EU Sectoral Briefings:
#2

Transitioning the EU Transportation Sector: Aviation and Shipping

Policy levers to support viability and increase sustainable finance

June 2026

Disclaimer

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Acronyms and abbreviations

ACEA	European Automobile Manufacturers' Association
CapEx	capital expenditure
CBAM	Carbon Border Adjustment Mechanism
CCfD	carbon contract for difference
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
EBF	European Banking Federation
EC	European Commission
EEA	European Environment Agency
EIB	European Investment Bank
ETS	EU Emissions Trading System
ETS2	EU Emissions Trading System 2
eFTI	electronic Freight Transport Information
FDI	foreign direct investment
GHG	greenhouse gas
IAA	Industrial Accelerator Act
ICAO	International Civil Aviation Organization
ICCT	International Council on Clean Transportation
IMO	International Maritime Organization
MSME	micro, small and medium-sized enterprises
OpEx	Operational Expenditure
PRB	Principles for Responsible Banking
PRI	Principles for Responsible Investment
R&D	research and development
RED III	Renewable Energy Directive III
RISP	Regulatory Implementation Support Programme (UNEP FI)
SAF	sustainable aviation fuel
SCLP	short-lived climate pollutants
SME	small and medium-sized enterprise
SMF	sustainable marine fuel
STIP	Sustainable Transport Investment Plan
TEN-T	Trans-European Transport Network
WEF	World Economic Forum

Contents

Executive summary

The transport sector, a prerequisite for trade and mobility, is a fundamental driver of the European Union's economy. Across the road, rail, shipping, and aviation subsectors, an intermodal network transports freight and people within EU Member States and across borders, and employs over six million people.

The transport sector transition can significantly contribute to the EU's "Fit for 55" goal of reducing net greenhouse gas emissions by at least 55% by 2030, relative to 1990 levels. Mitigating the sector's significant greenhouse gas (GHG) emissions, which are among the highest in the EU, is a strategic priority, especially given the current trajectories predicting continued increases (EEA 2025d). Additional sustainability impacts include infrastructure projects causing habitat fragmentation, noise and air pollution causing health issues, as well as human rights concerns associated with the sector's value chain. Designing the sector's transition in a just and competitive way will be essential to upholding its important economic and social contributions while reaching the goals of the European Green Deal.

While road transport accounts for the highest share of the sector's total GHG emissions, requiring continued decarbonization efforts, this analysis focuses on the aviation and shipping subsectors due to their almost complete dependency on fossil fuels and the growing EU policy focus on financing their transition. As two of the most difficult subsectors to decarbonize, aviation and shipping are considered within the broader transport system in order to situate their challenges and assess their role in the sector's overall transition.

Examining current and upcoming policies shaping the sector's transformation, this brief is intended to support financial institutions in understanding how the EU aviation and shipping subsectors are evolving within the broader sustainability transition, including the key policies influencing this shift. It also aims to bring the voice of the financial industry into the discussion on sector-specific transformation, highlighting the enabling conditions financial institutions require to actively support the decarbonization and resilience of the aviation and shipping subsectors. Lastly, it highlights practical policy levers and action pathways for banks, to help maximize opportunities and address remaining challenges in the aviation and shipping subsectors' sustainable transition and financing.

Three areas of focus

- **Part 1: The EU transport sector: overview and role in the sustainability transition:** An overview of the transport sector's market landscape, including its economic significance, climate and environmental footprint, mitigation potential, and the EU's tools for steering its sustainable transformation, providing the broader context for the analysis of the shipping and aviation subsectors.
- **Part 2: Policies affecting the EU aviation and shipping transport subsectors:** International and regional policies including the 2025 Sustainable Transport Investment Plan (STIP), the ReFuelEU Aviation and FuelEU Maritime regulations, and related policies such as the EU Clean Industrial Deal and Industrial Decarbonization Bank.
- **Part 3: Policy levers and action pathways to support viability and increase sustainable finance for the EU aviation and shipping subsectors' decarbonization:** Ways forward to support the financing of the transition, through policy development as well as action pathways for banks.

Main takeaways

The main takeaways by focus area are highlighted in **Tables ES1 and ES2**.

Table ES1: Main takeaways by focus area

The EU transport sector: Overview and role in the sustainability transition
▪ **EU transport sector market overview:** The EU transport sector is a cornerstone of the European Union's economic integration and competitiveness, enabling the free movement of goods and people across more than 50 internal and external borders. Covering road, rail, and waterborne and air transport, it underpins the functioning of the European Single Market and international trade. As a major employer with approximately 6.3 million people in the EU and an important contributor to GDP with 5% of overall EU GDP, transport plays a structurally important role for Europe's industrial base and competitiveness (European Commission 2024b).
▪ **Sustainability footprint:** Overall, the sector contributes to 23.8% of the EU's total GHG emissions (EEA 2024a). The GHG emissions of the transport sector in the EU are split as: 73.1% road, 13.8% aviation, 12.7% waterborne, and 0.4% rail (T & E 2025). Aviation and waterborne transport remain almost entirely dependent on fossil fuels. Beyond climate impacts, transport contributes to biodiversity loss through habitat fragmentation and seabed disturbance, as well as to air, water and soil pollution—increasingly from non-exhaust emissions (EIT Urban Mobility 2025). Achieving the European Green Deal objective of a 90% reduction in transport emissions by 2050 compared to 1990 levels will require large-scale deployment of renewable electricity, sustainable fuels, efficiency improvements and systemic modal shifts to cleaner transportation methods such as rail.

- **Interconnected benefits of sector transformation:** As an enabler of economic activity, transport links supply chains across manufacturing, agriculture, energy, healthcare, tourism and digital services. Furthermore, it forms the basis for human mobility. Air and sea transport account for the highest shares of EU import and export value. Their decarbonization and pollution reduction therefore have multiplier effects across the broader economy. Expanding more sustainable transport modes while shifting to sustainable aviation fuels and low-carbon shipping can reduce health costs associated with air pollution, protect ecosystems, and improve energy security by lowering fossil fuel imports. In this way, a sustainable transport transition reinforces both environmental objectives and industrial competitiveness.
- **Sustainable transformation for economic resilience:** Ensuring a just and forward-looking transition through investment in clean technologies, resilient infrastructure, digitalization and workforce reskilling, is essential to safeguard employment and maintain Europe's strategic autonomy. Aligning the aviation and shipping subsectors with the European Green Deal and advancing its Sustainable and Smart Mobility Strategy in line with the EU sectoral climate pathways (DG for Climate Action 2025c, 2025d, 2025b, 2025a) will be critical to preserve its socio-economic contributions while positioning the EU as a global leader in sustainable solutions across transport.

Policies affecting the EU aviation and shipping subsectors

- **Sustainable and Smart Mobility Strategy** (including TEN-T): Adopted in 2020 under the European Green Deal, the Strategy sets a roadmap to cut transport emissions by 90% by 2050 through 82 initiatives on digitalization, modal shift and clean fuels (European Commission, n.d.(b)). Introduced milestones are for example the market-readiness of zero-emission large aircrafts by 2035 and zero-emission marine vessels by 2030. The revised 2024 TEN-T Regulation strengthens binding sustainability, resilience, and multimodal infrastructure standards across the EU network (Council of the EU 2024).
- **The Sustainable Transport Investment Plan (STIP):** Adopted in 2025, STIP aims to mobilize up to EUR 2.9 billion by 2027 to accelerate aviation and waterborne decarbonization through sustainable fuel deployment. It aims to support scale-up of sustainable fuels under the ReFuelEU and FuelEU Maritime regulations, de-risk private investment, enhance revenue certainty, streamline administration, and strengthen international partnerships to accelerate the decarbonization of the aviation and waterborne transport subsectors.
- **Other policies affecting the EU aviation and shipping subsectors (examples):** The Clean Industrial Deal and Industrial Decarbonisation Bank aim to boost competitiveness and green investment. The EU Emissions Trading System (ETS) is under revision to potentially expand coverage to international flights, smaller offshore and cargo ships, and non-CO_2 aviation emissions, with better alignment with ICAO and IMO frameworks (a formal revision proposal is expected by July 2026). The electronic freight transport information (eFTI) regulation digitizes freight documentation, improving efficiency, transparency and compliance across transport modes.

Policy levers to increase the bankability of the EU aviation and shipping subsectors

- **Transport as a major domain for clean investment:** Clean mobility investment in the EU reached EUR 119 billion in 2023, yet this remains insufficient (I4CE 2025). Achieving 2030 decarbonization targets requires around EUR 264 billion annually, leaving an estimated annual gap of at least EUR 145 billion. Substantial financing will be needed in aviation, shipping, and alternative fuel infrastructure, highlighting the scale of private capital mobilization required (I4CE 2025; EU PSF 2025).

