

Funds for Europe's Supply Chain Revival Part 2

EU Priorities by Transport Mode
and Vehicle Logistics Opportunities

June 2021



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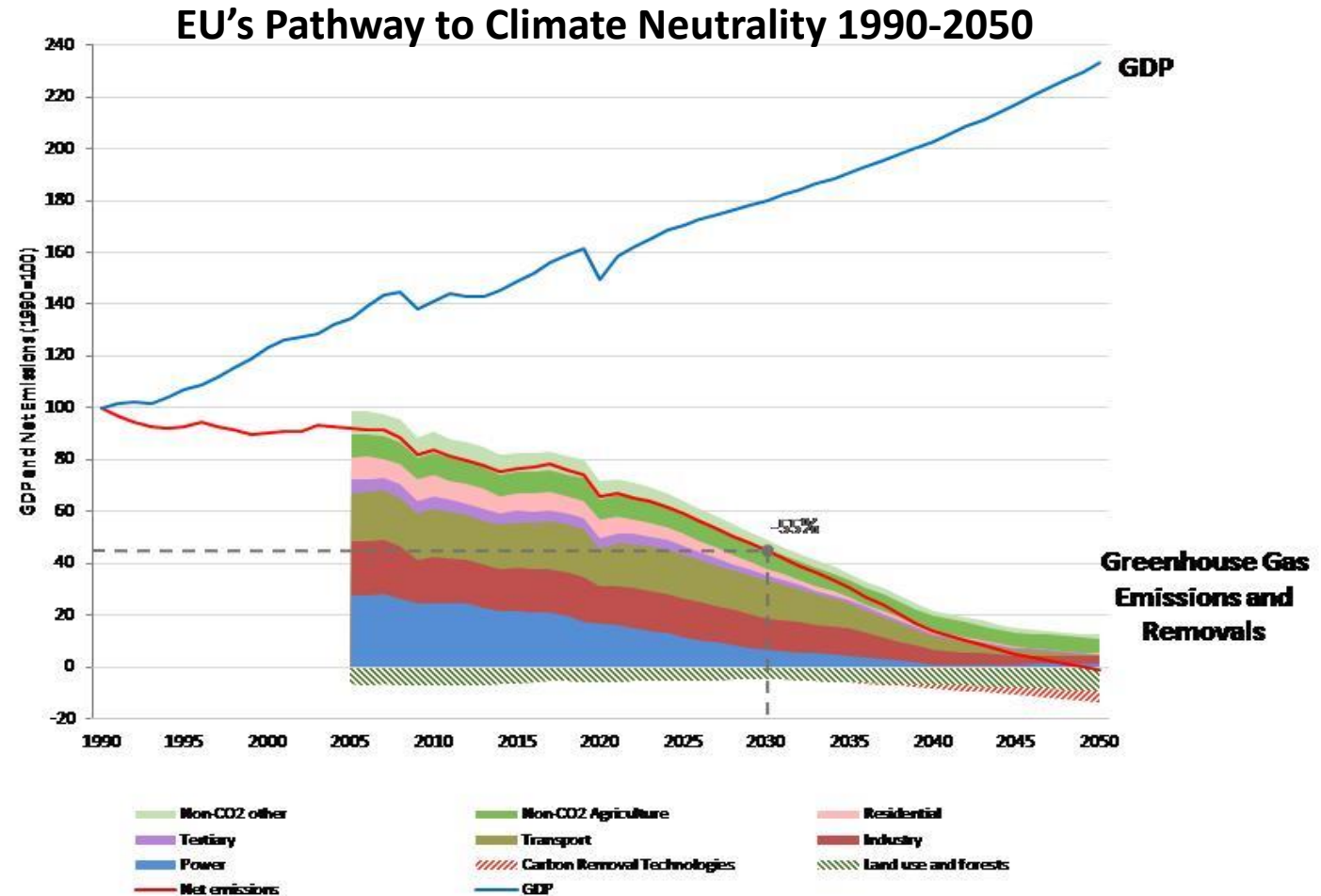
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- Horizon Europe logistics funding examples

