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COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS

Sustainable Transport Investment Plan

1. INTRODUCTION

Mobility and transport of passengers and goods is the backbone of industrial growth and competitiveness, connecting the EU to the rest of the world, offering the means for citizens to travel and companies to thrive in their activities. At the same time, the EU has a headline ambition to decrease transport greenhouse gas emissions (GHG) - which remain stubbornly high - by 90% by 2050. This can be achieved by increasing transport efficiency, including through multi-modal mobility, electrification, and switching to renewable and low-carbon fuels. Those fuels are particularly critical[1] for the aviation and maritime sectors, which account for about 8.4% of total EU greenhouse gas emissions, since they can only marginally benefit from electrification. In the transition to a climate neutral economy, all modes of transport will depend on the use of renewable and low-carbon fuels to a different degree[2].

As highlighted in the Draghi report[3], **investing in renewable and low-carbon fuel technologies is crucial for decarbonisation and boosting industrial competitiveness as well as energy security**, decreasing our dependence on fossil fuel imports. The report underlines the need for a strategic framework bringing together supply and demand for these fuels in the EU.

Key policy components of such a framework are already in place:

- The EU has a comprehensive regulatory framework to boost renewable and low-carbon technologies including the ReFuelEU Aviation Regulation[4] (RFEUA) and the FuelEU Maritime Regulation[5] (FEUM), the revised Renewable Energy Directive[6] (RED) and the Alternative Fuels Infrastructure Regulation[7] (AFIR).

- International policy developments are pushing in the same direction: the International Maritime Organization IMO has committed to achieve net-zero by 2050 in maritime transport through the Net-Zero Framework (NZF), however not adopted by IMO member states. The International Civil Aviation Organization ICAO recognises sustainable aviation fuels (SAF)[8] as the main enabler to emission reductions.

But this is not enough. Market investment conditions in the EU must improve. Otherwise, demand will be largely met by production outside the EU, creating new dependencies with the advanced production projects[9]. Investment in production facilities in regions outside the EU is

[1] Kousoulidou et al.2016, Biofuels in aviation: Fuel demand and CO2 emissions evolution in Europe toward 2030.
[2] According to the 2040 Climate Target Impact Assessment, passenger cars with an internal combustion engine will have a share of 26% in the EU's cars stock, while BEVs make up 57-58%. Total energy consumption drops considerably due to the higher energy efficiency of electric vehicles at the same time, and while the demand for biofuels is seen to increase until 2030, it declines thereafter due to the growing shares of electrification.
3 The Draghi report (2025): A competitiveness strategy for Europe.
[4] http://data.europa.eu/eli/reg/2023/2405/oj
[5] http://data.europa.eu/eli/reg/2023/1805/oj
[6] http://data.europa.eu/eli/dir/2014/53/oj
[7] http://data.europa.eu/eli/reg/2023/1804/2025-04-14
[8] SAF are aviation fuels that are approved under the ASTM 7566 standard and are designed to be a drop-in solution for traditional jet fuel, allowing aircraft to use it without modifications to engines or infrastructure. They can be produced from sustainable biological feedstocks under various pathways (bio-SAF). SAF can also be produced synthetically (eSAF).
[9] European Commission, 2024: Development of outlook for the necessary means to build industrial capacity for drop-in advanced biofuels.

accelerating[10]. Against this increasing competition, it is urgent to scale-up renewable and low carbon fuel production in the EU. European companies still hold 60 % of innovative patents in this area globally and possess most of the world's commercial facilities for advanced biofuels. We should not lose technological leadership but shape this emerging global lead market instead.

This Sustainable Transport Investment Plan focuses on renewable and low-carbon fuels for aviation and waterborne transport and complements proposals that cover other transport modes. The industrial approach for road transport is outlined in the Industrial Action Plan for the Automotive sector[11]. The implementation of that Plan is ongoing, notably with the upcoming review of the CO_2 standards for cars and vans, and the proposal on Clean Corporate Fleets. The upcoming Battery Booster package will support the electrification of several transport modes and actions to accelerate the roll-out of infrastructure are foreseen. Measures related to heavy-duty vehicles and the related infrastructure are expected within the next months as well. Similarly, the EU is already comprehensively supporting the development of an effective and efficient rail system, namely through the revised Trans-European Transport Network (TEN-T) Regulation including through financial support such as via the Connecting Europe Facility (CEF), and the High-Speed Rail Action Plan, published together with this plan.

Aviation and waterborne transport, however, still almost fully rely on conventional fuel. Focusing, in this plan, on the needs of aviation and maritime is urgent, as these sectors must meet ambitious emission reduction targets in 2030 and in order to decarbonise, they must rely mainly on renewable and low-carbon fuels.

The **moment to act is now**. This Sustainable Transport Investment Plan (STIP) maps investment needs and outlines measures to make better use of existing EU financing programmes in support of the required investments with the focus on aviation and waterborne sectors. It introduces measures to support the implementation of the regulatory framework and outlines measures to achieve greater market impact through improved coordination of support at Member State level and through better international collaboration.

2. SETTING THE COURSE OF ACTION FOR AVIATION AND WATERBORNE TRANSPORT

2.1 Market challenges

Targets under RFEUA and FEUM

A sustained scaling up of current market volumes, including for e-fuels, is necessary to meet these targets, which is vital for Europe's competitiveness and global leadership.

Under **RFEUA**, the share of SAF supplied at EU airports needs to increase from 2% (equivalent to roughly 0.9 Mt of SAF or 0.92 Mtoe) in 2025 to 6% in 2030, to 20% in 2035 and then 70% (32.5 Mt or

[10] International e-fuels observatory, 2025 edition & information based on expert consultation Project Frontrunner in Texas is under construction (eSAF) and several e-methanol projects in China have passed the FID stage or are under construction. https://www.sia-partners.com/en/insights/publications/international-e-fuels-observatory-2025-edition

[11] https://commission.europa.eu/topics/business-and-industry/boosting-european-car-sector_en

33.4 Mtoe) by 2050. The required minimum share for eSAF starts at 1.2% in 2030, rising to 5% (2.2 to 2.3 Mt of eSAF, or 2.26 to 2.36 Mtoe) in 2035 and increases to 35% (16.25 Mt, or 16.7 Mtoe) in 2050.

Under **FEUM**, the GHG emissions intensity reductions target for 2035 is 14.5%, but reaches 80% in 2050. Sustainable maritime fuels (SMF) will play a substantial role in meeting FEUM targets (estimated amount is approximately 11.3 Mtoe of SMF for 2035)[12]. If by 2031 the share of RFNBOs[13] (eSMF) is less than 1%, then from 1 January 2034 a mandatory quota of 2% RFNBOs shall apply (corresponding to 0.56 Mt of eSMF). Electricity from onshore power supply (OPS) is expected to account for around 1.4% of total energy use on vessels by 2035.

