reporting, and verification framework for non-CO<sub>2</sub> aviation effects will be established. By 31 December 2027, based on the results of this framework, the European Commission will propose appropriate mitigation measures for non-CO<sub>2</sub> aviation effects.

Starting in 2025, a new, independent emissions trading system (ETS II) will be introduced for fuel distribution in road transport. Beginning in 2024, fuel distributors will be required to report the quantities of fuels placed on the market. From 2026 onwards, they must surrender an equivalent number of allowances. The emissions cap is set to be established in 2026, with a gradual decrease aimed at achieving a 43% reduction in emissions by 2030 compared to 2005 levels for these sectors. All allowances will be auctioned.

## **Social Climate Fund**

On 14 July 2021, the European Commission proposed the establishment of a Social Climate Fund to mitigate the indirect social impacts resulting from rising road transport and heating fuel prices (ref. COM/2021/568 final). The Parliament formally adopted the regulation on 18 April 2023, and the Council on 25 April 2023, while the Regulation entered into force on the twentieth day following that of its publication in the Official Journal of the European Union, i.e. 16 May 2023, and applied from 30 June 2024 (ref. Regulation (EU) 2023/955).

Regulation (EU) 2023/955 establishes the Social Climate Fund for the period from 2026 to 2032 (ref. Article 1 of Regulation (EU) 2023/955). The Social Climate Fund will be incorporated into the EU budget and will be financed primarily through emissions trading allowances, capped at 65 billion euros. Commitment appropriations will be made available automatically at the beginning of each financial year, starting from 1 January 2026 (ref. Article 10 of Regulation (EU) 2023/955).

Each member state must submit a 'social climate plan' to the Commission, outlining the measures and investments intended to address, inter alia, the impacts of carbon pricing on vulnerable transport users. These measures and investments will aim to increase the uptake of zero- and low-

emission mobility and transport (ref. Article 4 of Regulation (EU) 2023/955). A ceiling of 37.5% will apply to the share of temporary direct income support financed under national social climate plans (ref. Article 8 of Regulation (EU) 2023/955).

Member states will contribute 25% co-financing from their national budgets for their Plans (ref. Article 15 of Regulation (EU) 2023/955). While respecting the performance-based nature of the Fund, resources allocated to Member States under shared management may be transferred to the Fund (ref. Article 11(1) of Regulation (EU) 2023/955). Member States may also request the transfer of up to 15 % of their maximum annual financial allocation to the funds under shared management (ref. Article 11(2) of Regulation (EU) 2023/955).

### **Revised Energy Taxation Directive proposal**

As part of the Fit for 55 package, the Commission proposed a revision of the Energy Taxation Directive (ETD). This proposal aims to align the taxation of energy products with EU energy and climate policies. Moreover it aims to promote clean technologies, and eliminate outdated exemptions and reduced rates that currently favor fossil fuels.

The proposal proposed significant changes (ref. COM/2021/563 final). In particular, it proposed that fossil fuels used for intra-EU air transport, maritime transport, and fishing no longer be fully exempt from energy taxation. Fuels would now be taxed based on their energy content and environmental impact rather than their volume, encouraging businesses and consumers to make cleaner, more climate-friendly choices. Conventional fossil fuels like gas oil and petrol were imposed the highest tax rates, while electricity would be taxed at the lowest rate. The categorization of products for taxation purposes was simplified to ensure that the most environmentally harmful fuels are taxed the most.

However, the proposal had not achieved unanimous approval, when the Council reviewed its status in June 2024. The Belgian presidency of the Council introduced several compromise texts during the first half of 2024. These texts provided for prolonged transitional periods and the possibility for Member States to provide total or partial exemptions for certain sectors and services. Despite these efforts, the Belgian presidency concluded that the positions of the Member States remained divergent, indicating that further work is needed to reach a delicate balance (ref. ST-11287-2024-INIT).

### **Revised Renewable Energy Directive**

Another important component of the 'Fit for 55' package is the revision of the Renewable Energy Directive (RED II). RED II mandated that at least 32% of the EU's energy consumption comes from renewable energy sources (RES) by 2030. The 'fit for 55' revision increased this target to 40 %. Under the REPowerEU Plan of May 2022, the target was raised to 45%. The Parliament formally adopted the directive on 12 September 2023, and the Council on 9 October 2023, while the revised directive entered into force on the twentieth day following that of its publication in the Official Journal of the European Union (i.e. 31 October 2023). The revision of the Renewable Energy Directive introduced a binding overall target of 42.5% by 2030 for the share of renewables in the EU's overall energy consumption, with an additional 2.5% indicative top-up for achieving a target of 45% (ref. Directive (EU) 2023/2413).

For the transport sector, Member States can choose between a binding target of a 14.5% reduction in greenhouse gas intensity in transport from the use of renewables by 2030; or a binding share of at least 29% of renewables within the final consumption of energy in the transport sector by 2030 (up from 9.6% in 2022). Reporting requirements are also strengthened. Member States are required to include information on the share of renewable energy within the final energy consumption in the transport sector and on their greenhouse gas intensity reduction in their integrated national energy and climate progress reports (ref. Article 25(1) of Directive (EU) 2023/2413).

### **Revised Alternative Fuels Infrastructure Regulation (AFIR)**

Directive 2014/94/EU established a framework for deploying alternative fuels infrastructure in the EU. It mandated Member States to create national policy frameworks to develop markets for alternative fuels and ensure sufficient publicly accessible recharging and refuelling points, particularly for cross-border travel on the TEN-T network.

Despite the progress made, the Commission's report on the application of Directive 2014/94/EU noted that Member States showed varied ambition levels, resulting in an incomplete infrastructure network. The European Court of Auditors also emphasized the need to accelerate recharging infrastructure deployment. In addition, an ex post evaluation found the Directive inadequate for the 2030 climate goals. Key issues included insufficient and unevenly distributed infrastructure, interoperability problems with physical connections as well as communication standards. Finally, a lack of transparent consumer information and common payment systems, limiting user acceptance (ref. COM/2021/559 final).

The revised Alternative Fuels Infrastructure Regulation (AFIR) is an integral component of

the European Union's Fit for 55 package, which was presented by the European Commission on 14 July 2021. The AFIR Regulation specifically targets the deployment of infrastructure for alternative fuels. This is crucial for the transition to a more sustainable and environmentally friendly transport sector. The new regulation was adopted by the European Parliament on 11 July 2023 and by the Council on 25 July 2023. It applies since 13 April 2024 (ref. Regulation (EU) 2023/1804).