EU Policy: Decarbonising Europe



- Roadmap 2050
 - European Climate Law: An economy with net-zero greenhouse gas emissions (GHG) by 2050
 - 2030 Climate Target Plan: Cut GHG by 55% compared to 1990 levels, 30% compared to 2005 levels
 - Member States develop national energy and climate plans based on common template covering:
 - Decarbonisation (GHG reduction)
 - Energy security
 - Energy efficiency
 - Internal energy market
 - Research, innovation, competitiveness



Source: Eur-Lex, European Commission

EU Funding Relevant for Vehicle Logistics

- Funds for 2021-2027 amount to **€1.8 trillion**, including:
 - **Multiannual Financial Framework (MFF) consists of €1.07 trillion**
 - Horizon Europe
 - Connecting Europe Facility 2.0
 - European Structural and Investment Funds
 - **NextGenerationEU consists of €750 billion**
 - Recovery and Resilience Facility
 - REACT-EU
- Different paths to access funds at EU and Member State levels
 - Look for 'Funding or Tender Opportunities' by clicking on Horizon Europe [Funding & Tenders \(europa.eu\)](#)
 - Use [CINEA](#) to apply for CEF 2.0 projects
 - Use the [Managing Authorities Portal](#) to locate your point of contact for ERDF
 - Applications for ESF+ made via Member States' government portals (check [Funds for Europe's Supply Chain Revival Part 1](#) for more details)

Criteria for EU Transport Funding

- **Decarbonising European Transport:** Funding is highly focused on vehicles with zero tailpipe emissions, but also scaling up research and investment in green transport technology and alternative fuels, while developing digitalised, more efficient, low-emission transport and freight networks.

Key focus areas:

- **Decarbonising European Passenger Cars:** Scale up research and investment in batteries and other low-emission technologies
- **Decarbonising European Trucking:** Battery-electric and hydrogen fuelled long-haul trucks
- **Decarbonising European Shipping:** Projects to enhance research into using battery electric and green hydrogen/ammonia-based propulsion systems including fuel cells
- **Decarbonising European Aviation:** Focus is on development of breakthrough fuels, such as synthetic electrofuels produced from additional renewable electricity, with zero or near zero GHG emissions
- **Freight Digitalisation and Multimodality:** Focus on automation and system integration, as well as efficiency opportunities across transport modes to reduce emissions and waste

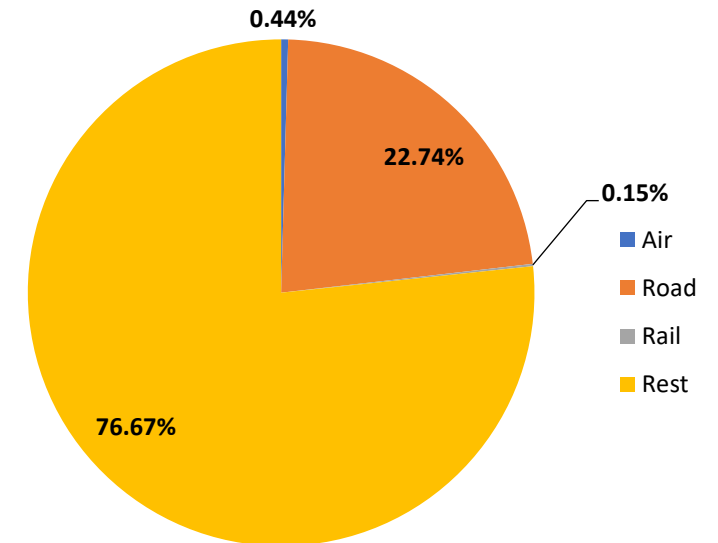
Funding no longer provided for any further development or optimisation of internal combustion engines, including gas.

TARGETS: Transport Intertwined with Climate

- EU 2050 Roadmap: Climate Neutral
- EU 2030 Climate and Energy Framework: Transport to reduce emissions by 30% by 2030 compared to 2005 levels.
 - Mandated by Member States National Policies and EU-level legislation
- EU Renewable Energy Directive: 10% of transport fuels to come from renewable energy by 2020
 - CO₂ emissions to reduce by 60% in 2050 compared to 1990 level
 - GHG emissions to reduce 55% by 2030 compared to 1990 level, zero emissions by 2050
 - Fuel Quality Directive requires reduction greenhouse gas intensity of transport by 6%
- Efficiency: Implementing digital technology solutions
- Scaling up: Increase use of renewable energy sources
- Emission free: Push towards zero-emission across all light and heavy vehicle sectors