- **Financing gaps and market challenges:** The main barriers to investment are less related to the availability of finance than to market conditions that weaken project bankability. Policy uncertainty, unclear business cases for low-carbon transport solutions, persistent cost gaps in comparison with conventional solutions, fragmented value chains, and high upfront technology and infrastructure costs limit investment in the aviation and shipping transport subsectors. Additional challenges include weak long-term demand signals such as insufficient offtake contracts, lack of relevant supportive infrastructure, administrative complexity, and limited risk-sharing mechanisms, which constrain both project development and access to long-term private capital.
- **Potential policy levers:** Addressing these barriers requires stable and coherent policy frameworks, stronger coordination across aviation and shipping value chains, and financing instruments to bridge cost gaps and reduce risks targeted at subsector-specific conditions. **Table ES2** summarizes key policy levers identified in this brief, focusing on improving regulatory predictability, enabling coordinated deployment of clean technologies, and strengthening blended finance structures. Building on ongoing policy action, complementary actions by banks (**Table ES3**) can further support clients' transition strategies and help mobilize private capital at scale.

Table ES2: Policy levers to increase bankability of the EU aviation and shipping subsectors.

Topic	Potential policy levers
1. Ensure a coherent and horizontal policy approach to the aviation and shipping subsectors' transition	1. Harmonize existing policy measures from a whole-of-economy perspective governing aviation and shipping. 2. Design industrial policies to support sustainable fuel production and clean technology development and innovation, and ensure long-term stability of fuel mandates, carbon pricing trajectories, and technology incentives to increase investment security.
2. Enhance the enabling environment for the shipping and aviation subsectors to transition	3. Clarify the business case for more sustainable solutions and support innovation at scale that can compete with less sustainable transport alternatives. 4. Ensure coordinated actions across all stakeholders to reduce costs and scale clean technology deployment. 5. Ease administrative burdens for both companies and the financial sector.
3. Combine targeted financing instruments to improve investability and bankability	6. Develop capital markets and targeted de-risking instruments (e.g., guarantees, contracts for difference) to bridge cost gaps, reduce technology and construction risks, and increase the investability and bankability of aviation and shipping transition projects. 7. Leverage blended finance, combine instruments, and foster subsector-specific conditions to support demand and scaling.

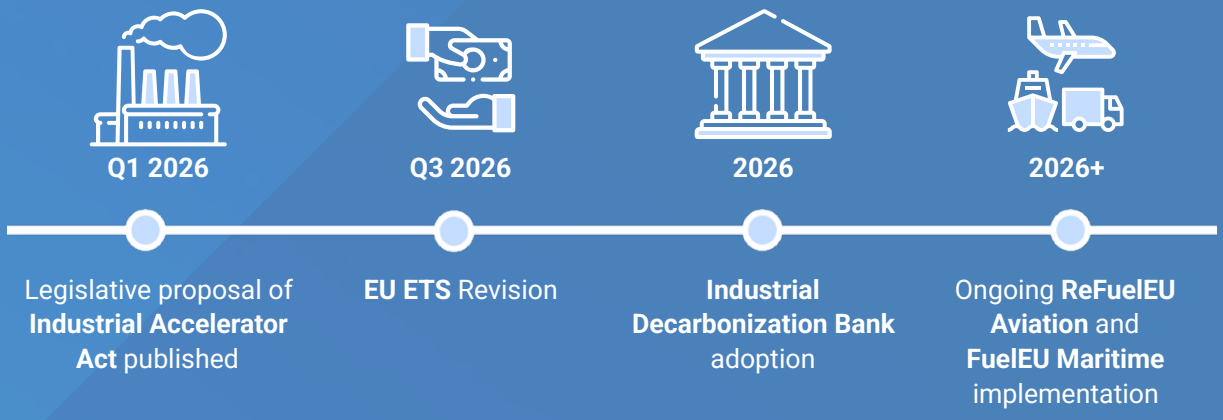
Table ES3: Complementary recommendations for action pathways for banks

Topic	Action pathways for banks
 **1. Expand financing instruments for the transport transition**	1. Leverage risk mitigation instruments, applying guarantees, carbon contracts for difference, or auction mechanisms to reduce exposure to price volatility and demand uncertainty for investments in sustainable fuels and (air)port infrastructure. 2. Scale financing for bankable transition technologies and solutions, providing capital to companies deploying low-carbon fuels and associated infrastructure. 3. Explore alternative and flexible financing structures, using leasing, supply-chain or service-based finance to unlock liquidity and credit across aviation and shipping value chains.
 **2. Support clients' transition planning and implementation**	4. Structure financing that supports credible and robust transition strategies, tying financing to clear transition plans and targets. 5. Enhance technical expertise within financial institutions, building aviation and shipping subsector-specific teams that are able to evaluate transition plans, identify bankable measures, and strengthen confidence in clean investments. 6. Provide targeted financial products and advisory services, guiding clients on airplane and vessel fleet transition, low-emission fuels, investment planning, and collaborative approaches to reduce project risks.
 **3. Strengthen collaboration and risk-sharing ecosystems**	7. Participate in public-private partnerships, co-financing structures, and long-term offtake arrangements, mobilizing capital and share risk through coordinated investments and industrial alliances. 8. Engage in structured dialogue with policymakers and industry stakeholders, including providing structured finance expertise to public institutions, to align financing with policy, inform de-risking tools, and support a competitive, low-carbon transport transition.

Next steps

Upcoming EU policy initiatives will shape the aviation and shipping transport subsectors' decarbonization and sustainable development. Keeping abreast of upcoming consultations, revisions and adoption of new measures will better prepare stakeholders for the transition and enable them to share their perspectives.

Ongoing implementation of ReFuelEU Aviation and FuelEU Maritime will continue to shape sustainable fuels markets and investment conditions, while further policy developments, including revisions to the EU ETS, the implementation of the Industrial Decarbonisation Bank, and progress on the Trans-European Transport Network (TEN-T) and the Single European Transport Area, will influence the broader transition pathway of the aviation and shipping subsectors.



About this policy brief series

This policy brief is the second in a series on EU sectoral policy, developed by UNEP Finance Initiative (UNEP FI) and the European Banking Federation (EBF) to strengthen the connection between financial institutions, policymakers, and the real economy. The series aims to bring the perspective of the financial sector into policy discussions to help make the transition of key sectors more bankable. In line with EU policy priorities, this brief addresses the transport sector with a focus on aviation and shipping, while the first brief published in December 2025 focused on the chemical sector.

This series complements related UNEP FI work:

- United Nations Principles for Responsible Banking (PRB) Guidance Client Engagement and its target setting guidance on financial health and inclusion or transition planning
- UNEP FI's Human Rights Toolkit and its efforts to facilitate a just transition,
- The Impact Centre's Sectors Mapping and Impact Radar
- UNEP FI's Circular Economy community of practice and associated publications, e.g. on circular economy financing
- The Regulatory Implementation Support Programme (RISP)

The real economy briefs provide a policy lens to help banks understand the evolving EU policy landscape and identify policy levers to finance real economy transitions. Together, these resources are intended to bridge the investment gap in relevant sectors and support the integration of sustainability objectives into banking strategies and portfolios.

Part 1: The EU transport sector's role in the sustainability transition

1.1 Market overview

As a key driver for economic development, the transport sector plays a fundamental role in global society and economy (see **Figure 1**). For the EU, it is essential for connectivity and mobility across member states, enabling free movement and collaboration, as well as internal market competitiveness and international trade (EUROSTAT 2025; European Commission 2024b). This brief aligns with the European Commission's definition of the transport sector, covering passenger and freight transport by road, rail, water, and air as the main subsectors (European Commission 2025b). Its analysis focuses primarily on shipping and aviation transport, while examining them within the broader transport system to better contextualize their role and challenges in the sector's sustainability transition. This focus reflects their status as two of the hardest-to-abate subsectors, still overwhelmingly dependent on fossil fuels, and the growing EU policy momentum around financing their transition.

Overview of the EU transport sector	
Important economic contributor The transport sector generates around 5% of EU-wide GDP	**Strong employer** 6.3 million people were employed in 2024, with 88.8% in road transport
Essential for trade Sea transport accounts for 46% of import and export value, air transport for 20.7%, and road transport for 19.2%.	**Industry structure** Business sizes in the sector are above average. Activities like air and rail transport are dominated by very large enterprises, while in shipping, the majority are SMEs
Maritime and road lead freight Almost all the EU freight transport is carried by maritime (67.4%) and road transport (25.3%).	**Passenger mobility decreased** Passenger transport in 2023 remained 20% below 2019 levels, attributed to increased remote work since the COVID-19 pandemic.

Figure 1: Overview of the EU transport sector and its contributions to socio-economic factors within the EU. Own elaboration, drawing on Eurostat 2026; European Commission 2024a.

Figure 2 provides a high-level illustration of the different stages and actors across the sector's value chain.

