BRIEFING - [November 2026]

The ETS investment engine: scaling Europe’s strategic e-fuel market for shipping and aviation

Making the ETS a strategic investment tool for aviation and shipping

Summary

The EU Emissions Trading System (ETS) review proposal published in July 2026 is intended to make the EU's most vital climate policy mechanism fit for its 2040 climate targets. It also carries the ambition to turn the ETS into an "engine for innovation and investment".

This policy brief looks at the investment dimension of the ETS proposal with respect to the aviation and maritime sectors. They are major contributors to the ETS revenue generation. We argue, however, that the proposed framework is not fit for purpose to adequately support clean fuel investments in these hard-to-abate sectors.

The ETS Review is an opportunity to set up a tailor-made investment tool to de-risk and boost the production and uptake of e-fuels, using the ETS funds from aviation and shipping. Early financial support is crucial for the development of a domestic e-fuels value chain, Europe's geostrategic autonomy and the EU's industrial position in the global competition for clean technologies. RFNBOs are the most scalable fuels needed to reach the targets under FuelEU Maritime and ReFuelEU Aviation.

Key recommendations

- **Use national ETS revenues:** earmark 50% of national ETS revenues for decarbonisation support in priority sectors, including for the production and uptake of aviation and maritime e-fuels, and ensure compliance via stricter reporting rules.
- **EU-level ETS funds:** include aviation and maritime sectors in the scope of the ETS Investment Booster, Industrial Decarbonisation Bank (IDB) and Modernisation Fund to enable e-fuels support and ensure equity across hard-to-abate sectors.
- **Create an e-fuels funding pool:** channel ETS revenues and other funding sources to finance a market intermediary for e-fuels by 2028.
- **Implement market-making schemes like double-sided auctions (DSAs):** these instruments are needed to unlock pending final investment decisions and scale the emerging European e-fuels market by de-risking and connecting supply.
- **Improve SAF and SMAP allowance design:** while these market-based schemes cannot replace the structural market-making and de-risking function of DSAs, their design should be improved to help maximise offtake support for e-fuels.

A share of A&S ETS revenues should be reinvested to boost investments in e-fuels

Aviation and shipping must take full responsibility for their climate impact. The phase-out of free allowances and the ETS expansion are necessary to ensure the transport industry fully internalises its emissions costs. While falling short of what is needed, the European Commission's proposed extension of the ETS to more extra-European flights and smaller vessels is a step in the right direction (see full T&E position in this briefing).

Beyond acting as a pricing mechanism for polluters, the ETS can be used as a powerful industrial policy tool to support decarbonisation investments. The proposal offers provisions on the use of national ETS revenues, new EU-level ETS funds, and free allowance schemes to steer more clean investments into ETS sectors. T&E supports using a share of ETS resources for these purposes, while preserving the "polluter pays" principle.

However, **the proposed investment framework is not yet suited to put aviation and shipping on a viable decarbonisation pathway**. To reach ReFuelEU Aviation and FuelEU Maritime targets with truly green and scalable fuels, a rapid scale-up in the production and uptake of e-fuels is required over the coming decade. Financial barriers that block final investment decisions must be overcome before the window to scale production in time closes. The ETS should become a **strategic investment tool to boost the clean e-fuels market**, and secure competitiveness in these strategic clean value chains, putting aviation and maritime support on par with support for other hard-to-abate sectors.