The regulation introduces several key deployment targets that must be met by 2025 and 2030 to ensure the widespread availability and accessibility of alternative fuels across the EU. From 2025 onwards, recharging stations with at least one recharging point with an individual power output of at least 150 kW for light-duty vehicles must be installed every 60 km along the EU's TEN-T network (ref. Article 3 of Regulation (EU) 2023/1804). This is intended to alleviate range anxiety and encourage the adoption of electric vehicles by ensuring that drivers have access to reliable and fast recharging options throughout their journeys.

In addition, by 31 December 2030, recharging stations for heavy-duty vehicles at least one recharging point with an individual power output of at least 350 kW need to be deployed every 60 km along the TEN-T core network and every 100 km on the broader TEN-T comprehensive network (ref. Article 4 of Regulation (EU) 2023/1804). Moreover, hydrogen refuelling stations must also be deployed in all urban nodes and every 200 km along the TEN-T core network by 31 December 2030 (ref. Article 6 of Regulation (EU) 2023/1804). By 31 December 2029 maritime ports welcoming a minimum number of large passenger vessels or container vessels are required to provide shore-side electricity to those vessels (ref. Article 9 of Regulation (EU) 2023/1804). Similarly, airports must provide electricity to stationary aircraft at all gates by 2025 and at all remote stands by 2030, helping to cut emissions from the aviation sector (ref. Article 11 of Regulation (EU) 2023/1804).

Furthermore, the regulation provides that users of electric or hydrogen-fuelled vehicles can pay at recharging or refuelling points using payment cards or contactless devices, without the need for a subscription. Finally the regulation provides that operators of recharging or refuelling points must provide those users with comprehensive and digital information on the availability, waiting times, and prices at different stations. These provisions are designed to enhance convenience and encourage the use of alternative fuels by making the payment process straightforward and transparent.

### **AFIR Challenges and Opportunities.**

The primary challenge to the Alternative Fuels Infrastructure Regulation (AFIR) is the substantial investment required to create a comprehensive network of alternative fuel stations across the EU.

Ensuring interoperability across borders is another critical challenge, as it affects the infrastructure's effectiveness. For these vehicles to gain public acceptance, users need confidence in the infrastructure's availability and reliability, meaning the network must be extensive enough to alleviate range anxiety and ensure convenient refueling or recharging. Additionally, Member States will need to adopt revised national policy frameworks to develop the market for alternative fuels in the transport sector and deploy the relevant infrastructure in line with the regulation (ref. COM/2021/559 final).

Despite these challenges, AFIR presents opportunities that can significantly benefit the EU. In specific, it may enhance the competitiveness of the EU car industry. Similarly it may enhance the competitiveness of companies that install and operate recharging and refuelling infrastructure. Additionally, the regulation may stimulate investment in recharging and refuelling infrastructure in all modes of transport. It also establishes a foundation for an open data ecosystem, enabling new market services that will benefit innovative small and medium-sized enterprises (ref. COM/2021/559 final).

## **ReFuelEU Aviation Regulation**

The ReFuelEU Aviation initiative is a key component of the European Union's Fit for 55 package, which was presented by the European Commission on 14 July 2021. This initiative specifically focuses on increasing both the demand for and supply of sustainable aviation fuels (SAF), which are essential for reducing the carbon footprint of the aviation sector. The new regulation was adopted by the European Parliament on 13 September 2023 and by the Council on 9 October 2023. It applies since 1 January 2024 (ref. PE 29 2023 REV 1).

The regulation aims to create a robust legal framework to promote the gradual supply and uptake of sustainable aviation fuels across the EU. Additionally, it seeks to ensure a level playing field in the EU air transport market. In so doing the regulation introduces several key provisions. From 1 January 2025, aviation fuel suppliers are required to ensure that all fuel available to aircraft operators at EU airports contains a minimum share of SAF. From 1 January 2030, aviation fuel suppliers are required to ensure that all fuel available to aircraft operators at EU airports contains a minimum share of synthetic fuels (ref. Article 4(1) and Annex I of Regulation (EU) 2023/2405).

Both shares will increase progressively until 2050. Specifically, fuel suppliers must incorporate 2% SAF by 2025, 6% by 2030, and 70% by 2050. Additionally, from 2030, 1.2% of fuels must be synthetic, increasing to 35% by 2050 (ref. Annex I of Regulation (EU) 2023/2405). Aircraft operators are also obligated to ensure that the yearly quantity of aviation fuel uplifted at a given EU

airport is at least 90% of the yearly aviation fuel required, to prevent tankering practices that would result in additional emissions from extra weight (ref. Article 5(1) of Regulation (EU) 2023/2405).

The scope of eligible sustainable aviation fuels and synthetic aviation fuels includes certified biofuels, renewable fuels of non-biological origin (such as renewable hydrogen), and recycled carbon aviation fuels provided they comply with the Renewable Energy Directive (RED) sustainability and emissions saving criteria. These can be used up to a maximum of 70%, excluding biofuels from food and feed crops. To meet the minimum shares specified in the regulation low-carbon aviation fuels, including low-carbon hydrogen, can also be used.

Additionally, the regulation mandates the member states to designate competent authorities to enforce its provisions and establish rules on fines for non-compliance (ref. Article 11 of Regulation (EU) 2023/2405). It also introduces a Union labelling scheme to inform consumers about the environmental performance of aircraft operators using SAF, promoting greener flight choices (ref. Article 14 of Regulation (EU) 2023/2405). Furthermore, there are data collection and reporting obligations for fuel suppliers and aircraft operators to monitor the regulation's impact on the competitiveness of EU operators and platforms.

### **ReFuelEU Aviation Challenges and Opportunities.**

ReFuelEU Aviation also faces significant challenges. In that, the introduction of sustainable aviation fuels (SAFs) into the air transport market is expected to increase fuel costs for airlines, while aviation fuel accounts for up to 25% of operational costs (ref. COM/2021/561 final).

On the opportunity side, the regulation aims to partly de-risk investments in synthetic aviation fuels production capacity. This should enable production to scale up lowering costs over time. Synthetic aviation fuels can achieve emission savings as high as 85% compared to fossil aviation fuel, and potentially up to 100% when produced from renewable electricity and air-captured carbon. Additionally, their production process is resource-efficient, particularly in water usage, compared to other sustainable aviation fuel pathways (ref. COM/2021/561 final).