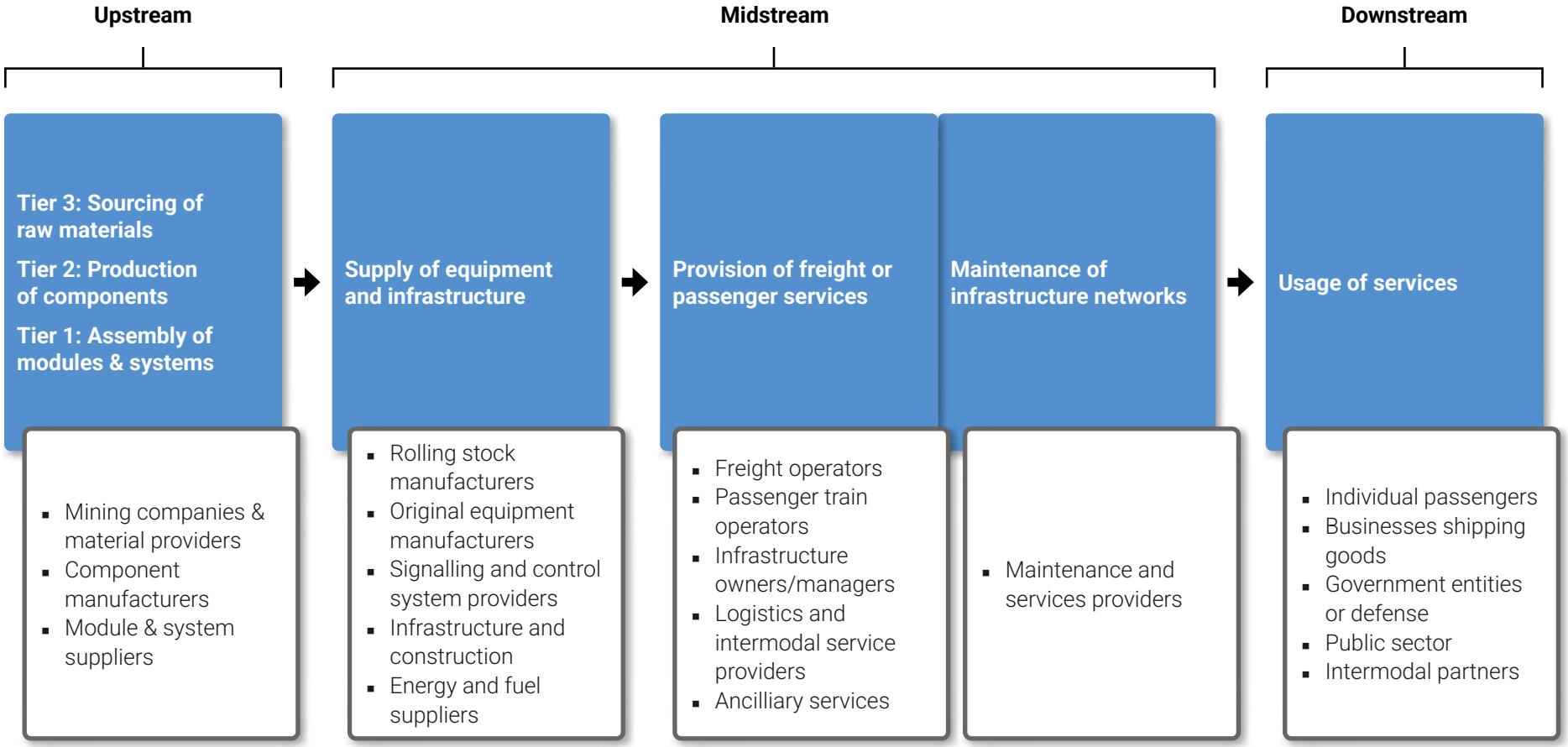


Figure 2: High-level breakdown of the transport subsector value chain. Own elaboration, based on OECD 2024; Umbrex, n.d.

The EU transport sector is characterized by a high degree of diversity and cross-border integration, reflecting the Union's geography of more than 50 land and maritime borders, with transport flows occurring across its multiple modes. While this diversity strengthens the transport sector's resilience, significant barriers still hinder the creation of a fully operational Single European Transport Area[1] and the development of sustainable, safe, and integrated multimodal infrastructure (European Commission 2024b). Challenges the EU transport sector is facing include:

- **Significant labour shortages**, such as a bottleneck of aircraft and motor vehicle mechanics (Fischer-Barnicol *et al.* 2025).
- **Dependence on suppliers outside the EU**, such as of fossil fuels as well as transition-essential batteries and electronics (Cambridge Econometrics 2020; SciencesPo 2025; ACEA 2025) (SciencesPo 2025; ACEA 2025).
- **Deteriorating infrastructure** due to lack of investment (Business Europe 2024).
- **Stalling electrification** resulting from a fluctuating energy market (EPRS and Kiss 2025) and slow build-out and modernization rate of power grids (Cleantech for Europe 2024).

These barriers, as well as accelerating global pressures, such as climate change and geopolitical controversies, necessitate innovative transport solutions in both passenger mobility and freight logistics. The EU's strong internal connectivity and industrial base positions it well to overcome these challenges. Significant clusters in aerospace manufacturing and research across member states underpin innovation capacity, while programmes like Horizon Europe further strengthen collaborative R&D efforts to develop sustainable and advanced transport technologies, such as alternative aviation and shipping fuels (ACEA 2024; Nindl *et al.* 2025).

Transport delivers substantial economic and societal value by enabling mobility, trade, and regional integration across the EU. Ensuring that these benefits can be maintained and strengthened in the future will depend on addressing the sector's key sustainability challenges. Identifying the most pressing issues and effectively directing financial flows to tackle them will therefore be essential for a successful and future-proof transition of the transport sector.

1.2 Sustainability profile

Understanding the transport sector's sustainability impacts is a critical step toward ensuring that the sector can continue to deliver its societal and economic benefits while aligning with environmental and social objectives. Building on high-impact areas identified via UNEP FI's Impact Centre's Impact Mapping tool, **Table 1** provides a high-level description of each impact area followed by an exploration of its regional manifestation in the EU. While generating and understanding of the sector's societal value, this also illustrates the breadth of challenges that must be addressed in the transition towards a more sustainable transport system for goods and people within the EU.

1 The Single European Transport Area refers to the EU's objective of creating a fully integrated transport market across Member States, removing barriers to cross-border transport services and ensuring interoperable, efficient, and sustainable transport systems.

The overview explores direct transport sector impacts, narrowed down to the aviation and shipping subsectors. Other impacts can occur in interdependent sectors up the value stream. For example, sourcing sectors for transport infrastructure such as bricks, stone, sand, metals, aggregates, and minerals are considered high-risk from a human rights perspective, often being associated with precarious working conditions, an impaired right to a healthy environment, or restricted indigenous and local people's rights (UNEP FI, n.d.).

Table 1: Sustainability impacts of the transport sector globally and across the EU value chain

Pillar	Transport sector impact areas[2]	Description	EU contextualization
Positive			
Social	**Mobility**	Enhancing connectivity, promoting trade, and facilitating the movement of people and goods.	▪ In the EU, the average commuting time for employed people is 25 minutes, with various factors influencing this on a country level, including the quality of transport infrastructure and availability of transport modes (euronews 2024).
	Employment	Facilitating labour mobility, connecting people to job opportunities, and supporting economic activities in urban areas.	▪ 6.3 million people were directly employed by the transport sector in 2024. ▪ 1.1% of all employed people in the EU are cross-border commuters; 6.4% commute to another region within their home country (TheMayor.EU 2024).
Socio-economic	**Development and value creation through successful MSMEs**	Critical enabler of trade, commerce, and mobility, facilitating the movement of goods, people, and services within and across regions.	▪ The transport sector generates around 5% of EU-wide GDP (eurostat 2026). ▪ Sea transport accounts for 46% of import and export value and air transport for 20.7% (European Commission 2024a).

2 As defined by UNEP FI's Impact Mapping

Pillar	Transport sector impact areas[2]	Description	EU contextualization
Negative			
Social	**Natural disasters**	Transport infrastructure can impact the structure and functioning of ecosystems by reducing associated ecosystem services such as air quality regulation, climate regulation and climate change mitigation, flood and coastal protection, water quality regulation, and others.	▪ Habitat fragmentation is one of the greatest threats to the conservation of biological diversity in Europe (COST 2002; Iuell *et al.* 2022), a third of land being considered highly fragmented, with habitats spanning less than 0.02km^2 on average on 27% of land areas (EEA 2022). ▪ Particulate matter, specifically from non-exhaust emissions, significantly affects human health, such as causing respiratory inflammation, neurological disorders, increased stroke risk, heart attacks, and cancer (EIT Urban Mobility 2025).
Natural Environment	**Climate stability**	Use of fossil-fuel-powered vehicles results in higher GHG emissions and exacerbates climate change.	▪ The EU transport sector remains the largest source of EU emissions (Dolge *et al.* 2023; EEA 2025b). Aviation's share of emissions, including short-lived climate pollutants (SCLPs) through condensation trails, is rising as growing demand outpaces efficiency gains, largely driven by commercial aviation (IATA 2025a; Gössling and Humpe 2020).
	Biodiversity & healthy ecosystems	Water bodies, air, soil, species, and habitats can be negatively affected through pollution, physical disturbance of land, and changes to natural ecosystem processes.	▪ Beyond air, water, and underwater-noise pollution, maritime activities disturb approximately 27% of Europe's near-shore habitats through port expansion, dredging, and anchoring. Shipping also accounts for the majority of invasive alien species (56%) introductions via ballast water, posing substantial risks to marine ecosystems (EEA 2025a; CORDIS 2020).
	Resource intensity	Various modes of mobility rely on finite resources such as fossil fuels, metals, and minerals for their operation and infrastructure development.	▪ In 2023, 90% of transport energy consumption came from oil-derived fuels, on which aviation and shipping transport remain almost totally dependent (~99%).