Current market conditions

Many renewable or low-carbon fuel technologies currently have low market maturity. Regarding aviation fuels, the Hydroprocessed esters and fatty acids (HEFA) pathway is at present the most widely used for producing SAF. Many other technologies are at a pilot or demonstration stage[14]. For maritime, Fatty Acid Methyl Esters, (FAME) technologies are widely used due to their overall environmental benefits on a Well-to-Wake approach, when blended with marine oil and gasoil. Bio-methane is also a mature technology. Regarding e-fuels, these are not available on a commercial scale in either mode.

The main hurdle for ramping up the market is the **significant price difference between renewable and low-carbon fuels and conventional fuels.** Demand for low-carbon and renewable fuels is lagging because using those fuels results in significantly higher operating costs for airlines and shipping operators. **The price difference today ranges between two to ten times**[15]. Costs are expected to come down in the coming years, partially due to economies of scale and new production technologies. However, uncertainties surrounding expected price and revenue are causing hesitation among investors. This is particularly true for eSAF and eSMF, where high capital costs and high price and revenue risks currently undermine the business case. More than 40 e-fuels production projects are at a planning stage in the EU. However, none has been able to reach a final investment decision so far. **Different contracting needs present an obstacle for the market to take off.** Fuel producers aim for long-term fuel offtake agreements to amortise costly investments, whilst operators are accustomed to short-term supply contracts to remain more flexible with respect to fuel pricing in competitive global markets. Reluctance to invest is further fuelled by **uncertainties with respect to available biological and non-biological feedstock and their overall access conditions.**

Limitations on biological feedstock

[12] SMF can be produced from various sources, including bio-based feedstocks, fossil waste or from renewable and low-carbon energy (e-SM). The sector is forecasted to demand 6.4 Mt of SMF and 4.6 Mt of eSMF to meet the 2035 targets under FEUM, see SWD/2024/63 final.
[13] As per the definition in the Renewable Energy Directive.
[14] Such technologies include Gasification + Fischer Tropsch (FT) and Alcohol to Jet (AtJ).
[15] EASA 2025, ReFuelEU Aviation Annual Technical Report, with e-fuels being the most expensive solution.

The **limited availability of sustainable feedstock and competing demand from other sectors** constrain the **potential for the use of biofuels in the overall transport fuel mix**[16].

The potential of biofuels

The maximum domestic EU supply of sustainable feedstock for bioenergy[17] in 2030 is estimated to be 160 Mtoe in 2030, and 207 Mtoe in 2050[18]. The expected final bioenergy demand on all sectors but transport by 2030 is estimated to be 114 Mtoe, which leaves an equivalent of 46 Mtoe in 2030 for the transport sector. This is a small fraction of the overall energy consumed by the transport sector at present, which amounts to 355 Mtoe, but it would serve for meeting the current RFEUA and FEUM targets for 2030.

In the longer-term, however, the available sustainable bioenergy potential is constrained and predicted supply would be sufficient to meet the expected bioSAF/bioSMF share of the aviation and maritime targets, leaving little room for further uses. Studies point to a projected bioenergy demand from other sectors of 170 Mtoe in 2050, which would result in only 37 Mtoe for transport. This supply is to be compared with an expected combined energy demand for aviation and maritime transport modes of around 90-100 Mtoe in 2050[19], which underlines the relevance of eSAF and eSMF. Recently, studies came to a more positive outlook when it comes to the availability of feedstock and the potential of advanced biofuels[20].

In view of the production capacity of 2 Mtoe at present, it is therefore important to mobilise additional sustainable feedstocks and adopt a two-pronged investment strategy: first, in supporting innovative processing of additional advanced and waste-based feedstocks which are currently not commercially available and second, in building supply chains for previously untapped feedstocks, while also improving resource efficiency and circularity of domestic residues. This transition must ensure that renewable fuel production makes full use of sustainable residues, by-products and waste streams, while respecting environmental safeguards and water resources. Biomass should be used in ways that maximise long-term economic and environmental benefits, supporting resilient bio-based value chains and land sector carbon sink.

The transport sector will be competing for the use of biomass. As regards maritime and aviation transport, the feedstock eligibility is limited to reduce risks of food security and land use change, by excluding e.g. food and feed biomass. At the same time, sustainable feedstocks for advanced biofuel production, such as lignocellulosic residues from agriculture, agrifood residues, manure residues and waste, are currently underexploited and could be scaled up. Furthermore, emphasis

[16] More specifically, for maritime and aviation transport, the feedstock eligibility is limited to reduce risks of food and land use change, by excluding e.g. food and feed biomass. Additionally, factors like climate change could further disrupt and limit biomass availability.
[17] SWD/2024/63 2040
[18] Feedstocks include food crops, lignocellulosic crops, agriculture residues, forest stem-wood, forest residues, waste and paper and pulp residues.
[19] Aviation and maritime demand is estimated at 45-50 Mtoe each in 2050.
[20] European Commission: Directorate-General for Research and Innovation and BEST, Development of outlook for the necessary means to build industrial capacity for drop-in advanced biofuels Annex 3 Report on Task 3, Publications Office of the European Union, 2024, https://data.europa.eu/doi/10.2777/858956. The study is based on various assumptions related to feedstock availability, regulatory framework etc. However, the currently capacity is around 2 Mtoe/y currently, with a planned production up to 5-6 Mtoe/y.

should be placed on synergies across sectors and transport modes which will also help increase volume and reduce price[21]. Finding production inputs that are not used by other sectors will help limit costs and price volatility and avoid pushing other sectors to unsustainable biomass. Proper feedstock handling, sustainability verification and traceability, along the entire value chain is key to ensure net emissions reductions and to avoid fraud[22].

In order to quickly scale up sustainable fuels, in particular for maritime and aviation sectors, it is important to identify and address challenges and risks faced throughout the supply chain and to explore integrated approaches from sustainable biomass sourcing to advanced biofuels production and use in the EU. The EU Bioeconomy Strategy will explore how to foster coherent, circular and sustainable value chains across Europe.

Limitation on non-biological feedstock

The production of eSAF and eSMF is dependent upon the availability of renewable hydrogen and of carbon dioxide[23]. There are currently relatively few locations in the EU conducive to producing renewable hydrogen economically. The scaling of e-fuels production is constrained by the availability, cost and maturity of renewable hydrogen, eligible carbon dioxide and carbon capture technologies as well as the energy intensity of clean hydrogen production. Conversion technologies for e-fuel production are still at the pilot stage and production plants which have both feedstock supply at scale and technology maturity are not yet established. Reducing the cost of electricity, renewable hydrogen and biogenic or direct air captured carbon dioxide is essential to lower the very high cost of e-fuels.