### **FuelEU Maritime Regulation**

The FuelEU maritime initiative is a key part of the EU's Fit for 55 package, which was presented by the European Commission on 14 July 2021. The primary goal of the FuelEU maritime initiative is to boost the demand for and consistent use of renewable and low-carbon fuels, thereby reducing greenhouse gas emissions from the shipping sector. It also aims to ensure the smooth flow of

maritime traffic and prevent distortions in the internal market (ref. COM/2021/562 final). The new regulation was adopted by the European Parliament on 11 July 2023 and by the Council on 25 July 2023. It will apply from 1 January 2025, with the exception of Article 8 (monitoring plan) and Article 9 (modifications to the monitoring plan) which apply since 31 August 2024.

The regulation provides that the greenhouse gas intensity of fuels used in the shipping sector will gradually decrease, starting from 2% in 2025 to as much as 80% by 2050 (ref. Article 4 of Regulation (EU) 2023/1805). Additionally, it supports the uptake of renewable fuels of non-biological origin (RFNBO) with high decarbonization potential (ref. Article 5 of Regulation (EU) 2023/1805). By 2030, passenger ships and containerships will be required to use on-shore power supply while moored at the quayside in major EU ports, to reduce air pollution in ports, which are often near densely populated areas (ref. Article 6 of Regulation (EU) 2023/1805).

Furthermore, the regulation introduces a voluntary pooling mechanism allowing ships to pool their compliance balance with one or more other ships, with the pool as a whole having to meet the greenhouse gas intensity limits on average (ref. Article 21 of Regulation (EU) 2023/1805). There are also time-limited exceptions for the specific treatment of outermost regions, small islands, and areas highly dependent on their connectivity (ref. Article 2 of Regulation (EU) 2023/1805). Revenues generated from the regulation's implementation, referred to as 'FuelEU penalties,' should be used to promote the distribution and use of renewable and low-carbon fuels in the maritime transport sector and help maritime transport operators to meet their climate and environmental goals (recital 62 of Regulation (EU) 2023/1805).

### **FuelEU Maritime Challenges and Opportunities.**

According to the Commission proposal, FuelEU Maritime faces several challenges. These include potential issues with the single market, unfair competition among operators, and changes in trade routes. Fuel costs are a big part of ship operating expenses, ranging from about 35% for small tankers to 53% for container and bulk vessels (ref. COM/2021/562 final).

However, a stable regulatory framework can help resolve the current supply and demand issues for renewable and low-carbon fuels. It may also stimulate technological advancement and fuel production. In addition, Clear and uniform obligations on ship's use of energy is necessary to mitigate the risk of carbon leakage. This is a significant risk due to the international nature of maritime transport and the possibility of refueling outside the EU (ref. COM/2021/562 final).

## **CO2 Emissions for New Cars and Vans Regulation**

The proposal to revise the CO2 emissions performance standards for cars and vans was presented by the European Commission on 14 July 2021 and is part of the ‘Fit for 55’ package. The aim of the regulation is to cut emissions from road transport, which currently accounts for the largest share of transport emissions. It is designed to encourage the automotive industry to transition to zero-emission mobility while fostering ongoing innovation (ref. COM/2021/556 final). The European Parliament and the Council adopted the regulation on 14 February 2023 and on 28 March 2023 respectively (ref. Regulation (EU) 2023/851).

The specific targets set by these rules include a 55% reduction in CO2 emissions for new cars and a 50% reduction for new vans from 2030 to 2034, compared to 2021 levels, and a 100% reduction in CO2 emissions for both new cars and vans starting from 2035. Manufacturers meeting certain benchmarks for ZLEV sales—25% for cars and 17% for vans—can benefit from less stringent CO2 targets (ref. Article 1 of Regulation (EU) 2023/851). Additionally, a regulatory incentive mechanism for zero- and low-emission vehicles (ZLEV) will be in place from 2025 until the end of 2029 (ref. recital 22 of Regulation (EU) 2023/851).

Other provisions include gradually reducing the cap on emission credits for eco-innovations that verifiably reduce CO2 emissions on the road, to a maximum of 4g/km per year from 2030 until and including 2034, and developing a common EU methodology by 2025 for assessing the full life cycle CO2 emissions of cars and vans, as well as the fuels and energy they consume (ref. Article 7(a) of Regulation (EU) 2023/851).

## **CO2 Emissions from Trucks, Buses and Trailers Regulation**

The HDV CO2 Standards Regulation (EU) 2019/1242 was adopted and entered into force in 2019, with binding CO2 targets starting to apply from the year 2025 onwards. However, the heavy-duty vehicle (HDV) sector is responsible for more than a quarter of GHG emissions from road transport in the EU. On 14 February 2023, the Commission proposed a revision of the CO2 emissions standards for heavy-duty vehicles (HDVs). This proposal was not formally part of the ‘Fit for 55’ package, however, it is closely related to it, as it supports the EU’s goal to reduce net greenhouse gas emissions by at least 55% by 2030 compared to 1990 levels. The Parliament adopted the regulation on 10 April 2024 and the Council on 7 May 2024, while the regulation started applying from 1 July 2024 (ref. Regulation (EU) 2024/1610).

The co-legislators upheld the targets set by the Commission: a 45% reduction by 2030, 65%

by 2035, and 90% by 2040, in addition to the 2025 reduction target of 15% already provided for in the existing regulation (ref. Article 3a of Regulation (EU) 2024/1610). These targets apply to medium lorries, heavy trucks weighing over 7.5 tonnes, and coaches. They also apply to vocational vehicles from 2035 onwards.

A significant amendment introduces a 100% zero-emission target for urban buses by 2035, with an intermediate target of 90% by 2030 (ref. Article 3d of Regulation (EU) 2024/1610). Inter-urban buses are exempt from this target and are instead subject to the general targets for coaches. Specific targets are set for trailers (at 7.5%) and for semi-trailers (at 10%) with effect from 2030.