1.3 Interdependence with other industries

The aviation and shipping subsectors' reach extends into nearly every other sector, from energy and raw materials to advanced manufacturing and digital systems, making them both a major source of demand and a driver of innovation. This interdependence underscores the strategic importance of transport in shaping sustainability, technological progress, and resilience across the EU economy. **Table 3** provides a non-exhaustive overview of key interdependencies along the value chain.

Table 2: Non-exhaustive overview of key interdependencies along the aviation and shipping transport sector value chain

Value chain position	Sector	Aviation and shipping sector dependencies	Aviation and shipping sector contributions
Upstream	**Mining and critical raw materials**	Inputs for lightweight metals, hydrogen technologies	Aviation and shipping drives demand for critical raw materials; mining depends on logistics chains
	Iron and steel	Critical for vehicle frames, ships, and port infrastructure; decarbonizing steel production is essential	Aviation and shipping demand drives steel production for vessels and necessary infrastructure
	Aluminum	Used extensively in aviation for its lightweight properties	Subsectors' efficiency efforts increase aluminum demand, raising pressure to decarbonize aluminum production
	Chemicals	Fuels, lubricants, composites, plastics, adhesives	Demand shapes innovation in sustainable fuels and lubricants
Midstream	**Energy**	Providers of electricity, hydrogen; energy transition defines transport decarbonization options	Transport is the largest energy consumer in the EU; sustainable mobility requires renewable power and infrastructure; aviation and shipping depend on future low-carbon fuels from the energy sector, and on the transition of fuel producers in the oil and gas sector
Downstream	**All sectors**	Developments in all economic sectors drive and direct demand for quality and quantity of transport modes	The transport sector enables all economic sectors by providing the movement of goods and people necessary for production, trade, and service delivery
Across the value chain	**All sectors: Infrastructure**	Infrastructure for alternative fuel production and deployment Sufficiently built out energy grids Maintenance of roads, tracks, ports and airports	Transport drives demand for various forms of infrastructure and is also essential to make the needed materials available

1.4 Transformation potential and EU objectives

The EU transport sector can be transformed into a key enabler of human and environmental wellbeing and a foundational driver of the broader sustainability transition across economic sectors. If strategically implemented, the transition of the aviation and shipping subsectors can also strengthen the EU's global competitiveness by fostering innovation, reinforcing domestic industrial value chains, and reducing dependence on imported fossil fuels and critical transport technologies. Systemic interventions are central to the overall transport sector's transformation, including shifts to more sustainable transport modes (e.g. high-speed rail vs flights, especially on short-haul trips).

Transport emissions must fall by 90% by 2050 compared to 1990 levels to meet EU Green Deal targets. While road transport accounts for the highest share of the sector's total GHG emissions, requiring continued decarbonization efforts, the decarbonization of aviation and shipping transport pose a particular challenge considering the projected increase of their share of transport emissions from around one quarter today to nearly half by mid-century (EEA 2024) aiming at providing users with more affordable and cleaner alternatives for transport of both passengers and goods. However, air pollution, noise and greenhouse gas (GHG. Addressing these hard-to-abate subsectors also presents an opportunity for the EU to develop global leadership in emerging clean fuel markets and related technologies.

Achieving deep decarbonization of aviation and shipping transport will require large-scale deployment of sustainable aviation fuels (SAFs) and sustainable marine fuels (SMFs), as fuel substitution represents one of the most critical and immediate decarbonization levers for both subsectors. Efficiency improvements, and modal shifts, together with long-term transitions to new propulsion technologies and non-fuel measures such as fleet modernization and improved traffic management are also essential (European Commission, n.d.-c, 2025c; Robalo-Cabrera *et al.* 2025; Raihan 2025; Lewis 2025; Boyd 2021). Efficiency gains in fuel usage can be achieved by limiting increases in airport capacity (EIB 2025).

Additionally, not all SAFs and SMFs deliver equivalent emissions reductions, Lifecycle greenhouse gas emissions reduction benefits vary significantly depending on feedstock and production pathway, with waste- and residue-based fuels performing better than crop-based alternatives that risk indirect land-use change, biodiversity loss, and competition with food supply chains (ICCT 2025). Realizing SAFs' decarbonization potential therefore requires robust sustainability certification and traceability frameworks, such as those under ICAO's CORSIA scheme, which condition SAF eligibility on criteria covering ecosystem protection, soil and water safeguards, and social risk assessment, alongside equivalent frameworks for SMFs (EDF 2021; Sustainable Shipping 2021).

Further expansion of electricity grids and renewable energy production is necessary to uphold the needed rate of electrification across sectors, while also enabling the large-scale production of sustainable fuels needed for the decarbonization of shipping and aviation and strengthening Europe's energy security and resilience.

To address non-climate environmental impacts of the transport sector, EU-funded projects such as BISON[3] identify governance tools to integrate biodiversity protection into infrastructure planning (CORDIS 2023). Pollution and invasive species risks in shipping transport are addressed through the development of new ballast water treatment systems. Such innovations can also support the development of globally competitive environmental technologies and standards originating in the EU.

Increased sourcing and recycling of raw materials needed for the transport sector's electrification within the EU can also reduce environmental and social impacts occurring in sourcing sectors up the value stream. Designing new transport systems for circularity and investing in shared and more efficient mobility systems can significantly reduce the demand of critical minerals (Institute for Sustainable Futures 2026) while strengthening the EU's autonomy.

EU initiatives guiding this transition are included within the European Green Deal and operationalized through the Sustainable and Smart Mobility Strategy, which launched 82 initiatives to accelerate digitalization, modal shift, and clean fuel uptake (European Commission, n.d.(b)). Building on this, the revised Trans-European Transport Network (TEN-T) Regulation (2024), sets binding network milestones and embeds sustainability and resilience standards for intermodal hubs, and intelligent transport (European Commission n.d.(a); Council of the EU 2024). EU decarbonization guidance is further supported by sectoral transition pathways aligned with the EU's 2050 climate law, including the air and water transport pathways that define decarbonization levers and KPIs across subsectors, listed in **Table 2**, as they are issued by the European Commission (European Commission, 2025f). While these transition pathways relate to the transformation of the subsectors themselves, the EU issues a range of policies aiming for an overall shift to more sustainable transport modes such as rail and electric vehicles, as well as limiting the increase of unsustainable means of transport (see **Part 2, Table 3**). The EU's Clean Energy Investment Strategy, published in March 2026, further asserts the EU's commitment to transitioning away from fossil fuel dependency in all sectors, indicating increased efforts and investments to push electrification, also in the transport sector.

3 Biodiversity and infrastructure synergies and opportunities for European transport networks (BISON): Home—BISON project

Table 2: Decarbonization levers and KPIs of the EU's aviation and shipping subsectors, as they are listed in the EU's transition pathway subsector fiches (European Commission 2025b).

Subsector	Decarbonization lever	Key performance indicator (KPI)
Air transport	Increase the share of sustainable aviation fuels (SAFs)	Share of biofuels in energy consumption
	Increase use of novel propulsion technologies based on electricity and hydrogen	Share of synthetic fuels (hydrogen, e-fuels) in energy consumption
Water transport	Improve manufacturing and operational efficiency	Energy consumption in domestic transport, energy consumption in international transport
	Uptake of new sustainable and alternative fuels both in terms of vessels and infrastructure	Share of biofuels in energy consumption, share of synthetic fuels in energy consumption

Part 2: Policies affecting the EU aviation and shipping subsectors

The aviation and shipping sectors are influenced by a wide range of EU policies, some subsector-specific, some directed as the transport system as a whole. In addition to transport-specific regulations, sustainable and just transition initiatives shape the transition of the transport sector. Together, they determine how the sector addresses safety, innovation, decarbonization, environmental protection and circularity.

A recent example of targeted EU shipping- and aviation-related policies responding to financing barriers in hard-to-decarbonize transport segments is the Sustainable Transport Investment Plan (STIP), adopted in November 2025 (European Commission 2025a). The STIP sets out a strategic roadmap to accelerate the financing of the transition of aviation and waterborne transport by addressing the need to unlock investment to scale up renewable and low-carbon fuels in order to meet the fuel targets under the ReFuelEU Aviation (European Commission 2023b) and FuelEU Maritime (European Commission 2023a) regulations. **Figure 3** shows different funding instruments' anticipated contributions to the total funding aim of EUR 2.9 billion mobilized by 2027 via the STIP.