2.2 Roadmap for the energy transition in aviation

Commercial aviation emissions account for about 123 million tonnes CO_2, or 13.1% of EU transport CO_2 emissions. As of 2024, only 0.6% of all jet fuel dispensed at EU airports was SAF, which led to greenhouse gas emission savings of 714 kt CO_2[24].

The clear roadmap and predictability provided by the legislative framework is essential for scaling up SAF production and uptake across the EU. Markets have responded positively to these targets – as they bring predictability and stability for long-term investments: according to

[21]Biorefineries enable the processing and conversion of biomass into a wide range of valuable products, including biofuels, biochemicals, biomaterials, as well as heat and electricity production. The production of advanced bio-SAF creates a by-product market for green diesel (for trucks, for the non-electrified part of rail, for fishing vessels, inland waterways, off-road machinery etc) and naphtha (for ships or as blending component in road transport).

[22] Some fraud allegations have been reported to the Commission concerning imported biofuels allegedly fraudulently classified as advanced biofuels produced from used cooking oil. Although these claims could not be verified by the Commission, they highlight the importance of strengthening safeguards against fraud in the biofuels market.

[23] Under current regulation, the use of CO2 from fossil sources for the production of e-fuels will not allow the respective fuels to meet the required 70% emission savings after 2041.

[24] EASA, 2025, ReFuelEU Aviation Annual Technical Report

EASA[25], **industry is on track to meet the overall bioSAF target of 4.8% in 2030**[26] (mainly HEFA-based SAF). SAF production capacity is projected to increase to around 3.6 Mt by 2030 under EASA's realistic scenario[27]. However, **meeting the sub-target for eSAF (1.2%) in 2030 remains uncertain.** Beyond 2030, all RFEUA targets increase sharply. At present, **available and forecasted volumes of bio- and particularly of eSAF are not sufficient to meet the post-2030 RFEUA targets**. Therefore, production capacity needs to extend, and extensively for eSAF as they are set to play a major role in the decarbonisation of aviation due to their high scalability potential and high climate added value.

Investment needs

For **2035, the RFEUA SAF target is 20%, out of which 5% needs to be eSAF.** It is estimated to require investment in the range of **EUR 56.93 billion to EUR 66.75 billion**[28].

For **2050**, **the RFEUA SAF target is 70% out of which 35% needs to be eSAF**. It is estimated to require investment in the range **of EUR 267.9-376.2 billion**[29].

2.3 Roadmap for the energy transition in waterborne transport

Waterborne transport accounts for almost 13.3% of the EU's CO_2 total transport emissions[30], given that 94%[31] of fuels used in the sector are conventional liquid petroleum products.

The FEUM regulation sets a clear roadmap for the decarbonisation of the maritime sector. This regulatory framework has triggered an increased interest in renewable and low carbon fuels, as noted in the context of the Renewable and Low-Carbon Fuels (RLCF) Alliance, which includes synthetic fuels, while also encouraging the use of direct electrification in the limited cases where it is feasible[32]. The **waterborne transport sector is to make use of different technologies (including wind assisted propulsion) and a broad basket of SMF,** including LNG as a transitional fuel. LNG, with effective methane slip mitigation technologies, can reduce also GHG emissions.

Coastal ships operating in small and medium ports can use electric/hybrid propulsion accompanied by bio- and in the future e-diesel, while ocean-going ships are moving towards

[25]EASA, 2025, European Aviation Environmental Report, https://www.easa.europa.eu/sites/default/files/eaer-downloads/EASA_EAER_2025_Book_v5.pdf
[26] Based on expert feedback the Commission estimates the current annual SAF production capacity in the EU is just above 1 million tonnes (Mt). Almost all this SAF production is HEFA and does not account for co-processing production using sustainable feedstock in fossil fuel plants, for which there is not enough reliable information.
[27] EASA, 2025, ReFuelEU Aviation Annual Technical Report
[28] Estimations are calculated by the Commission based on current announced prices for the CAPEX costs to produce biobased fuels (approx. at 3 bn EUR/Mt) and e-fuels (approx. at 20 bn EUR/Mt). In house EC calculations considered the progression of the technology maturity as SAF pathways reach higher TRLs (8-9); the decrease of CAPEX for the more mature technologies and the growth of the aviation sector based on the latest EUROCONTROL data. The effect of economies of scale was considered.
[29] Corresponding to yearly investments of EUR 1.27-2.04 billion for bio-SAF and of EUR 9.45-13.00 billion for eSAF.
[30] EU transport in figures: Statistical pocketbook 2025. Data from 2023 including international bunkers https://op.europa.eu/s/Aac0
[31] EMSA, EMTER 2025 Report.
[32] On shore power supply and for some limited shipping use cases at present.

methane (LNG, bio-methane and in future e-methane). Some ships operating in the largest hubs are expected to shift to biodiesel- or e-methanol and also to ammonia in the longer term. Moreover, the shipping sector is diverse, and many SMEs form its backbone, with diverging operations and fuels need. A strategy needs to account for the characteristics of all shipping segments.

However, there is a risk that current market investments will not be sufficient to support production of the estimated 11.3 Mtoe of SMF that are forecasted to be needed for 2035 under FEUM. The constraints affecting European feedstocks for biofuels and the 2% target for eSMF under FEUM require the quick upscaling of e-SMF.

Similarly to the maritime sector, a broad set of possible alternatives to fossil fuels are being considered **for inland waterways (IWW), smaller short-sea shipping and fishing vessels** as well as for recreational craft[33]. The IWW sector and recreational craft experience a low pace of penetration of new vessels (only 15%-20% renewal of the fleet by 2050). With no mandatory targets in place, at least 90% of vessels, will still use diesel (relatively low quantity currently estimated at 1.7 million tonnes), which may progressively be replaced by renewable drop-in fuels. This is equally true for the **fisheries sector**[34].

Investment needs

By **2035, the FEUM** GHG emissions intensity reductions target is 14.5%. While the sector has a broad mix of possible alternatives (different fuel technologies as well as different possibilities for blending with conventional fuels for existing and emerging powertrains), it is estimated that the induced **production of bio-SMF and e-SMF will require investments**[35] **in between EUR 34.7 billion and EUR 46.7 billion by 2035**[36].

Decarbonisation of the inland waterways and fisheries sectors will require around an **additional 3.1 Mt**, approximately, reaching a **total of 23.1 Mt by 2035**.

[33] These include hydrotreated vegetable oils (HVO), liquefied biomethane (LBM), green methanol or green hydrogen in combination with fuel cells, internal combustion engines (ICEs), and green electricity in combination with batteries.