Exemptions from the CO<sub>2</sub> reduction targets apply to small-volume manufacturers (ref. Article 6a of Regulation (EU) 2024/1610) and vehicles used for mining, forestry, agriculture, the armed forces, fire services, civil protection, public order, and medical care (ref. Article 3a of Regulation (EU) 2024/1610). Additionally, the Commission is tasked with assessing the need for harmonized rules to facilitate the market uptake of retrofitted HDVs by 2025 (ref. Article 3b of Regulation (EU) 2024/1610).

Among the other key initiatives outlined in the Sustainable and Smart Mobility Strategy are those within the Efficient and Green Mobility package, which are presented in the next chapter.

### **Chapter 3**

This chapter presents the Efficient and Green Mobility Package. The package is designed to modernise the EU transport system by upgrading the TEN-T, ITS, long-distance and cross-border train travel and urban mobility.

#### **Efficient and Green Mobility Package**

The efficient and green mobility package introduces four cross-cutting initiatives aimed at modernizing our transport system by enhancing the TEN-T, ITS, long-distance and cross-border train travel, and urban mobility. More specifically, the package consists of revisions of the regulations on TEN-T and ITS, a new EU urban mobility framework (non-legislative), and a new Action Plan: boosting long-distance and cross-border passenger rail (non-legislative).

These initiatives aim to increase connectivity and shift more passengers and freight to rail and inland waterways. They also support the roll-out of charging points, alternative refueling infrastructure, and new digital technologies, while placing a stronger emphasis on sustainable urban mobility. By making it easier to choose different transport options within an efficient multimodal transport system, these measures are designed to put the transport sector on track to reducing its

emissions by 90%.

The TEN-T is a comprehensive EU-wide network comprising railways, inland waterways, short-sea shipping routes, and roads. It links 424 major European cities with key ports, airports, and railway terminals. Thus the proposal for a revised TEN-T regulation, presented as part of this package, is pivotal for achieving the EU's sustainable mobility objectives, ensuring the proper functioning of the internal market, and fostering economic, social, and territorial cohesion.

The TEN-T proposal came with a project-pipeline (ref. COM/2021/812 final). The aim is to fortify the already substantial network in the West while expanding it northwards, with ambitious high-speed deployment plans in Finland, Sweden, and Poland. A new line was proposed to link Berlin to Vienna through the Czech Republic in central Europe. And a new connection from the heart of Europe to the Black Sea, through Budapest and Bucharest. Moreover the proposal reinforced the connectivity of continental Europe with Ireland. It introduced a new West Balkans corridor that connects all of these countries with Central Europe down to Bulgaria and Greece. Finally, it proposed connecting the Baltic, Black and Adriatic seas through a new north-south corridor.

The proposal for a revised ITS regulation, presented as part of this package, is also pivotal for achieving the EU's sustainable mobility objectives. The proposal addresses the emergence of new electronic communication technologies (ref. COM/2021/813 final). Initially regulated by Directive 2010/40/EU, ITS aim to foster the development of innovative transport technologies to create ITS. They integrate information and communication technologies into road transport. They encompass infrastructure, vehicles, users, traffic management, and mobility management. ITS are crucial for Mobility as a Service (MaaS), urban mobility apps, and Cooperative, Connected, and Automated Mobility (CCAM).

## **Revised TEN-T Regulation**

The proposal for a revised TEN-T regulation was adopted by the Commission on 13 December 2021 as part of the legislative package for efficient and green mobility. The European Parliament adopted the regulation on 24 April 2024 and the Council on 13 June 2024, while the regulation entered into force on the twentieth day following that of its publication in the Official Journal of the European Union, i.e. 28 June 2023 (ref. Regulation (EU) 2024/1679).

The regulation outlines a three-layer approach for the development and modernization of the TEN-T network (ref. Article 6 of Regulation (EU) 2024/1679). That is the completion of the core network by 2030, of the extended core network by 2040, and of the comprehensive network by 2050.

Additionally, the regulation establishes nine ‘European Transport Corridors’ to integrate rail, road, and waterways, enhancing sustainable and multimodal transport flows across Europe (ref. Article 11 of Regulation (EU) 2024/1679). These are: (a) Atlantic;(b) Baltic Sea - Black Sea - Aegean Sea; (c) Baltic Sea - Adriatic Sea; (d) Mediterranean; (e) North Sea - Rhine - Mediterranean; (f) North Sea - Baltic; (g) Rhine - Danube; (h) Scandinavian - Mediterranean; (i) Western Balkans - Eastern Mediterranean.

To improve connectivity with key neighboring countries, the revised regulation extends four European Transport Corridors to Ukraine and Moldova (ref. recital 43 of Regulation (EU) 2024/1679). At the same time it downgrades cross-border connections with Russia and Belarus (ref. recital 44 of Regulation (EU) 2024/1679). In addition, the regulation mandates that major European airports with annual passenger traffic exceeding 12 million be connected to the trans-European railway network, including high-speed rail where feasible, by December 31, 2040 (ref. Article 34 of Regulation (EU) 2024/1679).

The regulation mandates that each urban node should establish a Sustainable Urban Mobility Plan (SUMP) by 2027 (ref. Article 41 of Regulation (EU) 2024/1679). This plan serves as a long-term, comprehensive strategy for integrating freight and passenger mobility within the entire functional urban area. The plan may include objectives, targets, and indicators underpinning the current and future performance of the urban transport system. At its heart it aims to promote zero-emission mobility and enhance public transport, as well as infrastructure for walking and cycling.

Additionally, the regulation introduces the obligation to have at least one multimodal freight terminal per urban node by 31 December 2040, where economically viable (ref. Article 41 of Regulation (EU) 2024/1679). By the same date, the regulation mandates the development of safe and secure parking areas along the core network and extended core network with an average maximum distance of 150 km between two such areas.

### **TEN-T Challenges and Opportunities.**

Implementing the proposed measures under the TEN-T Regulation demands a significant investment of €247 billion by 2050 (ref. COM/2021/812 final). That is an average of €16 billion annually. The TEN-T Regulation is closely linked to the Connecting Europe Facility (CEF) Regulation, which defines eligible projects of common interest for CEF funding. Additionally, the TEN-T infrastructure benefits from substantial funding through the European Structural and Investment Funds (ESIF) and, more recently, the Recovery and Resilience Fund (RRF).

The revision of the TEN-T Regulation promises substantial benefits (ref. COM/2021/812 final). The Commission projects a 2.4% GDP increase by 2050. This translates to a €467 billion rise. The completion of various TEN-T projects is also anticipated to create new employment opportunities. More specifically, the Commission expects a 0.5% increase in employment by 2050. This equates to an additional 840,000 jobs.