Transport accounts for around a quarter of total greenhouse gas emissions in Europe

GHG Emissions-Europe 2018

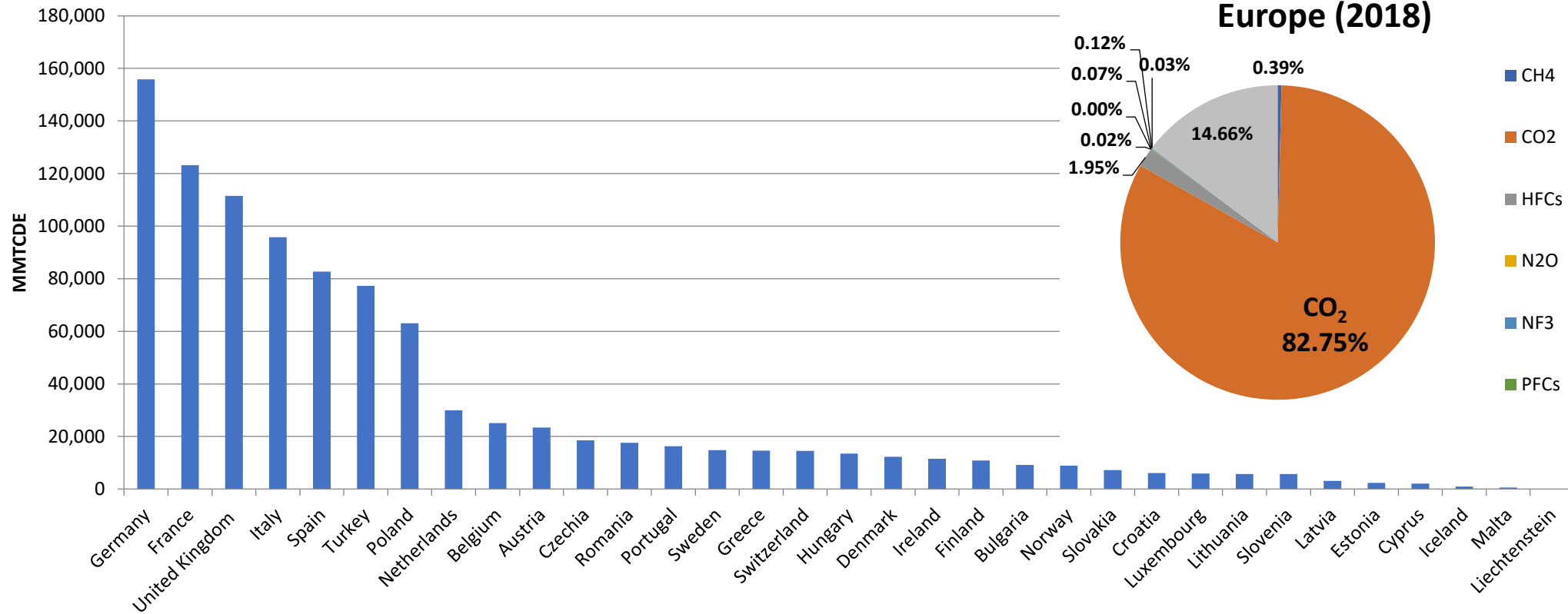


Source EEA, ECG Business Intelligence

Note: EEA data does not include maritime

Reducing road transport emissions is critical

CO₂ Emissions by Road Transport across Europe (2018)



CO₂ emissions measures in metric tonnes of carbon dioxide equivalent (MMTcDE)

Source: EEA, ECG Business Intelligence

National Policies will also Play Major Role in Decarbonisation and Transport Funding

EU member states set national strategies in line with EU targets, which then also determine regional and local-specific transport funding opportunities

Examples of national climate strategies:

- Belgium: [National Energy and Climate Plan \(2021-2030\)](#)
- Denmark: [Denmark's National Energy and Climate Plan](#)
- Estonia: [Estonia's Fundamentals of Climate Policy until 2050](#)
- Germany: [Climatization Plan 2050](#)
- Hungary: [Hungary's Climate Strategy 2050](#)
- Netherlands: [Climate Plan 2021-2030](#)
- Portugal: [Carbon Neutrality Plan for 2050](#)