[34] The fisheries sector consumed over 1.60 billion litters of marine diesel in 2022 (around 1.4 Mtoe) and emitted 4.2 million tonnes of CO_2. Investment is constrained in a sector with fleet's average age of 36.5 years, a shrinking size, minimal renewal rates (less than 1%), and technological uncertainties. The unique requirements of fishing vessels and the sector's small market size also deter investors. It is equally true for the aquaculture industry. A roadmap on energy transition in fisheries and aquaculture is foreseen in 2026.

[35] This range is attributed to the fact that estimating investment is difficult in view of the broad mix of fuel technologies available and blending possibilities that can be used by existing and emerging powertrains/propulsion systems and infrastructure.

[36] 2040 Climate targets Impact Assessment. Investment needs for maritime are calculated under the assumptions that all fuels will be EU sourced. Under the FEUM scope, in total 28 Mt of fuels will be required. Calculations considered the PRIMES forecast necessary by 2035, realistic investment needs for advanced fuels and eSMF, electricity at 1.4% share towards reaching the FEUM GHG emissions reductions targets, and fulfilling the sunrise clause of RFNBOs target (2%).

3. ACTIONS TO BOOST INVESTMENTS

For aviation and waterborne transport combined, around 20 Mt of renewable and low-carbon fuels will be needed by 2035. To comply with the requirements, around EUR 100 billion[37] in investment is needed[38] by 2035, with a large majority from the private sector. **Public support at both European and national level is needed to help derisking the massive private investments that are required** for building large-scale renewable and low-carbon fuel plants. Our policies need to be aligned and be better targeted. This plan focuses on the short- and medium-term measures to help kick-off the first investments.

The EU has a broad range of **EU funding programmes and instruments** at its disposal[39]. These programmes, together with funding from Member States, have already supported the transition to renewable and low-carbon fuels, but with limited market impact so far. Projects too often fail to progress beyond the demonstration phase, and technologies do not scale up to full industrial and commercial deployment.

This plan is expected to mobilise at least EUR 2.9 billion until end of 2027, making particular use of the InvestEU, the Innovation Fund and Horizon Europe. It will be implemented in partnership with Member States and by triggering and activating market support from the European Investment Bank (EIB) Group and other financial institutions.

The next multiannual financial framework, and in particular the European Competitiveness Fund, notes the importance of renewable and low-carbon fuels. The foreseen national and regional partnerships plans are also expected to support this area. For strong market growth in the longer term, it will be critical to set up a new market intermediary mechanism that can facilitate short-term (end user) and long-term (fuel producer) contracts, provide price stability and reduce risks through double-sided auctions.

3.1 Actions to mobilise EU investment support in the short-term

Innovation Fund

Up until now, the **Innovation Fund** has supported 39 projects focusing on the production of innovative sustainable fuels, including methanol, ammonia and hydrogen, with a total of EUR 2.1 billion. The Commission has been actively working with project promoters and industry, also in the context of the RLCF Alliance, to help advance a stronger project pipeline.

Since 2020, the Innovation Fund has supported SAF projects with EUR 286 million. As part of the last overall Innovation Call, the Commission is awarding this week **EUR 153 million to four eSAF projects** and **EUR 293 million to five SMF projects**. They will contribute to developing the urgently needed first generation of eSAF/[e]SMF projects in the EU and strengthen Europe's

[37] Commission estimates indicate a split in the range of EUR 57 billion to EUR 67 billion for aviation and EUR 35 billion to EUR 47 billion EUR for maritime transport.
[38] Without considering the investment required for vessels, aircrafts, and the relevant infrastructure.
[39] Including the EU ETS' Innovation Fund, InvestEU, Horizon Europe (including support for the European Innovation Council), the Connecting Europe Facility, financing under the Cohesion policy funds and the recovery and resilience plans.

industrial manufacturing capacity. In addition, 11 aviation and 16 maritime fuel projects that scored above the Innovation Fund evaluation thresholds will be awarded the STEP Seal[40]. The Commission is inviting Member States and financing institutions to consider providing support for these high-quality projects, including in the context of the mid-term review of the Cohesion policy or through the use of national revenues from the Emission Trading Scheme (ETS) for climate purposes.

Building on these results, the Commission will open, **in early December 2025, another European Hydrogen Bank auction with a dedicated budget of EUR 300 million for the production of hydrogen with off-takers in the maritime and aviation sectors.** The Innovation Fund will also continue to support innovative projects in both the maritime and aviation sectors, including SAF and SMF production, via the general call for proposals, in which projects in the maritime sector will receive beneficial conditions (a bonus point) for their potential to decarbonise and reduce climate impacts.

In collaboration with the EIB Advisory, the Commission will also focus on improving the technical and financial maturity of pioneering low-carbon e-fuel facilities in the EU.

InvestEU

The recent agreement between the Council and the European Parliament on enhancing the InvestEU programme increases the EU guarantee by EUR 2.5 billion unlocking nearly EUR 55 billion in additional public and private investments. This can support projects in clean tech and clean mobility, including projects across the whole value chain from fuel production to distribution and use. Altogether, the Commission expects to mobilise investment of **around EUR 2 billion for the sustainable alternative fuel sector in the 2026-2027 period.** The InvestEU Implementing Partners[41] will play a key role in helping to stimulate substantial investment in renewable and low-carbon fuel projects for maritime and aviation.

European Investment Bank Group

To date, the EIB Group, including through the support of the InvestEU programme, has been providing more than EUR 1 billion to renewable and low carbon fuel plants projects[42]. This financial support to production facilities is complemented by support to the wider ecosystem and technical advice by EIB Advisory. These are good initial steps, but more needs to be done.

The Commission has been intensively working with the EIB Group to understand the challenges in supporting the innovation and development of renewable and low carbon fuels. It will intensify this work to mobilise additional investments, including through the EIB Group's **TechEU programme**, which is expected to mobilise EUR 250 billion by 2027 in key important areas for

[40] The STEP Seal is a quality label for excellent and high-potential projects. It enables to get extra visibility and explore possibilities for additional EU public and private funding and support services.

[41] EIB Group, National Promotional Banks, Multi-lateral Development Banks, and Regional Development Banks.

[42] For example, a EUR 1 billion large-scale biofuel project from MOEVE in Andalucia received a loan of over € 400 million from EIB under the InvestEU mandate. The INERATEC ERA One e-fuel production facility, the largest of its kind in Europe, signed a EUR 40 million venture debt loan with the EIB and received a EUR 30 million grant from the Breakthrough Energy Catalyst Venture Programme.

Europe's competitiveness such as clean tech. Backed also by InvestEU, TechEU will provide a wide range of tools to the whole renewable and low carbon value chain with the clear intention to increase the number of projects in this area.