Estimated reductions in external costs related to CO<sub>2</sub> emissions amount to €387 million over the 2021-2050 period. At the same time air pollution costs are projected to decrease by approximately €420 million. This is primarily due to a shift towards sustainable transport modes such as rail and inland waterways, complemented by reductions from CO<sub>2</sub> performance standards for cars and vans, and the deployment of necessary charging and alternative refueling points as outlined in the proposed Alternative Fuels Infrastructure Regulation.

External costs associated with accidents are projected to decrease by approximately €3,930 million over the 2021-2050 period. During the same timeframe, costs related to inter-urban road congestion are expected to decline by around €2,891 million.

## **Revised ITS Directive**

On 14 December 2021, the Commission released its proposal for a revised directive (ref. COM/2021/813 final). The Parliament adopted the directive on 3 October 2023, and the Council on 23 October 2023. The new directive entered into force on the twentieth day following that of its publication in the Official Journal of the European Union i.e. 30 November 2023, with member states required to comply by 21 December 2025 (ref. Directive (EU) 2023/2661).

The revision aims to improve communication between vehicles and infrastructure in a secure manner to orchestrate manoeuvres and smoothen traffic flows, contributing also to more sustainable transport (ref. recital 22 of Directive (EU) 2023/2661). The revision mandates the provision of certain ITS services and crucial data in machine-readable format to ensure both continued availability of such data and continued delivery of such services across the Union (ref. recital 16 of Directive (EU) 2023/2661). The revised directive will increase the interoperability and cross-border functioning of a wide range of ITS services; such as road safety and security ITS services, travel, transport and traffic management ITS services, information and mobility ITS services (ref. Annex I of Directive (EU) 2023/2661).

### **ITS Directive Challenges and Opportunities.**

Implementing the ITS Directive faces significant challenges, particularly in terms of data availability and sharing, hindering effective coordination and monitoring among ITS stakeholders (ref. COM/2021/813 final).

However, access to comprehensive road safety data, such as speed limits, road closures, traffic circulation plans, and parking areas is expected to reduce congestion costs. These costs currently exceed 1% of the EU GDP and can reach over 2% in some regions. In addition citizens and workers will save time, while companies will enhance their competitiveness benefiting from more reliable and efficient logistics systems. Finally, improved efficiency will make the EU a more attractive destination for investment (ref. COM/2021/813 final).

### **New Action Plan: boosting long-distance and cross-border passenger rail**

This Action Plan focuses on how to boost long-distance, cross-border passenger services. It serves as a roadmap to make long-distance cross-border rail travel more attractive for European passengers by making journeys quicker, more frequent, and more affordable. Currently, such services make up only about 10% of collective cross-border passenger transport in Europe (ref. COM/2021/810 final).

Focusing on two main pillars, the plan emphasizes the full and correct implementation of the existing EU regulatory framework for railways, including the elimination of redundant national rules, and the removal of obstacles to long-distance and cross-border passenger rail services. More specifically the Action Plan seeks to accelerate digitalization, ensure better availability of rolling stock, align railway staff training and certification with future needs, modernize passenger rail infrastructure, and use the rail network more efficiently. Additionally, it seeks to provide easier access to infrastructure for rail operators through appropriate pricing, make ticketing and access to the rail system more user-friendly, introduce sustainable cross-border and multimodal collective transport through Public Service Obligations where necessary, and make sustainable transport modes more attractive to young people.

Additionally, the plan announced the launching of the Green Rail Investment Platform (GRIP) with the aim to support investments, by both public and private entities in rail projects. This will be achieved through existing EIB products and financial instruments provided by the Commission. It further announced the Commission's intention to support 15 cross-border pilot services as an opportunity to test some of the measures identified in the Action Plan. Pilot services could improve

existing train services or be completely new services. With the 15 pilot services planned, the Commission aims to provide stakeholders with a chance to swiftly test the measures outlined in the Action Plan.

On 13 December 2022, the Parliament adopted a resolution welcoming the main objectives pursued under this action plan (2022/2022(INI)). However, it emphasized the limited EU funding available through the Connecting Europe Facility 2021-2027 (CEF II), which only covers around 5 % of the total investment needed to complete the TEN-T core network. It further called on the Member States to optimise the use of public funds to improve public transport and encouraged them to provide a multi-annual perspective in the funding of their infrastructure.

### **The New Urban Mobility Framework**

The Commission adopted a new framework for urban mobility as part of the efficient and green mobility package. The communication sets out actions and recommendations for Member States and cities to make urban mobility safer, more accessible, inclusive, affordable, smart, resilient, and clean. This is to be achieved through multilevel governance and collaboration (ref. COM/2021/811 final).

The framework complements the Commission's proposal to revise the TEN-T Regulation which introduced specific obligations on 424 urban nodes along the TEN-T network. These include adopting a Sustainable Urban Mobility Plan (SUMP) and collecting and submitting data to the Commission on greenhouse gas emissions, congestion, road crash fatalities and serious injuries, modal split, access to mobility services, and air and noise pollution in cities.

An integrated approach to urban mobility has been an EU policy objective since the Urban Mobility Package of 2013. That set of initiatives focused on a balanced integration of all transport modes and the efficient use of existing infrastructure and solutions. However societal, scientific, and technological developments, and the ambitious EU Green Deal commitments required a shift in focus. Thus, the new framework proposed that urban mobility planning should prioritize public transport, active mobility, and zero-emission urban logistics. This shift should be supported by innovations in digitalization and the development of multimodal infrastructure.

The initiative recommends Member States to establish national programs to strengthen governance and ownership at the national level and help cities align their SUMPs more closely with the EU framework. Moreover public authorities are encouraged to prioritize innovative sustainable solutions in public contracts, simplify related administrative procedures, and foster synergies with energy communities.

Additionally, the framework announced that the Expert Group on Urban Mobility (EGUM) would broaden its membership to include representatives from cities and private stakeholders and enhance coordination and support for SUMP implementation. By the end of 2022, the Commission aimed to provide Member States with recommendations for developing robust national programs, along with an updated SUMP concept. More information on SUMP would be made available through the European Mobility Observatory.