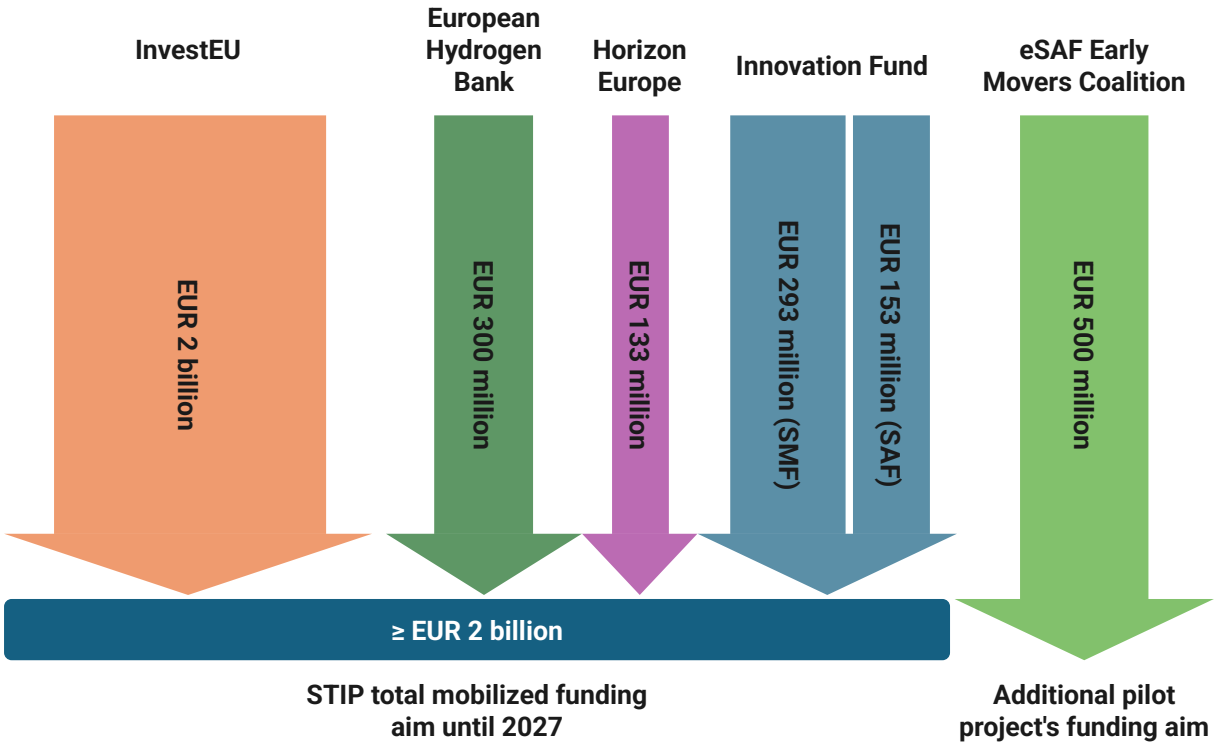


Figure 3: Funding instruments' contributions to anticipated mobilized funding under the STIP (European Commission 2025a).

The STIP is embedded in efforts to develop mechanisms to provide revenue certainty for fuel producers and buyers, de-risk investment, and aims to streamline administrative processes and strengthen international partnerships, making it a central policy initiative on the financial side of transport decarbonization (European Commission 2025a). **Table 3** summarizes other key policies affecting the EU aviation and shipping subsectors and their main objectives.[4]

Table 3: Non-exhaustive list of key policies affecting the EU aviation and shipping subsectors

Policy	Description	Key dates
Sustainable and Smart Mobility Strategy	Roadmap under the European Green Deal to cut transport GHG emissions by 90% by 2050, with 82 initiatives on digitalization, modal shift, and clean fuels	Adopted 2020
Trans-European Transport Network (TEN-T)	Policy framework to establish an EU-wide multimodal transport network to boost connectivity and sustainability. Revised 2024 regulation includes stricter requirements to align airport and freight terminal infrastructure, and alternative fuel production with the EU's climate targets.	Revised 2024
Fuel regulations under the "Fit for 55 Package"	Includes ReFuelEU Aviation, FuelEU Maritime, and the Alternative Fuels Infrastructure Regulation (AFIR) to boost supply and demand of sustainable fuels and expand charging/refuelling networks.	Adopted in 2023
Greening Freight Package	EU initiative to shift freight to cleaner modes by harmonizing emissions accounting, modernizing combined transport, revising truck weight rules and improving rail capacity	Proposed 2023, Trilogues started in 2024
Land and Multimodal Transport Guidelines (LMTG) and Transport Block Exemption Regulation (TBER)	State aid rules aiming to make it easier and faster for Member states to support sustainable land transport solutions, to promote modal shifts in the transport subsector.	Adopted in March 2026
Electronic Freight Transport Information (eFTI) Regulation	Aims to digitize freight transport across all modes by replacing analog documentation with electronic data, to cut administrative workload, improve data security, and support compliance with EU and national rules.	Adopted in 2020, fully applicable from July 2027

4 It is important to note that the transposition of EU-wide policies by Member States, as well as the introduction of additional national initiatives, significantly influences the conditions for the transport sector's transition. National governance frameworks and legislation play a decisive role, for example, in determining whether supporting infrastructure is maintained, whether sustainable transport projects become economically viable, and which technologies receive public support.

Policy	Description	Key dates
EU Emissions Trading System (ETS)	Revision will likely increase coverage of aviation and shipping transport, with the prospect of expansion to international flights, full integration of international shipping transport and smaller offshore and cargo ships between 400 GT and 5000 GT, as well as non-CO_2 GHG emissions from aviation. Further aims for better alignment with goals and measures by international organizations, such as the International Civil Aviation Organization (ICAO) and the International Maritime Organisation (IMO).	Adopted 2023; fully operational in 2027 (ETS2), proposal to revise ETS1 beyond 2030 expected by July 2026
Carbon Border Adjustment Mechanisms (CBAM)	Applies a carbon tariff to carbonintensive imports, such as steel, cement, and certain energy products, entering the EU. Aviation and shipping subsectors likely to be impacted via supply-chain effects (materials for infrastructure and fleet construction).	Applies from January 2026
Renewable Energy Directive (RED III)	Sets stricter renewable energy, decarbonization and sustainable fuel usage targets and sustainability criteria.	RED III revision adopted in 2023
Clean Energy Investment Strategy and AccelerateEU Plan	Strategy and associated action plan to increase the EU's energy independence and resilience in light of recent geopolitical developments. Includes measures to shift transport solutions away from fossil fuel dependency, such as accelerating the development of hydrogen-based Sustainable Aviation electro-Fuels (eSAF) and Sustainable Maritime electro-Fuels (eSMF), as well as other short- to long-term actions.	Strategy published in March 2026; AccelerateEU Plan presented in April 2026
Industrial Decarbonization Bank	Mobilizes EUR 100 billion, including from ETS revenues, to fund green industrial transition through grants, guarantees, and contracts for difference, potentially applicable to sustainable transport projects.	Expected Q3 2026
Critical Raw Materials Act	Aims to secure a sustainable supply of key raw materials relevant for transport electrification while reducing reliance on imports from single-country suppliers.	Adopted 2023

Policy	Description	Key dates
Industrial Accelerator Act (IAA)	Aims to strengthen EU competitiveness and industrial resilience by introducing "Made in EU" and low carbon preferences in public procurement, strengthening Foreign Direct Investment (FDI), and facilitating faster permitting for industrial projects. The act will likely affect aviation and shipping subsectors through supply-chain effects, for example via low-carbon requirements for steel and aluminium needed for aviation and shipping infrastructure and fleet construction. The IAA will also contribute to the scaling of green hydrogen central to e-fuels.	Legislative proposal published in March 2026

The EU's objectives are also influenced by international regulations and strategies, including the International Maritime Organization (IMO)'s convention on ballast water management, or the International Civil Aviation Organization (ICAO) net-zero target by 2050 and its Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), alongside industry initiatives such as the Global Maritime Forum or the Sustainable Shipping Initiative (IMO 2017; ICAO 2025; GMF, n.d.; SSI, n.d.). International conferences such as the UN Ocean Conference aim to reach consensus among member states and stakeholders, and thereby further influence the EU's direction of policy. Similarly, the UN Decade of Sustainable Transport (2026–2035) and its forthcoming Implementation Plan seek to coordinate global action, mobilize resources, and monitor progress toward sustainable transport, providing a strategic framework that may further shape EU transport and connectivity policy (UN DESA 2023, 2025).