National Policy: Similar Targets, Differences in the Details

While they share the same long-term objectives, national transport policies vary in details of short-to-medium term emissions targets or in phaseout dates for ICE vehicles – with some variation in freight funding priorities

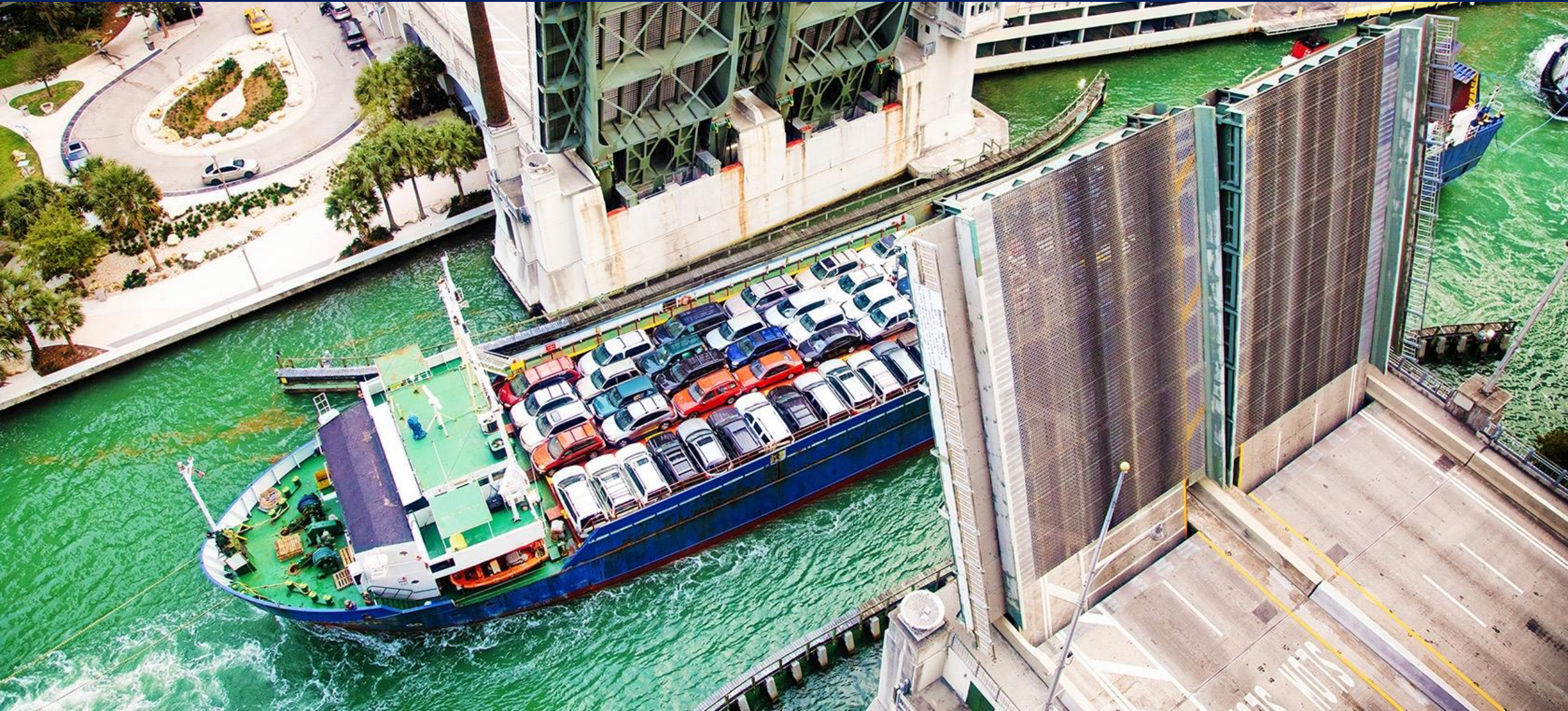


- Germany
 - Carbon Neutral by 2050
 - 2030 target 40-42% transport emissions reduction compared to 1990
 - Transport emissions to 95-98 Mt CO₂e by 2030 (current 159Mt CO₂e)
 - GHG emissions in 2030 must be 22% lower than 1990 level
 - Electrify 70% of rail by 2030
 - No registration of ICE vehicles by 2030