Finally, the framework outlined the funding options for local and regional authorities to implement these priorities. In this regard, the proposal announced the Commission's intention to launch new calls for projects to support research and innovation under the Cities Mission through joint actions with DUT, 2ZERO, CCAM, Clean Hydrogen, and Europe's Rail partnerships. Nevertheless, the framework announced the Commission's intention to provide Member States and cities with tailored technical expertise in designing and implementing reforms through dedicated facilities under the InvestEU Advisory Hub (e.g., ELENA, URBIS, and SIA/JASPERS). The proposal also highlighted the Commission's intention to foster synergies between European partnerships and other EU programmes (including the ESIF, CEF, and RRF), the European Investment Bank, and private sector sources.

Thus, the new Urban Mobility framework, together with the other initiatives within the efficient and green mobility package, helps advance the Sustainable and Smart Mobility Strategy and the European Green Deal.

## Chapter 4

In the previous the key initiatives to help advance the European Green Deal and the Sustainable and Smart Mobility Strategy were presented. The present chapter analyses the realization and implementation progress of the Sustainable and Smart Mobility Strategy, through the Connecting Europe Facility and InvestEU.

### **Connecting Europe Facility (CEF) 2021–2027**

The Connecting Europe Facility (CEF) Regulation for the 2021-2027 period applies from 1 January 2021 (ref. Regulation (EU) 2021/1153). The primary goal of the CEF is to build, develop, modernize, and complete the trans-European networks. It aims to support the EU's 2030 climate and energy targets and fulfill long-term decarbonization commitments as outlined in the European Green Deal.

This initiative promotes smart, sustainable, and inclusive growth, enhancing territorial, social, and economic cohesion.

The regulation allocates a budget of EUR 25.8 billion for transport, which is divided into EUR 12.83 billion for the general envelope, EUR 11.286 billion for the cohesion envelope, and EUR 1.69 billion for dual-use infrastructure to enhance both civilian and military mobility (ref. Article 4 of Regulation (EU) 2021/1153). For most transport projects, EU financial support typically covers up to 30% of the total eligible costs. This support can increase up to 50% for studies, prioritized actions, and civilian-defence dual-use actions. To foster synergies between the transport, energy, and digital sectors, initiatives that aim to achieve objectives in at least two of these sectors may qualify for a higher co-funding rate. For projects funded through the Cohesion Fund the support may increase up to 85% (ref. Article 15 of Regulation (EU) 2021/1153).

In the transport sector, the CEF is instrumental in developing projects of common interest related to the completion and modernization of the trans-European transport network (TEN-T). This includes initiatives in digitalization and alternative fuel infrastructure. The CEF supports the sustainability of the transport sector by creating and upgrading infrastructure, including telematics applications, new technologies and innovations (such as alternative fuels), interoperability, road safety, infrastructure resilience, accessibility, and transport security. These efforts align with the priorities set in the Sustainable and Smart Mobility Strategy and the European Green Deal, as well as the 'Fit for 55' initiatives.

Following the adoption of the CEF Regulation, the European Commission introduced the first Multi-Annual Work Programme for the transport sector in August 2021, covering the years 2021-2023. This programme was amended in 2023 to extend its coverage to the period 2024-2027. In line with the objectives of the CEF Regulation and the Sustainable and Smart Mobility Strategy, this Work Programme aims to complete the TEN-T, promote sustainable and smart mobility, and support a robust, resource-efficient European transport system, while addressing climate change in accordance with the European Green Deal.

### **CEF Progress in Transport**

The Connecting Europe Facility (CEF) 2021-2027 has made significant progress in enhancing the sustainability and efficiency of the European transport network (ref. CINEA, 2024). More specifically, the programme supported the operation of 497 alternative fuel supply points along the Trans-European Transport Network (TEN-T) in 14 Member States by the end of 2023. Under the 2014-2020 programme, 2000 alternative fuel supply points were established across 19 Member

States.

In the rail transport sub-sector, 200 electric locomotives were equipped with the European Railway Traffic Management System (ERTMS) and certified for commissioning in five Member States. By the end of 2023, 326 kilometres of ERTMS track-side infrastructure were deployed in four Member States. During the same period, the CEF addressed 1000 kilometres of railway lines through various studies and works. Investments, made under the 2014-2020 programme contributed to the modernization and enhancement of the European rail network.

Following a call for proposals published in 2022, the Commission allocated over EUR 6 billion in EU grants to 107 transport infrastructure projects. More than 80% of this funding will support projects aimed at creating a more efficient, greener, and smarter network of railways, inland waterways, and maritime routes along the TEN-T. Major cross-border rail connections along the TEN-T core network have also been prioritized for funding: the Brenner Base Tunnel, which links Italy and Austria, and Rail Baltica, connecting the three Baltic States and Poland with the rest of Europe. Other projects include the cross-border section between Germany and the Netherlands (Emmerich–Oberhausen).

Additionally, maritime ports in Ireland, Greece, Spain, Latvia, Lithuania, the Netherlands, and Poland will develop on-shore power supplies to reduce greenhouse gas emissions from moored vessels. To help make inland waterway transport future-proof, infrastructure along the Seine-Scheldt cross-border waterways between France and Belgium will be modernized. Inland ports on the Danube and Rhine basins, including Vienna and Andernach, will also be upgraded. Additionally, these projects will bolster the EU-Ukraine Solidarity Lanes, established to facilitate Ukraine's exports and imports.

Under the 2023 Connecting Europe Facility (CEF) call for proposals, the EU allocated over EUR 7 billion to 134 projects aimed at supporting the European Green Deal and the Sustainable and Smart Mobility Strategy. These will focus on building or upgrading transport infrastructure to improve railways, inland waterways, roads, and short-sea shipping routes.

Major cross-border rail connections along the TEN-T core network will be supported. These include Rail Baltica, the Lyon-Turin line (connecting France and Italy), and the Fehmarnbelt tunnel (connecting Denmark and Germany). The cross-border points between Ukraine and Moldova and EU countries (Romania, Hungary, and Poland) will also be improved to facilitate smoother traffic flows for Ukrainian imports and exports.

Around 20 maritime ports in Ireland, Spain, Finland, the Netherlands, Germany, Malta, Lithuania, Cyprus, Croatia, Greece, and Poland will be upgraded to supply shore-side electricity to

vessels and transport offshore renewable energy. To future-proof inland waterway transport, infrastructure interventions will develop cross-border connections between France and Belgium in the Seine-Scheldt basin and between Romania and Bulgaria on the Danube. Inland ports in Austria, Germany, and the Netherlands will also receive support to continue promoting a modal shift towards the European network of rivers and canals. Projects in Ukraine and Moldova will be funded to develop the EU Solidarity Lanes and implement smart traffic management systems for inland waterways, air, and road transport.