Part 3: Pathways to support viability and increase financing for the transition

To meet the EU aviation and shipping subsectors' transition objectives, policy frameworks must not only set targets but also create enabling conditions that allow large-scale private investment to materialize. Building on the banking sector's perspective on financing barriers and project bankability,[5] this section identifies policy levers that can strengthen the investment environment and support the mobilization of capital for the transformation of air and water transport. It first outlines the scale and structure of investment needs, then examines key barriers to investments and bankability, before laying out considerations to maximize opportunities and address remaining challenges in the two subsectors' sustainable transition and its financing. While this brief focuses on bank financing, investors are equally indispensable in mobilizing capital for the aviation and shipping transitions. Enhancing the enabling environment and bankability of projects is a critical step towards the transition of both aviation and shipping, given that the European economy is built on a predominantly bank-based financial system. In parallel, the UN's Principles for Responsible Investment (PRI) have identified investor priorities for financing the Clean Industrial Deal, which align closely with the recommendations set out in this work (PRI 2025).

3.1 Investment needs and financing structure

Reaching the overall transport sector transition objectives and implementing the relevant policies requires substantial investments. While estimating investment needs is complex and may vary significantly according to methodology and scope, current trends highlight a widening gap: climate-related investment in clean mobility rose by 7% to EUR 119 billion in 2023, but early signals point to a slowdown (I4CE 2025).

The European Commission's Platform for Sustainable Finance estimates average annual investment needs in the EU transport sector at around EUR 871 billion. EUR 175 billion of this sum relates to non-road transport systems, split into aviation (35%), rail (27%), international maritime transport (22%), alternative fuel infrastructure (9%), and domestic navigation (7%) (EU PSF 2025). According to the International Council on Clean Transpor-

5 Drawing on discussions at UNEP FI's 2025 European Regional Roundtable, Regulatory Implementation Support Program session on financing the Clean Industrial Deal, a high-level event on making the Clean Industrial Deal bankable, and most recently a workshop with the European Banking Authority in February 2026 on financing the EU sustainable transport transition, focusing on shipping and aviation.

tation (ICCT), EUR 1,84 billion alone is needed to close the cost gap for SAF production (ICCT 2022).

While the public sector will provide a fraction of the capital needed for the transition, the vast majority of investments will have to be privately funded. The focus should therefore be on creating an enabling environment for the transition of the transport industry, incentivizing companies to make a final investment decision, and de-risking instruments to scale up private financing (both equity and debt) to provide the needed capital.

It is important to understand how the aviation and shipping subsectors usually obtain capital given the different sources of funding across European transport modes. Corporates operating within a specific transport have multiple options for raising capital or funding their working capital, ranging for example from public financial support (e.g., grants, loans, equity stakes) and retained earnings to bank loans, leasing, bond issuances, or project finance.

Long-term capital sources like equity markets, bonds or leasing are common in aviation, and asset backed financing and sale leaseback common in shipping. The working capital can for example stem from ticket prepayments and fuel hedging in aviation, and from freight advances and cash buffers in shipping.

Particular to the shipping subsector is a high variation of financed assets across different segments: Asset types vary across inland, near shore and deep-sea shipping, as well as across vessels such as container, tanker, bulk carrier and cruise ships.

In aviation, similar to shipping, fleet turnover is slowed by long operating lifetimes of 20–30 years. Assets (both vehicles and infrastructure) are capital intensive, and development of new solutions faces high upfront costs as well as high compliance standards with safety measures.

Given the substantial gap in sustainable transport investment, understanding the existing financing barriers is crucial to designing solutions that align with the sector's and subsectors' specific structure and needs.

3.2 Key policy considerations to address remaining barriers

As identified in the EBF report *Increasing Bankability of Transition & The Clean Industrial Deal* (EBF 2025), the key barriers for scaling sustainable investments are not related to financing, but the market conditions which are not yet conducive for the transition of the subsectors.

The following section elaborates on the identified barriers and policy levers, which are summarized in **Table 4**.

Table 4: Potential policy levers to increase bankability of the EU aviation and shipping subsectors.

Topic	Potential policy levers
1. Ensure a coherent and horizontal policy approach to the aviation and shipping subsectors' transition	1. Harmonize existing policy measures from a whole-of-economy perspective governing aviation and shipping. 2. Design industrial policies to support sustainable fuel production and clean technology development and innovation, and ensure long-term stability of fuel mandates, carbon pricing trajectories, and technology incentives to increase investment security.
2. Enhance the enabling environment for the shipping and aviation subsectors to transition	3. Clarify the business case for more sustainable solutions and support innovation at scale that can compete with less sustainable transport alternatives. 4. Ensure coordinated actions across all stakeholders to reduce costs and scale clean technology deployment. 5. Ease administrative burdens for both companies and the financial sector.
3. Combine targeted financing instruments to improve investability and bankability	6. Develop capital markets and targeted de-risking instruments (e.g., guarantees, contracts for difference) to bridge cost gaps, reduce technology and construction risks, and increase the investability and bankability of aviation and shipping transition projects. 7. Leverage blended finance, combine instruments, and foster subsector-specific conditions to support demand and scaling.

Ensure a coherent and horizontal policy approach to the aviation and shipping subsectors' transition

1. **Harmonize existing policy measures from a whole-of-economy perspective governing aviation and shipping.**
2. **Design industrial policies to support sustainable fuel production and clean technology development and innovation, and ensure long-term stability of fuel mandates, carbon pricing trajectories, and technology incentives to increase investment security.**

Barrier: Policy uncertainty

General uncertainty regarding transitional trajectories, level of political ambition, regulatory measures and lengthy permitting procedures can significantly hinder investors' decision-making and lead to unwillingness to undertake long-term or large-volume investments. Combined with high technology and fuel cost uncertainties, elevated input costs, and insufficient long-term demand signals, these hurdles increase perceived and actual risks, limiting both investment decisions as well as access to long-term private capital.

This uncertainty can create a dual transition risk: risks arising from policies designed to enforce the transition (e.g. ETS, phase-outs), and risks for early investments made in anticipation of such measures that may later be altered or withdrawn (e.g. ETS2), putting early adopters at particular risk.

Tensions can also arise between financing needs for transition projects and risk-related prudential requirements, where the main objective is to ensure a sound financial system and prevent systemic risk. For example, the shipping subsector faces a higher risk weight, given a number of factors such as value (and volatility, liquidity) of the vessels, long tenors and project style structures (specialized lending) that are penalized in the existing regulatory framework compared with corporate lending.

Policy lever 1: Harmonize existing policy measures from a whole-of-economy perspective governing aviation and shipping.

Harmonizing policy measures across national schemes and EU-level instruments can reduce duplication, shorten time to funding, and make financing more predictable and efficient for transport companies and their financiers.

To undertake longer-term investments in support of Europe's transition priorities, a high degree of regulatory and policy predictability is important. For banks, stable, and predictable rules are one of the prerequisites for committing balance sheet capacity to complex projects with multi-decade horizons. For companies, uncertainty about future carbon pricing and standards makes it difficult to calculate the return on investments and makes companies cautious about committing to specific technologies. Clear and predictable policy signals, price incentives and effective risk mitigation mechanisms are key to improving risk profiles and projects' bankability.

Policy lever 2: Design industrial policies to support sustainable fuel production and clean technology development and innovation, and ensure long-term stability of fuel mandates, carbon pricing trajectories, and technology incentives to increase investment security.

Stable, transparent, and incentives-based legal frameworks enable both operators and their financiers to plan large-scale low-carbon infrastructure and fleet upgrades with confidence while providing long-term certainty for their investments. A credible policy environment that is conducive to the subsectors' transition and its financing is essential to maintaining competitiveness. It can lower the cost of capital and position finance as a key enabler of the transition.

An example in aviation is the need to maintain stable SAF mandates, ensuring a smoother and more predictable ramp-up in demand, and providing multiannual or ex-ante allowance allocations to underpin long-term offtake agreements and investment cases for SAF production and uptake.

In shipping, while the ETS is a central driver to decarbonize, a broader mix of policy tools and more consistent implementation of the RED III would strengthen investment signals and support the subsector's transition.

A closer interaction between industrial policy, financial regulation, and supervisory expectations as well as deployments of risk transfers mechanism could help enhance the competitiveness of EU transport industries and their transition needs financing.

Enhance the enabling environment for the shipping and aviation subsectors to transition

3. **Clarify the business case for more sustainable solutions and support innovation at scale that can compete with less sustainable transport alternatives.**
4. **Ensure coordinated actions across all stakeholders to reduce costs and scale clean technology deployment.**
5. **Ease administrative burdens for both companies and the financial sector.**

Barrier: Lacking or untested business case and scale

In the aviation and shipping subsectors, the business case for more sustainable solutions is often either not clear, as green transport alternatives have historically lacked competitiveness, or, where a business case exists, the innovation has not yet been scaled in order to compete with less sustainable alternatives. The relatively small scale of most projects is considered one of the market barriers given the difficulty to cover administrative, reporting and financing costs. Many projects require a certain ticket size to make them profitable. Concerning alternative fuel production, for example, European-level financing support could enable large-scale offtakes (e.g. an EU-wide double-sided auction) that could establish a transparent, reliable medium- to long-term price for green fuels. Aggregation mechanisms for demand and supply could also help create a credible business case. If green transport investments are not commercially viable, neither businesses developing the solutions nor operators using them in daily operations will adopt them.