The Commission, including through the RLCF Alliance, will offer greater support to project promoters with the aim of improving project maturity and bankability, through knowledge-sharing activities, identifying best practices, and connecting top-tier project promoters with financial institutions.

Horizon Europe

As announced in the Clean Industrial Deal, the Commission will launch a flagship Horizon Europe call of around EUR 600 million under the 2026-2027 work programme to support fit-for-deployment projects, including for renewable and low carbon fuels.

The next Horizon Europe call[43] for 2026 will provide a total of EUR 63.5 million. EUR 33 million will be available for projects focused on the large-scale production of liquid advanced biofuels and RFNBO, and another EUR 8 million for projects securing advanced biofuels and RFNBO value chains. EUR 22.5 million will go towards supporting innovative solutions for energy conversion and safety of low and zero-carbon fuels in maritime transport. Emerging renewable fuel solutions will also be supported. The upcoming Horizon Europe work programme for 2026-2027 should include topics to establish interregional value chains of renewable fuel technologies across the EU, as well as to de-risk renewable fuel technologies through transnational pre-commercial procurement of renewable fuel industrial value chains. For the upcoming new work programme of Horizon Europe for 2026-2027, the Commission intends to present two SET Plan Flagship topics covering sustainable alternative fuels with an estimated amount of EUR 70 million.

The European Innovation Council

The European Innovation Council's (EIC) calls can support renewable and low-carbon fuels developers by funding early-stage research through 'EIC Pathfinder' and facilitating market readiness via 'EIC Transition'. Additionally, the 'EIC Accelerator' and its 'STEP Scale Up call' can support the scaling of companies developing sustainable fuel innovations. The EIC 2025 work programme offered EUR 50 million for 'Breakthrough innovations for future mobility'.

Under the 2026 EIC work programme, to be adopted today, these projects will continue to be eligible from the EIC Scale Up call of EUR 300 million [44]. The Commission is also considering replicating this in the programme of 2027[45], with a similar budget, which could help support renewable and low-carbon fuel developers.

[43] Horizon Europe Cluster 5 Call 02-2026 (WP 2025) (HORIZON-CL5-2026-02)
[44] This call has a specific objective on sustainable fuels and RFNBO technologies.
[45] "Breakthrough innovations for future mobility" challenge

ETS support to sustainable and low-carbon fuels

Under the EU Emission Trading Scheme (ETS), 20 million allowances estimated at EUR 1.6 billion are reserved for the uptake of SAF by airlines from 2024 to 2030[46]. The aim is to incentivise first movers by fully or partially covering the price difference between SAF and conventional aviation fuels. This reduces RFEUA impacts on competitiveness of European operators until SAF prices become more cost-competitive in relation to fossil fuels. For 2024, the support amounted to about 1.3 million allowances, worth approximately EUR 100 million, distributed to 53 operators.

Given the potential of such a mechanism to bridge the price gap between fossil and renewable low carbon fuels, the Commission will assess the possibility of extending the ETS SAF support in terms of volume and duration for aviation and will explore an analogous mechanism for EU-produced SMF without prejudice to the proposals on new own resources.

Flagship actions

The Commission will:

- *Provide MEUR 446 under the 2024 Innovation Fund call for 4 eSAF projects and 5 maritime fuel projects.*
- *Launch a European Hydrogen Bank auction (Innovation Fund), with a EUR 300 million window for projects with aviation and maritime off-takers (Q4 2025).*
- *Mobilise EUR 2 billion from InvestEU for the sustainable alternative fuel sector (2026-2027).*
- *Support the EIB Group to mobilise additional investment, including through the TechEU programme (2026).*
- *Provide an indicative budget of EUR 133.5 million supporting R&I projects of renewable fuel technologies and industrial value through Horizon Europe call and SET Plan flagships (2026-2027).*
- *Consider extending SAF support under the EU ETS as part of its upcoming review, and explore analogous support or alternative measures for EU-produced SMF (2026)*

3.2 Developing new instruments to tackle market failures

In consultations for this plan, stakeholders have univocally pointed out that the EU needs to consider **a new approach to derisking market investment in addition to existing tools**, namely one that addresses the root cause of price and revenue risks. Competitive bidding mechanisms such as double-sided auctions are recognised as a key instrument in this regard[47].

To accelerate the possible establishment of a double-sided auction and field test possible solutions at EU level, the Commission will formally launch an "Early Movers Alliance" with interested Member States at high-political level by the end of the year, whilst also assessing the

[46] This support comes on top of the EU ETS incentive for using SAF as operators are not required to surrender allowances for the use of these fuels – an advantage worth around €25 million in 2024.
[47] Draghi report https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en#paragraph_47059

conditions for an EU-wide intermediary mechanism in the medium term that should support making full use of the power of the single market.

Understanding double-sided auctions

Member States have put in place mechanisms such as contracts for difference, carbon contracts for difference (CfD or CCfD)[48], and 'revenue certainty mechanisms', as well as double-sided auctions[49]. **Double-sided auctions use a market intermediary** to connect fuel producers and buyers, by offering long-term contracts (e.g. 10-15 years) with producers of fuels on one side, and by concluding short-term contracts (e.g. 1-3 years) with buyers of SAF or SMF for the offtake of these fuels on the other side. They **provide promoters with the revenue certainty** needed to secure financing for the construction of new production facilities, while taking on the financial risks of refinancing through a series of shorter-term offtake contracts.

Early Movers Alliance and pilot for a pooled double-sided auction

The Commission will set up a task force with the Member States to establish a conceptual framework for the pilot auction to be finalised by the end of 2025. The objective will be to mobilise at least EUR 500 million in 2026 to finance several large-scale projects through the **organisation of the first pooled double-auction for eSAF**. This could be implemented using existing mechanisms such as the H2 Global Foundation[50].

In this context, the Commission will offer further support through the **Competitiveness Coordination Tool. By the end of the year, the Commission will establish a pilot for renewable and low carbon fuel production** for the maritime and aviation sectors, with the aim of facilitating the joint work on a first EU-pooled double-sided auction pilot and joining the necessary financial support.

Working towards an EU-wide double-side auction

Building on the pilot action, the Commission will launch preparations, in early 2026, for setting-up an EU-wide mechanism for an **EU-wide double-sided auction for SAF and SMF** production, without prejudice to the proposals on the next MFF and new own resources.

This will include identifying the best options for the design and governance of the EU market intermediary and methodologies for mobilising sufficient funding at EU and Member State level including possibly through the Innovation Fund and other instruments. The proposal for the new European Competitiveness Fund will allow support for renewable and low-carbon fuels over the 2028-2034 period, including through award procedures in the form of competitive bidding.