- France
 - Carbon Neutral by 2050
 - 2028 target to reduce GHG emissions to 82 Mt CO₂eq, down 18% compared to 1990 levels
 - 2033 target to reduce GHG to 76.6 MtCO₂eq, down 23.4% compared to 1990 levels
 - Major push to electrify rail, introduce hydrogen-electric trains
 - Sale of gas-emitting vehicles banned by 2040

EU Funding for Shipping



Key Priorities for Maritime and Shipping Projects

- **Decarbonisation** - battery electric, green hydrogen/ammonia-based propulsion systems including fuel cells
- **Digitalisation** – enhancing technology standards, data analytics, autonomous, AI, optimisation and efficiency
- **Interconnected** – collaboration across platforms, bilateral and multilateral
- **Interoperability** – standardisation, digital collaborations, bridge systems
- **Intermodal & multimodal**– Push to enhance efficiency by linking with road and rail, better interoperability and lower overall emissions
- **Cross border** – increased automation and digitalisation to increase efficiency in cross-border shipping
- **Competitive** – enhance operating environment, strengthen EU’s competitiveness
- **Consistent** with EU and national **climate plans** – EU Roadmap 2050 to be carbon neutral

Examples of recent successful EU funded & co-funded projects include...



Funding example



- [HySHIP](#) : Wilhelmsen Topeka hydrogen project awarded NOK 219m (€21.86 mil), plus €8m in EU Funds
 - Funds awarded by Enova SF, owned by Ministry of Climate and Environment, EU Horizon 2020
 - Project involves construction of two ro-ro vessels servicing short-sea segment, with service starting 2024
 - Hydrogen fuelled vessels to carry cargo and liquid hydrogen (LH2) to bunkering hubs
- “We shall create a full LH2 infrastructure and commercial ecosystem, while at the same time removing yearly some 25,000 trucks from the roads”, says vice-president of special projects, Per Brinchmann at Wilhelmsen
- The HySHIP [consortium partners](#) alongside project leader Wilhelmsen include Kongsberg Maritime (NO), LMG Marin (NO & FR), Equinor (NO), Norled (NO), PersEE (FR), Diana Shipping (GR), Stolt-Nielsen Inland Tanker Service BV (NL), Air Liquide (FR), NCE Maritime CleanTech (NO), DNV GL, ETH Zürich (CH), Strathclyde University (UK) and Demokritos (GR)

Green Hydrogen

Project Information

HyShip

Grant agreement ID: 101007205

Status

Ongoing project

Start date

1 January 2021

End date

31 December 2025

Funded under

H2020-EU.3.4.6.

Overall budget

€ 10 796 560


EU contribution

€ 7 993 942



Coordinated by

WILH WILHELMSSEN HOLDING ASA

 Norway



- [AUTOSHIP](#) – Autonomous Shipping Initiative for European Waters- aims to speed up transition to next generation autonomous ships
- Project to build and operate two autonomous vessels and demonstrate operability in Short Sea and Inland Waterways – focus on pallet goods mobility
- Commercial applications to be enhanced following this pilot by end 2023
- AUTOSHIP formed by consortium of 11 partners: Ciaotech S.r.l –PNO Group, Kongsberg Maritime CM AS, Kongsberg Maritime AS, Kongsberg Digital AS, Kongsberg Norcontrol AS, Sintef Ocean AS, University of Strathclyde, Eidsvaag AS, Blue Line Logistics NV, Bureau Veritas, De Vlaamse Waterweg NV
- Motorways of the Sea (MoS) aims to shift 30% of road freight by 2030 to maritime, and more than 50% by 2050

Digital

Project Information

AUTOSHIP

Grant agreement ID: 815012

Status

Ongoing project

Start date

1 June 2019

End date

30 November 2022

Funded under

H2020-EU.3.4.