Considering this, challenges specific to the aviation and shipping subsectors arise.

Barriers to project bankability in aviation include:

- A large price gap between SAFs (estimated production costs of roughly EUR 2,250–8,500 per ton) and conventional fuels (Real index price of 734 EUR per ton) (EASA 2025; IATA 2025b). SAF is currently up to four times more expensive than fossil kerosene and high price volatility is restricting revenue certainty, which limits debt tenors and increases capital cost.
- Limited 10–15-year offtake commitments from airlines that create uncertainty in demand volumes for SAF, complicating revenue and cash flow modeling for investors. Airlines will typically resist committing to multi-year purchase contracts at above-market prices without complementary policy support, leaving SAF producers unable to anchor future cash flows sufficiently to reach financial close (WEF 2025)global demand for sustainable aviation fuel (SAF).
- Technology and construction risk in first-of-a-kind facilities. SAF production pathways—including power-to-liquid, advanced waste-based processes, and biological conversion—or alternative propulsion technologies and the associated infrastructure needed, vary significantly in technological maturity, capital expenditure requirements, and resource availability (ICCT 2025). Many pathways remain pre-commercial, with high scale-up risk and long payback periods. Early-stage projects therefore often struggle to attract private investment.

- Fragmented and globally inconsistent regulatory frameworks. Aviation's inherently global nature complicates nationally driven climate policies. Diverging regulatory frameworks—including CORSIA at the international level and the EU ETS and ReFuelEU mandates at the regional level—create uneven playing fields and policy uncertainty that deter coordinated capital deployment across jurisdictions. This regulatory fragmentation increases perceived investment risk, particularly for cross-border infrastructure projects and SAF supply chains.
- Supply chain coordination challenges and infrastructure gaps. Scaling SAF production is insufficient without a reliable distribution system. The SAF supply chain requires new or adapted infrastructure for feedstock logistics, conversion, storage, transport, and airport fuel delivery. Bottlenecks across these segments, combined with the significant capital expenditure required for new production facilities and airport fueling infrastructure, create coordination challenges that increase investor uncertainty and the risk of stranded assets.

Transport via shipping faces more structural barriers, including:

- Fragmented value chains, thin margins and uncertain fuel pathways (risk of technology lock-in).
- High upfront capital expenditure (CapEx) for vessel retrofits or new builds with extended operating lifecycles of typically 20–30 years. This can increase exposures to regulatory, technology, and market volatility over the loan horizon.
- Absence of binding long-term offtake agreements, which complicates revenue and cash flow modeling for investors. This can create uncertainty in demand volumes for green fuels, despite emerging price premiums aimed at lowering operational expenses (OpEx) from the EU ETS and FuelEU Maritime mandates
- High costs and lower availability of alternative fuels, combined with the significant CapEx required for new port infrastructure for fuel storage and bunkering. This creates supply chain coordination challenges, which are compounded by electricity grid reinforcement constraints for onshore power supply installations, where replicability across ports depends on grid capacity, funding accessibility, potential subsidies, and predictable electricity demand (DG Energy *et al.* 2024)including maritime. To reach this climate ambition as well as the energy policy targets, the pivotal role of ports in electrification and transition to low-carbon and renewable energy vectors emerges as a significant avenue for decarbonization. While several European ports have initiated clean energy solutions, many still grapple with hurdles in their decarbonization journey. Challenges persist, ranging from securing funding for electrification and port infrastructure to delays in electricity grid capacity expansion and difficulties in defining viable business models. Hence, the study's primary objective is to offer pivotal insights and guidance to decarbonize European ports. The study aims to delineate economically viable energy business models, aligning with the European Union's policy frameworks and advancing the objectives of the European Green Deal and REPowerEU. Our specific goals encompass the analysis of feasible clean energy business models based on electrification or other low-carbon solutions. Additionally, we aim to evaluate the potential and requirements of ports concerning Offshore Renewable Energy Sources (ORES.

- Split incentives across the value chain across CapEx and OpEx, where shipowners finance the CapEx for energy efficiency upgrades while charterers typically bear the OpEx for fuel costs. This is compounded by diverging EU and international regulatory frameworks.
- Complex chartering structures and heterogeneous financing models across shipping segments. This complicates the monetization of efficiency gains and the design of financing solutions.

Policy lever 3: Clarify the business case for more sustainable solutions and support innovation at scale that can compete with less sustainable transport alternatives

The aviation and shipping subsectors' transition can be accelerated by identifying and triggering positive tipping points: self-reinforcing shifts that can drive sustained progress toward a low-carbon system (WEF 2026b). Policymakers and investors can catalyze these shifts by prioritizing technology and infrastructure with high systemic impact, particularly in hard-to-abate segments such as aviation and shipping. Coordinated investment in these areas can lower capital costs, strengthen demand visibility, and accelerate the scale-up of low-carbon transport solutions across value chains. In this context, public-private partnerships and shared infrastructure—for example common bunkering facilities—can play a decisive role in distributing risk, improving investor confidence, and generating the scale needed to make clean transport commercially viable across both subsectors. Targeted investment in high-impact areas can help align private finance, support competitiveness, and accelerate deployment of clean transport technologies.

Without sufficient and coordinated capital deployment, climate targets may be harder to achieve and the costs of delayed action will rise (I4CE 2025).

Policy lever 4: Ensure coordinated actions across all stakeholders to reduce costs and scale clean technology deployment

Initiatives such as green corridors[6] for shipping and aviation can encourage shared infrastructure development and lower costs for individual projects (MOVINON 2024). Such industrial clusters and public-private partnerships can connect supply and demand, and share infrastructure, resources and risks, achieving greater efficiency and collective impact. Scaling such investments often requires coordination across the full value chain, linking infrastructure providers, operators, industrial users, and financiers, to ensure that assets are used efficiently and risks are shared. By structuring investment around coordinated value-chain deployment rather than stand-alone assets, projects can improve bankability, create clearer demand signals, and attract broader pools of private capital.

6 Green corridors promote low-CO_2 transport modes on selected transport routes while often integrating first- and last-mile solutions to enable end-to-end low-carbon transport.

Case study

The port of Antwerp-Bruges is home to one of Europe's largest integrated petrochemical and logistics clusters and plays a frontrunner role in the decarbonization of energy-intensive industry. Its transition strategy centres on large-scale CO_2 transport and storage networks, as well as hydrogen and ammonia infrastructure. The port illustrates how coordinated public–private financing can catalyze early-stage project development and accelerate low-carbon investment at cluster level (WEF 2026a).

Policy lever 5: Ease administrative burdens for both companies and the financial sector

The rollout of interoperable digital documentation and data-sharing systems, including digital fleet assets and infrastructure registries, was introduced via the eFTI Regulation (European Commission 2025d). As central tools for sharing critical operational and sustainability information, these systems will enable targeted disclosure of freight transport data across subsectors, support more efficient routing and asset utilization, and enhance traceability of shipments and emissions across borders, ensuring compatibility across modes and logistics platforms (Ibid.)

Extending bank access to these registries could enable lenders to assess sustainability performance in real-time—reducing administrative burdens of due diligence—and direct capital more efficiently toward low-emission fleet activities.

Further streamlining permitting and procurement processes for infrastructure, charging and refueling networks, and cross-border services, while improving access to public incentives, can shorten project timelines and lower financing costs, particularly for SMEs developing and adopting low-emission transport solutions.

Enabling actions would include:

- Developing a digital one-stop-shop platform and fast-tracking procedures for projects meeting predefined sustainability and interoperability benchmarks. This could simplify access to standardized blended finance instruments at the EU level, which would enable entities to more easily identify relevant subsidies, comply with cross-border rules, and accelerate project deployment.
- Pooling smaller projects for SMEs through standardized platforms for depot charging, last-mile logistics, or port and airport equipment can overcome minimum-ticket and due-diligence barriers, while applying lighter, SME-appropriate terms.

The EU aviation and shipping subsectors' vast network of enterprises faces compliance costs, fragmented administrative requirements across Member States, and limited access to finance for fleet renewal and digitalization. Enhancing the clarity and proportionality of regulatory requirements across the value chain is a key lever to enhance the enabling environment for the subsectors' sustainable transition and support the establishment of a Single European Transport Area. This can be achieved by simplifying reporting obligations, harmonizing technical standards, and improving the interoperability of digital systems,

thereby improving the viability and scalability of business cases for green aviation and shipping solutions.

Combine targeted financing instruments to improve investability and bankability

6. **Develop capital markets and targeted de-risking instruments (e.g., guarantees, contracts for difference) to bridge cost gaps, reduce technology and construction risks, and increase the investability and bankability of aviation and shipping transition projects.**
7. **Leverage blended finance, combine instruments, and foster subsector-specific conditions to support demand and scaling.**

Barrier: Limited funding tools

Blended finance structures to share risks associated with emerging sustainable solutions are constrained by EU budget and state aid rules that limit the extent to which national governments can directly de-risk or co-risk strategic projects. As a result, the number of bankable, high-quality projects remains relatively limited compared to the massive investment needs.