[48] A CfD mitigates the market risk by paying the supplier the difference between a predetermined reference price reflecting conventional fuel and a 'strike price' set at the value required for the new technology to be viable. CCfD schemes are suitable for sectors covered by the ETS.

[49]These mechanisms are subject to State Aid approval by the Commission when they involve Member State resources. Germany and the Netherlands have provided EUR 600 million to the H2 Global Foundation, which is an intermediary, for a joint tender to import renewable hydrogen in 2027 through double auctions.

[50] https://h2-global.org/

The Commission **will further analyse suitable auction models**[51]. To this end, a study is ongoing to assess appropriate governance frameworks and identify the legal requirements that would be necessary to launch such auctions.

3.3 Improving the use of support measures at national level

Important support is already being provided through various Member States' support schemes[52]. However, there could be additional efficiency gains from better aligning and leveraging such support.

The Commission calls upon Member States to make the full use of the flexibility and simplification introduced by the **new State aid rules** accompanying the Clean Industrial Deal State Aid Framework (CISAF)[53]. Simplified compatibility requirements apply to State aid schemes that incentivise investment projects adding production capacity for renewable and low-carbon fuels as well as manufacturing capacity for the plants and main components that are needed to deploy the required related production technologies.

The Commission also calls upon Member States to ensure that national measures on the use of methane and blends do not indirectly introduce barriers to transnational trade with bio-methane and limit cross-border availability within the single market[54]. The uptake **of the Union Database** will prevent claims from being counted twice and lay the groundwork for an integrated single market for biomethane. The Commission will work with Member States to address inconsistencies regarding the eligibility of subsidized biomethane across Member States to facilitate an easier uptake of the SMF[55].

The Joint European Forum for **Important Projects of Common European Interest** will decide by the end of November 2025 whether to consider a potential IPCEI candidate in the area of renewable and low-carbon fuels for aviation and waterborne transport[56]. Once candidate status is endorsed, the Commission, through the new Design Support Hub stands ready to assist Member States in the **early design of** such an IPCEI candidate.

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[51] Study financed by European Parliament, call for tender available at https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/tender-details/5201c7be-3e33-43f6-b1e7-081412f75e34-CN

[52] For example, a Danish scheme of EUR 36 million (DKK 268 million) for use of SAF on domestic flights, a French call of EUR 100 million for domestic SAF production, a German aid scheme of EUR 300 million for domestic eSAF production, a Portuguese support scheme of up to EUR 40 million for SAF production, a Dutch scheme of EUR 150 million for development of SAF technologies or a Greek scheme of EUR 300 million for sustainable fuels in transport, including SAF.

[53] https://eur-lex.europa.eu/eli/C/2025/3602/oj

[54] Use of methane and blends one possible short to medium term solution to reduce emissions of EU energy and transport systems, provided methane emissions into the atmosphere can be contained.

[55] Member States use different types of subsidies for biomethane. Some schemes allow producers to benefit from more than one subsidy, potentially from different member states that can distort competition. These differences lead to inconsistent eligibility rules and certification / guarantees of origin (GOs) and unequal risk profiles for investors influencing biomethane deployment.

[56] The decision to start the identification phase of an IPCEI must stem from Member States and approved by the Commission under State aid rules.

Fossil fuel subsidies and taxation regimes have an impact on the price gap between fossil fuels and renewable and low-carbon fuels. Member States are encouraged to review subsidies and taxation regimes and to **urgently conclude negotiations on the Energy Taxation Directive**.

Recovery and resilience plans (RRPs) under the Recovery and Resilience Facility (RRF) play a major role in the green transition in all Member States. Implementation is ongoing but delays still exist. As recently announced[57], different options are available to Member States to ensure that their RRPs are implemented completely. There is still a small window of opportunity to take measures to allow more investment in the production of renewable and low-carbon fuels, provided that they can be finalised by 31 August 2026 and Member States include them urgently in their revised plans.

Member States are legally required to use **revenues from the EU ETS** to invest in climate measures, which can include actions to decarbonise the aviation and maritime sectors, *inter alia* via production and uptake of sustainable fuels, improvement of the energy efficiency of ships and aircraft, investments in innovative technologies and sustainable infrastructure such as green airports and ports. Some Member States are allocating such revenues to the aviation and waterborne sector supporting and providing better predictability for their investments. Member States are encouraged to use part of the revenues they are getting from the EU ETS to invest in decarbonising the maritime and aviation sectors, including via renewable and low-carbon fuels.

Flagship actions

The Commission will:

- *Work together with Member States to set up a pooled joint pilot double-sided auction for eSAF production in the EU worth EUR 500 million (2025-26).*
- *Start, under the Competitiveness Coordination Tool, a pilot project on renewable and low-carbon fuel production for the maritime and aviation sectors (2026).*
- *Work towards identifying a potential IPCEI on SAF and SMF (2026).*
- *Assess the feasibility of establishing an EU-wide approach to double-sided auctions for SAF/SMF production (2025-27).*
- *Encourage Member States to allocate adequate ETS revenues for maritime and aviation sectors, including sustainable and low-carbon fuel production.*

3.4 Ensuring good enabling conditions for market investments

For the single market to work properly, all regulatory provisions need to be implemented and transposed swiftly, correctly and consistently. This concerns in particular the relationship between the RED and the RFEUA and FEUM Regulations.

The Commission recalls that RFEUA sets harmonised SAF and eSAF supply mandates for the single market in the EU to preserve the level-playing field for the air transport single market.

[57] COM (2025) 310 final

However, the situation is different for maritime transport, not yet subject to dedicated supply targets in the EU, given the different operating profile of the sector. Yet under the RED, Member States are already required to include maritime fuel suppliers in the mechanisms to promote the use of renewable energy in transport. The Commission will further work with Member States to incentivise the supply of SMF to help meet the RED and FEUM targets while avoiding market distortions. Promoting availability of SMF in EU ports will receive particular attention in the preparation of the upcoming Energy Union package or the renewable energy framework to be presented in 2026[58] and will be considered in the tripartite contract for biomethane as announced in the Commission roadmap to phase out remaining Russian energy imports.

The Commission will also assess how to address the challenges regarding difficulties for aircraft operators in obtaining information and documents on prices, volumes and locations of SAF supplied, and in gaining access to the fuel distribution infrastructure at airports for self-supply. Airlines are encouraged to join the Flight Emissions Label, which informs passengers on airlines' carbon footprint, reflecting SAF uptake and fleet modernisation.

Building on experience with mitigating the financial risks of wind and solar projects[59], the Commission will examine how power purchase agreements (PPAs), could be extended to renewable and low-carbon fuel production when these markets are more developed. And drawing on experience in offshore wind and grids, the Commission will also facilitate the setting up of a tripartite contract for SAF and SMF for storage and for biomethane through the RLCF Alliance.