Overall budget

€ 29 546 161,25

EU contribution

€ 20 109 109,13

Coordinated by

CIAOTECH Srl

 Italy



EU Funding for Road Transport



Key Priorities for Road Transport Projects

- **Decarbonisation**: hydrogen fuel cell, battery electric vehicle technology, long-haul truck capabilities
- **Digitalisation**: enhanced automation, data analytics, robotics, AI, intelligent transport systems, load matching platforms
- **Interoperability**: technical subsystems to communicate, common procedures with harmonised data dictionaries, enhanced efficiency
- **Intermodal & Multimodal**: Push to enhance efficiency by linking with rail and shipping, better interoperability and lower overall emissions
- **Intelligent**: Increase of intelligent transport systems across providers, real time tracking, enhanced efficiency
- **Consistent** with EU and national **climate plans** – EU Roadmap 2050 to be carbon neutral

Examples of recent successful EU funded and co-funded projects include...



Funding example



- Aerodynamic and Flexible Trucks for Next Generation of Long-Distance Road Transport ([AEROFLEX](#))
 - Longer, heavier vehicles using electrified propulsion save significant costs and energy. Aeroflex project aims to improve long-range freight vehicle efficiency by 18-33%, recommendations to be shared for implementation in Europe's transport and logistics industry
 - Partners: MAN, ZF, Scania, Volvo, FCA, Iveco, DAF etc
 - Funding:
 - EU Funding €9.5m
 - EU Funding via Horizon 2020





Funding example

ASSURED boosts electrification of urban commercial vehicles by boosting high powered fast charging across Europe

- Interoperable, high-power charging systems
- Charger-Vehicle interoperability and standardisation
- Smart tools for fleet optimization
- Innovative energy storage systems
- Partners: Volvo, MAN, AVL, VDL, etc
- Funding: Horizon 2020
- EU Funding €18.65m