Policy lever 6: Develop capital markets and targeted de-risking instruments (e.g., guarantees, contracts for difference) to bridge cost gaps, reduce technology and construction risks, and increase the investability and bankability of aviation and shipping transition projects

A coordinated, long-term EU investment strategy is needed to clearly allocate roles between public and private finance, further deploy de-risking and regulatory tools to mobilize capital (I4CE 2025). For innovative technologies with a high green premium and which need to be deployed at scale, demand support instruments need special attention to support initial large-scale offtakes. In this context, contracts for difference (as in the UK[7]) or double-sided auctions in the EU are relevant initiatives.

In addition, existing EU financing toolboxes, including the European Innovation Council and the Innovation Fund (funded by ETS revenues), can be used to support early-stage high potential impact projects to help derisk technologies and spur innovation. They can be adapted to support subsector-specific transition levers and key performance indicators, directing funding toward infrastructure development, and demand aggregation before individual project financing (EIB 2024). Complementary to this, the upcoming Industrial Decarbonisation Bank is expected to help push solutions that have already reached commercial readiness towards more widespread deployment.

Policy lever 7: Leverage blended finance, combine instruments, and foster subsector specific conditions to support demand and scaling

Risk related constraints are increasingly addressed in practice through blended finance structures, guarantee schemes, and originate-to-distribute models. Public interventions,

7 Sustainable aviation fuels revenue certainty mechanism: revenue certainty options—GOV.UK

such as first-loss guarantees, scaled credit enhancements, and co-financing in partnership with the EIB and other promotional banks, can reduce risks, unlock private capital, and aggregate demand for shared infrastructure if designed in collaboration with private stakeholders. This enables banks to leverage their origination and structuring capacity while transferring a substantial portion of long-term risk to public entities and institutional investors, rather than keeping it entirely on their own balance sheet.

Instruments should reflect subsector-specific conditions, including cost structures, infrastructure needs, and technology risks. Examples include carbon contracts for difference (CCfDs) and double-sided auction mechanisms that stabilize prices and reduce risks for both suppliers and buyers of low-emission fuels.

Developing stronger guarantee mechanisms and scaling up blended financial products that fit the size and needs of SMEs, such as aggregated project financing platforms for low-emission fleets, intermodal hubs, and digital freight logistics solutions can help smaller firms integrate into cleaner transport value chains undergoing accelerated change.

3.3 Action pathways for banks

The following recommendations complement ongoing policy action, recognizing that the viability of many measures depends on an enabling environment including risk mitigation instruments and public derisking mechanisms. Subject to these conditions, they outline considerations to help banks further support and accompany their clients in the transition.

Expand financing instruments for the transport transition

1. **Leverage publicly funded risk mitigation instruments,** including guarantees, carbon contracts for difference, and auction mechanisms to reduce exposure to price volatility and demand uncertainty and strengthen the investment case for sustainable transport solutions (EIB 2024).
2. **Scale financing for bankable transition technologies and solutions,** including capital for companies developing or deploying low-carbon fuel production (including oil and gas companies), or low carbon assets and processes, such as next-generation aircraft or more biodiversity-friendly shipping infrastructure and operations. Exclusion lists of unsustainable activities can support a modal shift towards low-carbon transport solutions.
3. **Explore alternative and flexible financing structures,** including leasing, supply-chain finance based on contracts, or service-based financing. These alternatives can free up liquidity during transition investments. Instead of lending only based on the standalone creditworthiness of a small firm (which can be difficult to assess), banks can also assess the relationships, transactions, and risks across the value chain when assessing the repayment capacity. This could help to unlock credit especially for smaller companies that would otherwise struggle to access it.

Support clients' transition strategies and implementation

4. **Structure financing that supports credible transition strategies,** including setting clear and transparent conditions for financing high-emission activities as well as clear benefits for investing in low carbon solutions. This can encourage companies to develop robust transition strategies and targets.

5. **Enhance technical expertise within financial institutions** to improve confidence in investment decisions. Dedicated teams with subsector-specific knowledge can identify feasible and bankable decarbonization measures, assess corporate transition plans against EU decarbonization levers and KPIs, and provide clients with targeted financial products and advisory services. This can help them access EU financing instruments and project preparation tools.

6. **Provide targeted financial products and advisory services,** in developing and implementing decarbonization strategies for transport and logistics. This includes advising on fleet transition pathways, adoption of low-emission fuels, and investment planning for sustainable transport solutions. Banks can also support clients by applying dedicated clean-technology risk assessment approaches and capacity-building for internal risk teams to better evaluate and guide clean-tech projects.

Strengthen collaboration and risk-sharing ecosystems

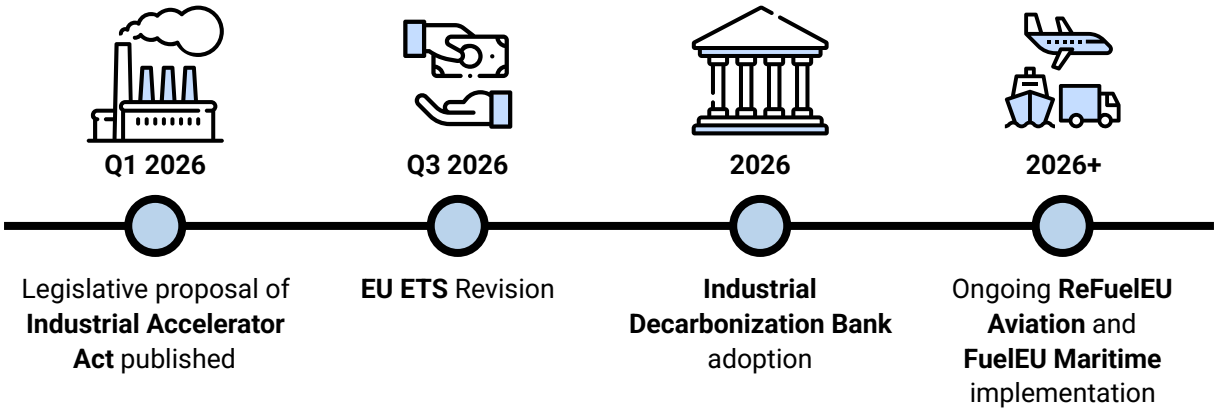
7. **Participate in public-private partnerships, co-financing structures, and long-term offtake arrangements** to mobilize capital and share risks. Engagement in industry alliances such as the Renewable and Low-Carbon Fuels Value Chain Industrial Alliance, programs like Project SkyPower[8] or in industrial clusters can further help mobilize capital, share risk, and decrease cost by enhancing coordination across value chains.

8. **Engage in structured dialogue with policymakers and industry stakeholders** to help align policy ambition with financing realities while ensuring an environmentally sound transition. Close collaboration among banks, policymakers, and transport industry stakeholders is essential to ensure that the subsectors' transition remains both competitive and low-carbon, shaping enabling frameworks, mobilizing capital for sustainable transport solutions, and aligning investment and operational pathways with the EU's climate, pollution, and circular economy objectives. Share financial structuring expertise and financing insights that inform the design of de-risking tools, incentives mechanisms, and other transition measures under the EU's transport policy initiatives, such as the STIP.

8 Project SkyPower's report on Reducing project delivery risk for first-of-a-kind e-SAF projects is an illustration of finance and industry stakeholders collaboratively structuring financial instruments.

Part 4: Next steps

The coming months will see a series of EU transport policy initiatives that will shape investment, competitiveness, and pathways towards more sustainable practices in the sector, including within the aviation and shipping subsectors.



The Industrial Accelerator Act, alongside the Industrial Decarbonisation Bank's EUR 100 billion mobilization for green transition financing, can have near- to mid-term supply-chain effects on aviation and shipping, through low-carbon requirements for steel, aluminium, and green hydrogen central to e-fuels. It can also open new avenues for sustainable transport project funding. While CBAM implications on the aviation and shipping subsectors are mostly indirect, effects on the commercial attractiveness of low-carbon hydrogen should be monitored closely; the final implementation phase began in January 2026. From mid-2026, the EU will assess ICAO's CORSIA scheme, with EU ETS potentially expanding from January 2027 to cover departing EEA flights to non-EEA destinations, while work continues on non-CO_2 aviation effects. Maritime operators must also begin surrendering EU ETS allowances for methane and nitrous oxide, with possible expansion to smaller vessels under consideration. Future implementation work on ReFuelEU Aviation and FuelEU Maritime, including improvements to transparency, traceability and reporting mechanisms, is expected to further shape sustainable fuels markets, alongside continued TEN-T progress and Single European Transport Area initiatives.

In the coming period, stakeholders should prepare for consultations, funding calls and implementation dialogues tied to these initiatives. Monitoring timelines and engaging early in the development of detailed implementing measures will be essential to anticipate regulatory impacts, align transition strategies and position projects to benefit from blended finance, guarantees and other risksharing tools being deployed across the EU aviation and shipping policy agenda.

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