Given the variety of SMF and different energy transition strategies of operators, it will be not economically feasible to ensure the availability of all fuels at all ports. Similarly, given the small amounts of eSAF and advanced biofuels to be produced over the coming years, it could be challenging to secure supply to all airports across the EU in short-term. The Commission will assess the feasibility and design options for possible mechanisms using tradable SAF and SMF certificates, as well as evaluating time-framed book and claim options. Such a system should take into account the existing sustainability certification systems[60].

Finally, the Commission will also launch a study in 2026 to assess the issue of decarbonisation in the inland waterways sector and identify possible regulatory changes which could contribute to the uptake of alternative fuels.

3.5 Measures to simplify the implementation of the existing regulatory framework

Experience from the early stages of RFEUA implementation has shown that investments in new SAF capacity could be further facilitated by strengthening market transparency and reducing administrative burden. To this end, the Commission will assess **ways to clarify the obligations on incumbent upon aviation fuel suppliers,** including promptly providing aircraft operators with SAF documents, ensuring the traceability of SAF volumes and sustainability certificates

[58] This framework will include legislative proposals in 2026 setting-up of the energy efficiency framework and of the renewable energy framework.
[59] e.g. cooperation of Commission and the EIB in a pilot project with an indicative volume of EUR 500 million.
[60] Certification under the RED and the fuel traceability needs until final consumption via the Union Database.

until final consumption by aircraft operators and connecting the Union Data Base (UDB) with the EASA Sustainability Portal to allow the use of the UDB data.

The Commission will also consider options for the **simplification and further digitalisation of the reporting requirements**[61], including those stemming from the anti-tankering obligations. The Commission also plans to further strengthen the sustainability certification rules as well as to enforce the **mandatory use of the UDB** to cover raw materials. Extending and upscaling the UDB is necessary to enable full traceability of renewable and low-carbon fuels right up until the end use, through the EASA Sustainability Portal[62].

For maritime, and building on lessons from the first reporting periods, the Commission will assess the ability to **simplify the monitoring and verification of maritime fuels use**. It will examine the possibility of developing a single monitoring, reporting and verification framework (MRV) for maritime decarbonisation, serving both ETS Maritime and FuelEU, with an important potential to reduce administrative burdens for shipping companies, verifiers, and Member States[63]. This will be considered in the upcoming review of the EU ETS, MRV and FEUM. The future EU Ports Strategy, to be adopted in Q2 2026, will support ports in fulfilling their roles in the energy transition and energy hubs. The EU Industrial Maritime Strategy, to be adopted jointly with the Ports Strategy, will strengthen Europe's maritime manufacturing and technological base, especially in new technologies, driven by increased use of sustainable fuels. In line with the existing legal commitments, EU ETS and FEUM will also be reviewed. The adoption of global measures at IMO will be taken into consideration.

The Commission will shortly propose an **Industrial Accelerator Act** with measures supporting the decarbonisation of energy intensive industries including refineries for renewable and low carbon fuel production. Hydrogen supplied to zero emission aircraft can count to eSAF targets. The Commission will support operationalising the EU SAF Clearing House bringing new SAF pathways to the market and will establish a collaborative network of regional centres of excellence[64], complementing the Alliance for Zero Emission Aviation.

Ensuring additional renewable electricity production capacity dedicated to hydrogen and reducing its cost is critical to making e-fuels more cost-competitive. The Commission will further assess how to facilitate access to feedstock, in the context of the effectiveness of the hydrogen framework. It is also important to provide certainty to producers of e-fuels that the renewable fuel of non-biological origin they use is future-proof in terms of counting towards the targets. The Commission will consider criteria to safeguard existing investments in case future reviews of the regulatory framework led to change in the relevant provisions for production inputs.

[61] With an aim to have single data entry point for all the reporting obligations.
[62] Challenges are also raised by project promoters as regards the interpretation of the eligibility of certain advanced bio-feedstock. To this end, the Commission will provide further guidance in the context of the revision of the Implementing Regulation 996/2022.
[63] Including aligning definitions and design elements, such as responsible entity.
[64] The centres will support coordinated deployment of infrastructure and services and promote the regulatory environment that facilitates effective operations for zero emission aircraft.

Flagship actions

The Commission will:

- *Work on extending PPAs to renewable and low-carbon fuels (2026).*
- *Assess ways to increase availability of SMF in ports in the context of in the context of the Energy Union package for the decade ahead (2026).*
- *Assess possible mechanisms using tradable SAF and SMF and evaluate book and claim options.*
- *Consider the needs of maritime sector in the tripartite contract for biomethane and work to develop a tripartite contract for SAF and SMF through the RCLF Alliance (2026).*
- *Improve alignment and simplify reporting for aviation and maritime sectors.*
- *Explore measures to protect early movers' investments in the context of the Energy Union package for the decade ahead (2026).*
- *Review the EU ETS and FEUM when IMO Net Zero Framework will be adopted.*

4. STRATEGIC PARTNERSHIPS AND GLOBAL COLLABORATION TO BOOST SUSTAINABLE FUEL SUPPLY

The EU has been instrumental in achieving considerable progress on global commitments to action in the International Civil Aviation Organization (ICAO) and the measures being considered by International Maritime Organization (IMO). International cooperation will continue to be key for creating a global lead market for renewable and low carbon fuels. In turn, a global market will generate opportunities for European industry and benefit local economies, while also strengthening our ties with international partners and avoid carbon leakage. Renewable and low-carbon fuels from partner countries, conditioned on the requirement to meet EU or EU-equivalent environmental standards and regulations, including CORSIA, will be needed to complement domestic fuels production, particularly in the initial ramp-up phase. At the same time, to prevent fraud and ensure a competitive level playing field[65], action needs to be taken to safeguard investments in the EU. Support of partner countries in ambitious binding international agreements is fundamental for implementation of these partnerships.

4.1 Promote international partnerships for diversification, market access and global ambition

Free trade agreements and mutually beneficial international partnerships remain critical to enhance diversification, access to markets, helping to secure imports of renewable and low-carbon fuels and feedstock materials, and facilitating the import/export of clean tech in line with the recently adopted 'Global Europe' regulation proposal. For this purpose, the Commission will make the best use of free trade agreement and clean trade and investment partnerships (CTIPs) to facilitate the financing of SAF/SMF production, storage or refuelling (bunkering) infrastructure in partner countries, when it does not pose a competitive threat for the EU ports. These sub-sectors have been designated as flagship projects under the Global Gateway. As outlined in the Joint Communication for an EU global climate and energy vision[66], the EU will

[65] ISCC, ISCC Response to Recent Suspected Cases of Mislabelling of Advanced Biodiesel, 2023.
[66] JOIN(2025) 25 final

support the executing of large flagship projects in partner countries through the Global Gateway Strategy. The Free Trade Agreement with Chile already contains dedicated provisions to facilitate trade and investments in RFNBOs, including SAF and SMF, and to remove distortions. The EU has proposed such disciplines also in ongoing negotiations with Thailand, Australia, the Philippines, and the United Arab Emirates[67].