Freight Electric Vehicles in Urban Europe

CITIES

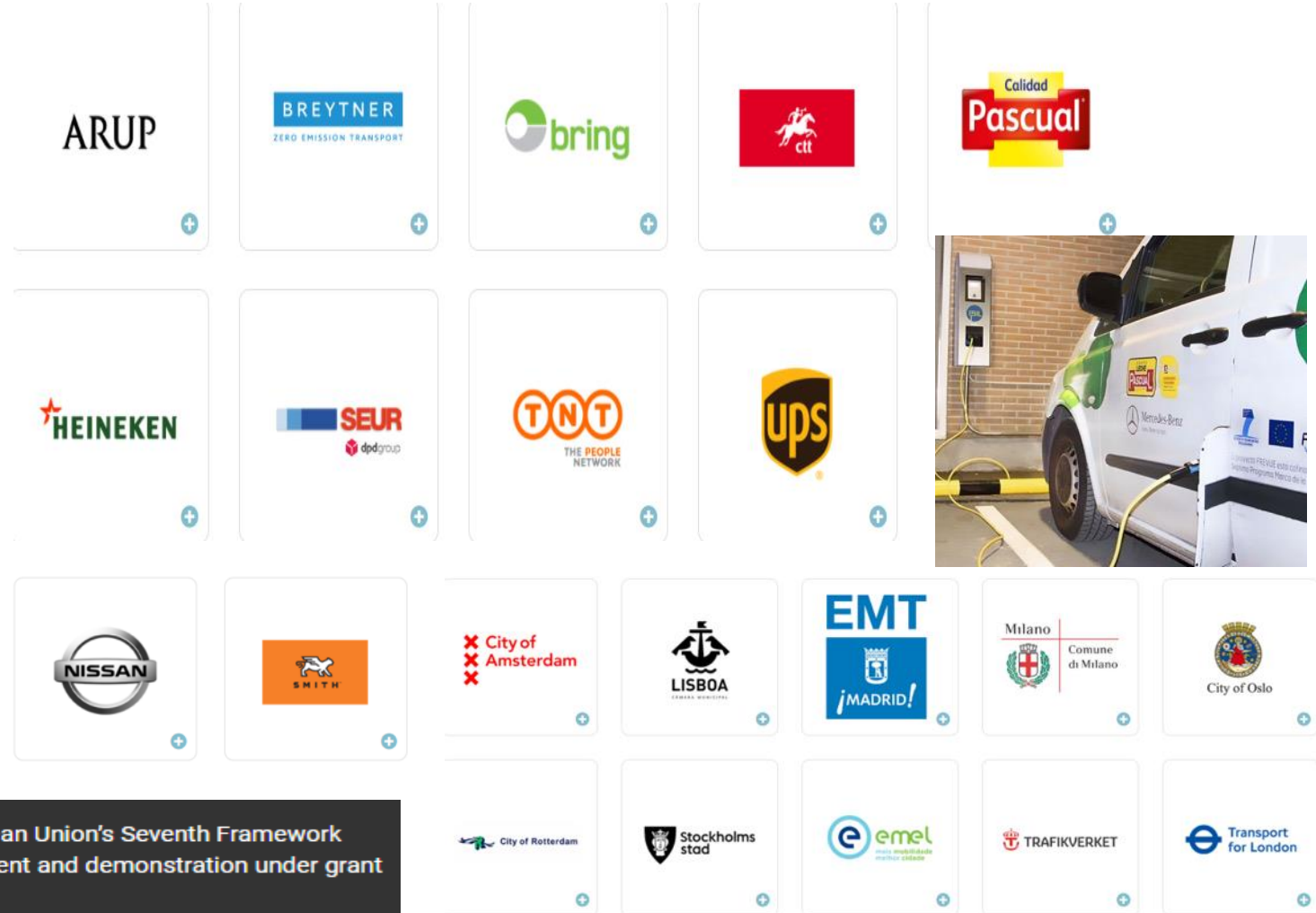
VEHICLES

LOGISTICS

FREVUE- Freight Electric Vehicles in Urban Europe

Partners: Logistics companies, vehicle manufacturers, cities, etc

- Goal to achieve CO₂ free city logistics in major EU urban centres by 2030
- Electric freight vehicles deployed in eight EU cities
- Small vans to 18-tonne trucks
- 757,000km travelled during project
- Environmental benefits: No NOx, 45% reduction in CO₂ emissions



EU Funding for Rail Transport



Key Priorities for Rail Transport Projects

- Key objectives and priorities for rail transport funding:
 - **Decarbonisation**: reduce GHGs, zero-emission transport, electrification of railways including hydrogen and electric battery traction technology
 - **Digitalisation**: increase automation, digitalise train control and traffic management systems, replace legacy tech, ERTMS
 - **Interoperability**: collaboration between providers, common industry systems
 - **Intermodal & Multimodal**: Push to enhance efficiency by linking with road and shipping, better interoperability and lower overall emissions
 - **Cross border**: enhance links across EU, strengthen links to and from cohesion countries (i.e. member states with lower gross national incomes)
 - **Consistent** with EU and national **climate plans** – EU Roadmap 2050 to be carbon neutral

Examples of recent successful EU funded & co-funded projects include...



ROAD

VS

RAIL



EU push for 'Road to Rail'

- Trucks in Europe account for 22% of road transport emissions, despite making up just 2% of all vehicles on the road. The European Commission expects the activity from heavy-duty commercial vehicles to jump by [more than 50%](#) between 2010 and 2050.
- EU-led initiatives to promote rail freight include:
 - <https://shift2rail.org>
 - https://ec.europa.eu/regional_policy/en/newsroom/news/2021/01/01-11-2021-eu-cohesion-policy-eur160-million-to-modernise-the-rail-transport-in-czechia
 - 2021 is the [European Year of Rail](#)

Funding example

- [Rail Baltica](#) project includes five EU countries – Poland, Lithuania, Latvia, Estonia and indirectly also Finland and will connect Helsinki, Tallinn, Pärnu, Riga, Panevežys, Kaunas, Vilnius, Warsaw
- Funds by Connecting Europe Facility 2.0 (CEF) Rail system for both passengers and freight traffic
- Part of EU's North Sea Baltic TEN-T corridor
- EU Funding: €1.4 billion
- Open Tenders:
https://www.railbaltica.org/tenders/?utm_source=railbaltica.org&utm_medium=banner&utm_campaign=Frontpagebanner&utm_content=ProcurementENG



Railways are significantly more environmentally friendly than other forms of transportation. Rail Baltica will be fully electrified to reduce CO2 emissions, pollution and noise.