The EU has granted over €1.3 billion through the Alternative Fuels Infrastructure Facility (AFIF). The AFIF funds actions by the combination of CEF grants with financial support from financial institutions to achieve a higher impact of the investment. AFIF has enabled the deployment of 26,396 electric recharging points, 202 hydrogen refuelling stations, and electrifying ground operations in 63 airports since 2021. The ongoing, second phase of AFIF (2024-2025) will support the objectives set in AFIR regarding publicly accessible electric recharging pools and hydrogen refuelling stations across the European Union's main transport corridors and hubs, as well as the objectives set in the ReFuel Aviation and the FuelEU Maritime Regulations. Under this call, €780 million are available under the General envelope and €220 million under the Cohesion envelope. The first deadline to apply was 24 September 2024.

## **InvestEU**

The InvestEU Programme is a flagship EU investment programme comprising the InvestEU Fund, the InvestEU Advisory Hub, and the InvestEU Portal. It is designed to support and mobilise investment across the EU through a policy-driven and market-based approach (ref. Regulation (EU) 2021/523). More specifically, InvestEU provides financial guarantees to the EIB Group and other Multilateral and National Promotional Banks (Implementing Partners) to support investments across the EU. The regulation was adopted in March 2021 and the Guarantee Agreement with the EIB Group, implementing 75% of the guarantee, was signed in March 2022. In May and October 2023, Amendment and Restatement agreements with the EIB Group were signed. Guarantee agreements have also been signed with 16 other Implementing Partners.

To become an InvestEU implementing partner, interested parties have to respond to a Call for Expression of Interest. The second call was published on 25 October 2023. The InvestEU Fund has an available EU guarantee of EUR 1.37 billion under this call. Applications will be accepted until the budgetary envelope is exhausted or until 28 February 2026, whichever comes first.

### **InvestEU Interim Evaluation.**

The interim evaluation of InvestEU recently published concluded that the implementation of the InvestEU Fund is progressing well, with 90% of the EUR 28.79 billion available EU guarantee allocated to 16 Implementing Partners (IPs) after just two years (ref. Commission, 2024; SWD(2024)229final). Nearly 80% of the allocated guarantee (i.e., EUR 20 billion) has already been approved. Out of this 30% was signed for operations by the IPs. By the end of 2023, six Member State compartments were established to address specific national needs, and blending options were used in the form of top-ups from eight EU sectoral programs.

The evaluation concluded that InvestEU generates significant crowding-in effect. In specific, the InvestEU Fund is estimated to mobilize around EUR 218 billion in additional investment, with EUR 141 billion (65%) expected from private sources. This is based on operations approved by the end of 2023. For the EU compartment alone, the Fund is estimated to mobilize EUR 204.81 billion by 2028, against an expectation of EUR 372 billion, with an anticipated multiplier effect of 14.76.

As regards investments in low carbon transportation and mobility, the EIB has approved the financing of railway projects, the expansion of a charging station network, and the optimization of long-haul trucking logistics through Artificial Intelligence. Regarding horizontal activities, five major National Promotional Banks and Institutions (NPBIs) and the European Investment Fund (EIF), have invested in Marguerite III. This is a unique pan-European initiative focusing on energy transition, sustainable transport, digital infrastructure, and circular economy sectors.

However, the evaluation concluded that the budget is insufficient relative to the high demand and significant investment needs. Without budgetary reinforcements, new approvals for some policy priority products will cease post-2025. The Commission's impact assessment in support of the Communication on Europe's 2040 climate target (ref. COM(2024)63) estimates that annual investment in the transport sector will increase to about EUR 870 billion but remain broadly constant as a share of GDP, at around 4.2%. Market failures include high R&D sunk costs and spillover effects.

## **Chapter 5**

Achieving the EU transport targets requires a magnitude of private and public investment. Competition policy, and state aid rules in particular, have an important role to play in ensuring that public funds are mobilized in a cost-effective and just manner. This chapter provides a summary and evaluation of the Commission 2022 Guidelines on state aid as regards transport projects.

## **2022 Guidelines on State aid for Climate Environmental Protection and Energy**

The European Green Deal communication declared that the state aid rules would be revised to take into account the European Green Deal policy objectives. The 2022 Guidelines on State aid for Climate Environmental Protection and Energy (CEEAG) reflect that revision. These guidelines provide guidance on how the Commission will be assessing the compatibility of environmental protection measures which are subject to the notification requirement under article 107(3) point (c) of the Treaty.

The guidelines apply to State aid for the acquisition and leasing of clean vehicles (used for air, road, rail, inland waterway and maritime transport) and clean mobile service equipment and for retrofitting vehicles and mobile service equipment (ref. Article 4.3.1 of 2022 CEEAG). It also applies to aid for the deployment of recharging or refuelling infrastructure for clean vehicles (ref. Article 4.3.2 of 2022 CEEAG).

The compatibility test assesses whether state aid promotes economic activities and does not negatively impact trading conditions. It examines the facilitated activity's societal benefits, the incentive effect, and compliance with EU law. Additionally, it evaluates the necessity, appropriateness, and proportionality of the aid, ensuring transparency and minimal negative effects on competition. The overall balance considers contributions to sustainability and EU climate targets, adherence to the 'do no significant harm' principle, and includes time limits and ex post evaluations to ensure the aid's positive impact outweighs any negative effects on trade and competition.

Based on this assessment, the Commission approved an Italian scheme to help companies in the maritime transport sector retrofit more polluting vessels. In 2023, the Commission declared investment aid for the retrofitting of vehicles, other than aircraft, to qualify as clean or zero-emission vehicles compatible with the internal market under Article 107(3) of the Treaty, exempting it from the notification requirement of Article 108(3) of the Treaty.

### **2022 CEEAG Policy Analysis.**

Iliopoulos (2024) identified several grey areas and weaknesses in the 2022 CEEAG. In my opinion, the compatibility of state aid for retrofitting vessels with the internal market requires more thorough analysis. In that, the fitness check preceding the 2022 CEEAG did not address the cumulative impact of all aid granted to ship operators. This oversight might be critical given the

dominance of tonnage taxes in European shipping. The tonnage tax regime, along with reduced fiscal and social security contributions for seafarers and training aid, has received strong support from the Commission to counter international competition from open registers and flags of convenience.