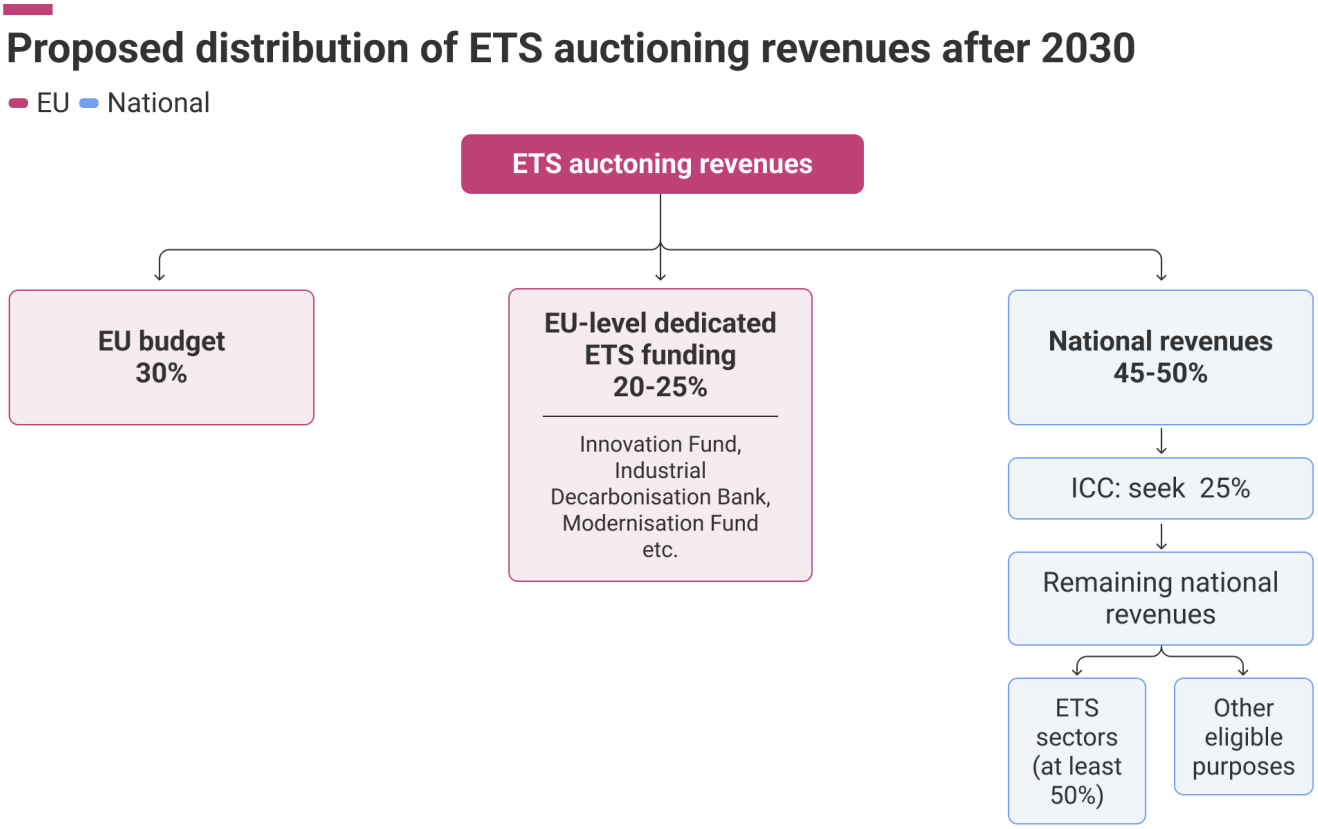
National ETS revenues: ensure priority spending on energy transition and climate

The Commission has proposed to ringfence 50 % of national ETS revenues to be spent on decarbonisation measures in ETS priority sectors. Given the urgent need to kick-start investment in e-fuel production, the inclusion of aviation and shipping among the priority sectors is welcome. At the same time, the obligation to spend the remaining national ETS revenues on other eligible climate and energy-transition purposes must be enforced more thoroughly.

Stricter reporting requirements to guarantee transparency and verify that funds deliver genuine, additional emission reductions. Many EU Member States channel ETS revenues into their general budgets without earmarking them for specific purposes. This makes it difficult to

trace how ETS revenues are spent and undermines transparency and accountability. Stricter reporting rules will be critical to ensure compliance with climate spending obligations.

Moreover, the 50% spending threshold will mobilise less funding after 2030 than commonly expected - as it applies to a much smaller funding pool than headline figures suggest. A substantial portion of ETS revenues is diverted at the source: the Commission proposed that 30% feed into the long-term EU budget from 2028, while additional shares finance EU-level funds and Indirect Cost Compensation (ICC) for energy-intensive industries (which can absorb 25% or more of national allocations). As a result, the 50% requirement applies only to the remaining national revenues, drastically reducing the actual revenues earmarked for priority decarbonisation (see chart below). This highlights the important role of EU-level funds in supporting shared spending priorities, as discussed below.