Co-financed by the Connecting Europe Facility of the European Union



EU Funding for Ports & Compounds



Key Priorities for Ports & Compounds

- Key objectives and priorities for ports & compound funding:
 - **Decarbonisation**: Reduce GHG in operations, push green transitions such as electrification of port and compound activities and integration of offshore wind energy systems
 - **Digitalisation**: Port call optimisation, open port community system, enhanced port and compound management systems, automation, robotics, data analytics and vessel traffic management systems
 - **Interoperability**: Enhance inter-port community logistics, strengthen common platforms across compounds and ports, network of interlinked locations in EU
 - **Intermodal & Multimodal**: Systems to integrate locations with all modes of transport for highest efficiency and lowest emissions
 - **Consistent** with EU and national **climate plans** – EU Roadmap 2050 to be carbon neutral

Examples of recent successful EU-funded & co-funded projects include...



Ports – Antwerp

- Use of drones under SESAR
- Real-time surveillance
- Geozone management system
- Funding: Horizon 2020 and SESAR



‘ Through our 'Port of the Future' innovation platform and cooperation with partners, such as DroneMatrix, we can accelerate technological innovation. Not just for drones, but also for promising evolutions in autonomous shipping, smart cameras and sensors,’ Erwin Verstraelen, Chief Digital & Innovation Officer Port of Antwerp



Horizon 2020
European Union Funding
for Research & Innovation

Funding example



Warehouse

Autonomous loading and unloading forklift operations



Hub-to-hub

Autonomous logistics shuttle service on public road



Port

Automated transfer operations and ship loading

- All Weather Autonomous Real Logistic operations and Demonstrations (AWARD)
- 29 partners from 12 countries
- €20m from Horizon 2020
- Aim to develop driverless heavy-duty vehicles for real logistics operations in harsh weather
- Logistics operations optimised by fleet management system
- Duration January 1, 2021 through December 31, 2023



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 101006817.

Open Funds & Tenders



Horizon Europe is the ambitious EU research & innovation framework programme for 2021-2027 with a budget of €95.5 billion.

Its overarching goals are:

- to strengthen the EU's scientific and technological bases and the European Research Area (ERA);
- to boost Europe's innovation capacity, competitiveness and jobs;
- to deliver on citizen's priorities and sustain our socio-economic model and values.

with a particular focus on creating impact or the European Green Deal, the digital and sustainability transition and recovery from the coronavirus-crisis.

[Search Funding & Tenders \(europa.eu\)](https://europea.eu)

The official details of the projects and calls under Horizon Europe are to be published imminently at the link above with new confirmed projects being shown.

Horizon Europe Logistics Funding Examples (Cluster 5: Climate, Energy and Mobility)

Year	Call	Deadline	Funding available
2021	HORIZON-CL5-2021-D6-01-07: More efficient and effective multimodal freight transport nodes to increase flexibility, service visibility and reduce the average cost of freight transport	07/09/2021	€15m
2021	HORIZON-CL5-2021-D5-01-17: Support for dissemination events in the field of transport research	07/09/2021	€1.5m
2021	HORIZON-CL5-2021-D5-01-01: Nextgen vehicles: Innovative zero emission BEV architectures for regional medium freight haulage (2ZERO)	07/09/2021	€45m
2021	HORIZON-CL5-2021-D6-01-08: New delivery methods and business/operating models to green the last mile and optimise road transport	19/10/2021	€15m
2022	HORIZON-CL5-2022-D6-01-01: European demonstrators for integrated shared automated mobility solutions for people and goods (CCAM Partnership)	12/01/2022	€50m
2022	HORIZON-CL5-2022-D5-01-11: Stimulating Road Transport research and innovation dissemination and implementation in Europe and around the World	26/04/2022	€2m
2022	HORIZON-CL5-2022-D6-02-01: Logistics networks integration and harmonisation through operational connectivity to optimise freight flows and drive logistics to climate neutrality	06/09/2022	€15m
2022	HORIZON-CL5-2022-D6-02-07: New concepts and approaches for resilient freight transport and logistics networks against disruptive events (including pandemics)	06/09/2022	€8m
2022	HORIZON-CL5-2022-D6-02-03: Smart enforcement for resilient, sustainable and more efficient transport operations	06/09/2022	€8m
2022	HORIZON- CL5-2022-D6-02-02:Urban logistics and planning: anticipating urban freight generation and demand including digitalisation of urban freight	06/09/2022	€15m

More information about each call is available from [the Commission here](#)

Source: ECG

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More research can be found at:

ecgassociation.eu/ecg-business-intelligence