The first CTIP with South Africa aims to deepen cooperation on clean trade, create sustainable investment opportunities and promote EU and South African clean technologies in line with the Clean Industrial Deal. The CTIP will support cooperation in strategic clean supply chains including sustainable transport fuels in the aviation and maritime sectors and related infrastructure.

On **aviation**, the EU is implementing the Assistance, Capacity-Building and Training for Sustainable Aviation Fuels (ACT-SAF) project with ICAO and EASA, in line with the ICAO's 'No Country Left Behind Strategic Goal'. The Commission will continue to work with partner countries in Africa, Latin America and the Caribbean and the Asia-Pacific as well as with relevant UN organisations to support the development, production and use of SAF. In the short term, the Commission will launch a new Aviation Partnership Project in Latin America in Latin America and the Caribbean which includes support for SAF production. The EU will also collaborate to exchange knowledge and experience gained through the RLCF Alliance with the ICAO Finvest Hub initiative to support the emergence of similar platforms at regional and global level. The EU will look to further increase cooperation on sustainable fuels with the African Union, including by supporting efforts to replicate the RLCF Alliance's good practices in Africa[68].

As regards **maritime** transport, the Commission has identified strategic ports worldwide (i.e. in Latin America, Sub-Saharan Africa and Asia) that have strong SMF production and bunkering potential. The Commission will accelerate the deployment of such fuels through contributing to the establishment of green shipping corridors/hubs. The Global Gateway Green Shipping Corridors (GGGSC) initiative is in its early stages of implementation, with the EU prioritising partnerships to decarbonise maritime transport. Finally, the Commission is proposing to allow for the possibility of awarding direct grants to private entities in support of projects that are in the strategic interest of the EU[69]. This would benefit both the aviation and maritime sectors.

The Commission will also facilitate the development of renewable and low-carbon fuels value chains as part of a broader effort to support sustainable mobility and transport solutions in the Western Balkans, Ukraine and Moldova, as well as the whole Black Sea [70], which is integral to the Union's connectivity, energy security and regional stability.

[67] For example, export monopolies, dual pricing or non-tariff barriers for trade and investments.
[68] The EU-financed Assistance, Capacity-Building and Training for SAF (ACT-SAF) project implemented by the ICAO and EASA, supporting India and 14 African states: Cameroun, Côte d´Ivoire, Egypt, Eq. Guinea, Ethiopia, Kenya, Madagascar, Mauritania, Morocco, Mozambique, Nigeria, Rwanda, Senegal, and South Africa with a budget of EUR 4 million.
[69] COM (2025) 551 final, Recital (70), Art 20 §10 and 11.
[70] JOIN (2025) 135 final

The Commission proposed to establish renewable and low-carbon fuels as a key priority under the new Pact for the Mediterranean[71] with the aim of strengthening a shared commitment to their production and use, promoting knowledge exchange, and stimulating private sector engagement.

4.2 Work in international organisations towards global fuel market

The IMO Net Zero Framework for shipping, the first global framework, was proposed to reduce GHG and aiming for net-zero emissions from international shipping by or around 2050. Even though the adoption of the global framework has been adjourned for a year, the Union will continue working within IMO and international partners on a global framework.

Thanks to the strong leadership of the EU and its Member States, progress has also recently been made at the ICAO. In 2022, ICAO member states adopted the long-term aspirational goal (LTAG) for international aviation of net-zero carbon emissions by 2050, which recognised SAF as the main enabler to achieve emission reductions. In 2023, agreed to the global aspirational vision to reduce international aviation emissions by 5% by 2030 through the use of SAF and other cleaner aviation energies (compared to zero cleaner energy use).

In September 2025, ICAO member states called for widespread implementation of CORSIA as the global market-based scheme for international aviation.

4.3 Working towards common standards at global level

The Commission underlines the importance of international cooperation on robust sustainability criteria, transparent and comparable lifecycle emissions calculations for sustainable fuels as well as on improving compatibility, robustness and reliability of certification. Such cooperation on robust sustainability and emission calculation frameworks allow to improve level playing field across markets, reduces the risk of carbon leakage and administrative burden. In this context we will continue to work towards dual conformance of SAF under the RED and CORSIA and strengthening CORSIA. In the maritime sector, certification under the RED is being advanced both in the EU and in non-EU countries, while at the global level, the IMO is developing certification rules.

4.4 Market monitoring and trade defence instruments

Imports to the EU market should be subject to fair conditions to ensure a level playing field for EU operators. EU trade defence instruments provide an effective means to deter unfair practices and to take remedial measures against potential injurious imports. The Commission stands ready to use the trade defence instruments at its disposal, should this prove necessary. The Commission is currently stepping up its monitoring of imports of products from non-EU countries to detect potentially harmful import increases, including for biofuels.

[71] JOIN (2025) 26 final

Uneven global rules in the aviation and maritime sectors, might result in traffic and emissions being shifted beyond EU borders. The Commission will assess the risk[72], and if appropriate, consider measures necessary to uphold a level playing field.

5. CONCLUSION

The transition to a new powerbase in transport offers **substantial opportunities for industrial growth and job creation in the EU**, while helping the EU to **increase its strategic autonomy, diversify energy supplies and make a significant contribution to decarbonising the transport sector**.

While the road transport is advancing in its transition to zero-emission mobility and the rail sector has electrified a substantive share of its operations, decarbonising aviation and waterborne is still at an early stage. We must quickly build up renewable and low-carbon fuels capacity in the EU and beyond. The challenge is pressing, but not unsurmountable. The **long-term regulatory framework to ramp-up demand for such fuels in the EU is in place and is here to stay. Ramping up domestic production and use is critical, but so is international cooperation** to push for global production and use, not only to meet global climate goals and decarbonise transport, but also to provide also development opportunities for partner countries while ensuring a level playing field for our industry.

For this transition to be successful, supporting and de-risking investments into the market ramp-up of suitable technologies must be considerably stepped up placing renewable and low-carbon fuels and their sustainably sourced feedstocks firmly in the spotlight.

[72] Commission's Economic study for an assessment of potential carbon leakage in the aviation and maritime sectors and mitigating measures, other possible studies in the future possible as well.