It is interesting to recall that under the 2004 Community guidelines on State aid to maritime transport, shipping companies could benefit from these measures provided they adhered to safety, environmental, and social standards on their ships. The Commission proposed to allow Member States to continue applying a specific tax treatment to the shipping sector in line with international practice<sup>2</sup> and State aid rules due to the highly volatile nature of this industry (ref. COM/2021/823 final and Article 17 of Council Directive (EU) 2022/2523). However, it was not possible to confer greater benefits by means of other aid systems in order to avoid any competition distortion.

Recently, Tvedt and Wergeland (2023) used real options theory to demonstrate that a zero-cost tax package, which includes subsidies on green investments and a return to a regular income tax regime, can lower investment thresholds. In that they argued that a higher degree of risk-sharing reduces the value of delaying investment decisions, potentially moving individual investment decisions towards a sustainable optimum level. Stakeholders had also observed that operating aid influences beneficiaries' behavior differently compared to investment aid, and that various aid instruments are not equally effective in promoting new investments and minimizing market distortions. Finally, Ovaere and Proost (2023) found among other things that higher taxes and emission performance standards for shipping can improve the cost effectiveness of current EU climate policies in the transport sector.

## Discussion

Domorenok and Graziano (2023) affirmed, that the new EU growth strategy, aimed at transforming the EU into a fair and prosperous society with no net greenhouse gas emissions, has now materialized into concrete policy commitments. On the other hand, a growing body of scholarly works argues that to ensure the EU reaches its net-zero emissions target, it is crucial for policy mixes to address distributional challenges to maintain public support (Skjærseth, 2021; Szulecki, 2018). Indeed, the new Commission aims to give more visibility to EU projects that make a tangible difference to people's lives. Moreover it aims initiate a new era of dialogue with citizens, embedding their participation in its work. Commission President Ursula Von Der Leyen has tasked the new Commissioner for Sustainable Transport and Tourism with ensuring the optimal use of the Connecting Europe Facility (CEF) to support high-performing, sustainable, and interconnected trans-

<sup>2</sup> International shipping is excluded from the application of the OECD Global Anti-Base Erosion Model Rules (Pillar Two).

European networks that extend into neighboring regions (Von Der Leyen, 2024). The Commission President directed the Commissioner to develop a sustainable transport investment plan, to outline a strategic approach to scale up and prioritize investments in transport decarbonization solutions.

The implementation of a robust accountability mechanism is essential for ensuring transparency, monitoring the effective use of funds, and addressing grievances. Accountability mechanisms reinforce trust and ensure that investments are not only efficient but also equitable and responsible. Recently, the EU Parliament and the Council adopted a revision of the EU's financial regulation to align it with the current Multiannual Financial Framework (MFF) 2021-2027 (ref. Regulation (EU, Euratom) 2024/2509). This revision strengthens the Commission's detection and exclusion system and extends it to the shared management mode. Additionally, it enhances transparency by improving public information on EU funding recipients and the use of the EU budget.

The EU's accountability mechanisms are relevant to access to information. In my opinion, the European Ombudsman can play a vital role in guaranteeing that EU institutions comply with transparency, accountability and accessibility requirements. Her role would be especially relevant when access to information requests are lawfully denied. For instance, in case 338/2024/NH on the Irish forestry state aid programme, the Commission refused to disclose documents concerning the program's environmental impact, arguing that disclosure could undermine State aid investigations. Beyond assessing the reasonableness of such refusals, in my opinion, the Ombudsman can help balance limitations on a party's ability to gather evidence or assess the legality of an act, the existence of a claim, or a matter which is decisive for instituting an action.

In this context, it is pertinent to examine whether Article 2(8) of the Ombudsman Statute (ref. Regulation (EU, Euratom) 2021/1163) undermines the right to an effective remedy and a fair trial (ref. Article 47 of the Charter of Fundamental Rights of the European Union, Articles 6(1) and 13 of the ECHR). More specifically, the possibility of regularizing the absence of sufficient information to assess the legality of the act, the existence of the claim or a matter which is decisive for instituting an action might prejudice a person's right to an effective remedy and to a fair trial (ref. Article 47 of the Charter of Fundamental Rights of the European Union, Articles 6(1) and 13 of the ECHR), suggesting that Article 2(8) of the Ombudsman Statute (ref. Regulation (EU, Euratom) 2021/1163) might be unlawful in the light of Article 52(1) of the Charter of Fundamental Rights of the European Union (see Order in Case C-50/20 P, para. 4, points 8-10). Additionally, the limitation on the exercise of the right to apply to the Ombudsman (ref. Article 228(1) TFEU and Article 43 of the Charter of Fundamental Rights of the European Union) provided for by the application of Article 2(8) of the Ombudsman Statute (ref. Regulation (EU, Euratom) 2021/1163) might prejudice the right to an

effective remedy and to a fair trial, potentially constituting an unreasonable sacrifice amounting to force majeure<sup>3</sup> and as such might be unlawful in the light of Article 45 of the Statute of the Court of Justice of the European Union.

In my opinion, it would be interesting to explore the potential implications of these arguments on the interpretation of accountability mechanisms and the right to an effective remedy within the EU legal framework. According to Vogiatzi (2024), the European Ombudsman is an extra-judicial EU body aimed at improving the EU's accountability, transparency, and responsiveness to citizens. He argued that its mandate and priorities have largely been shaped by its three office holders: Jacob Söderman, Nikiforos Diamandouros, and Emily O'Reilly. Advocate General Geelhoed has also noted that the European Ombudsman was established as one of the mechanisms to protect the specific rights of European citizens. The Ombudsman examines citizens' complaints against the government, produces reports, and makes recommendations to the administration (see opinion of Advocate General Geelhoed in Case C-234/02P).

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<sup>3</sup>the Court of Justice has held that the concept of force majeure contains both an objective element relating to abnormal circumstances unconnected to the applicant and a subjective involving the obligation on the part of the applicant to guard against the consequences of the abnormal event by taking appropriate steps without making unreasonable sacrifices (see Judgment in Case C-195/91 P, para 32)

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