Source: E3G & BACC (2026), Unpacking the EU ETS review proposal, illustrative estimation

EU-level ETS funds: extend scope to aviation and maritime e-fuels

The Commission proposal significantly strengthens the EU-level ETS funding architecture. It extends the Innovation Fund and Modernisation Fund beyond 2030 and creates new funding instruments: the IDB and the Investment Booster. In Phase I (between 2027 and 2030), the €30 billion Investment Booster would provide carbon premia to industrial decarbonisation projects on a first-come, first-served basis. In Phase II (starting from 2031), the IDB would support the roll-out

of industrial decarbonisation technologies through competitive auctions and instruments such as Carbon Contracts for Difference. **Aviation and shipping are not included in these instruments and remain reliant on the Innovation Fund for EU-level ETS funding.**

This exclusion is problematic because the balance of ETS funding is shifting towards the new instruments. As shown below, the Investment Booster and IDB together are backed by 800 million European Union Allowances (EUAs). The new Innovation Fund (IF) will shrink from currently around 530 million EUAs to just 200 million EUAs after 2030. The IF will therefore become significantly smaller, while remaining the only EU-level ETS fund available to aviation and shipping. At the same time, the IF covers a much wider range of sectors, while the new instruments focus on energy-intensive ETS industries and waste. The proposal also discontinues the current earmarked aviation contribution to the IF of 5 million EUAs.

Proposed endowment of future ETS funds

EU-level ETS Fund	Proposed ETS endowment in EUAs	Approx. value at 75€/EUA
Investment Booster (2027-2030)	400 million	€30 billion
Industrial Decarbonisation Bank (2031-2040)	400 million	€30 billion
Innovation Fund post-2030	200 million	€15 billion
Modernisation Fund post-2030	414 million	€31 billion
Total	1414 million	€106 billion

Source: Frédéric Branger, Following the EU ETS Allowances (category: 'explicit in legal text')

T&E therefore calls for aviation and maritime e-fuels to be explicitly included under the scope of the Investment Booster and IDB. Excluding them from the EU's largest new ETS funding instruments risks creating an imbalance between hard-to-abate ETS sectors at precisely the time when Europe needs to rapidly scale up strategic e-fuel production.

The Modernisation Fund should also be available for e-fuels support in lower-income Member States. The Commission's proposal to strengthen the Modernisation Fund's focus on clean investments, notably by excluding support for fossil fuel infrastructure, is welcome. However, production and uptake of aviation and shipping e-fuels to be included in the Fund's list of eligible investments, ensuring that lower-income Member States can also decarbonise these sectors.

An ‘E-Fuel Funding Pool’ to mobilise national and EU-level revenues to co-finance a market intermediary

Making more ETS revenues available for e-fuels at both national and EU level is necessary, but funding volumes alone will not get projects off the ground. The emerging e-fuels market faces specific **financing barriers that cannot be fully addressed by the proposed support schemes** under the Investment Booster and IDB, or through the SAF and SMAP allowance schemes.

Therefore, part of **ETS revenues should be used for tailor-made support instruments such as double-sided auctions implemented by a dedicated market intermediary** - connecting producers and buyers while bridging the price gap between e-fuels and fossil fuels.

Why the emerging e-fuels market needs an intermediary

Unlocking Final Investment Decisions (FIDs) for aviation and shipping e-fuels is Europe’s most urgent investment priority for these hard-to-abate sectors. T&E’s market monitoring confirms that while the EU remains a global leader, stalled FIDs allow competitors like China and the US to pull ahead. FIDs must be unlocked as soon as possible for the EU to meet the targets of ReFuelEU Aviation and FuelEU Maritime with e-fuels that are both sustainable and scalable domestically in the EU. Yet many FIDs remain on hold due to the financial barriers and risks faced by both e-fuel producers and offtakers in this nascent market.

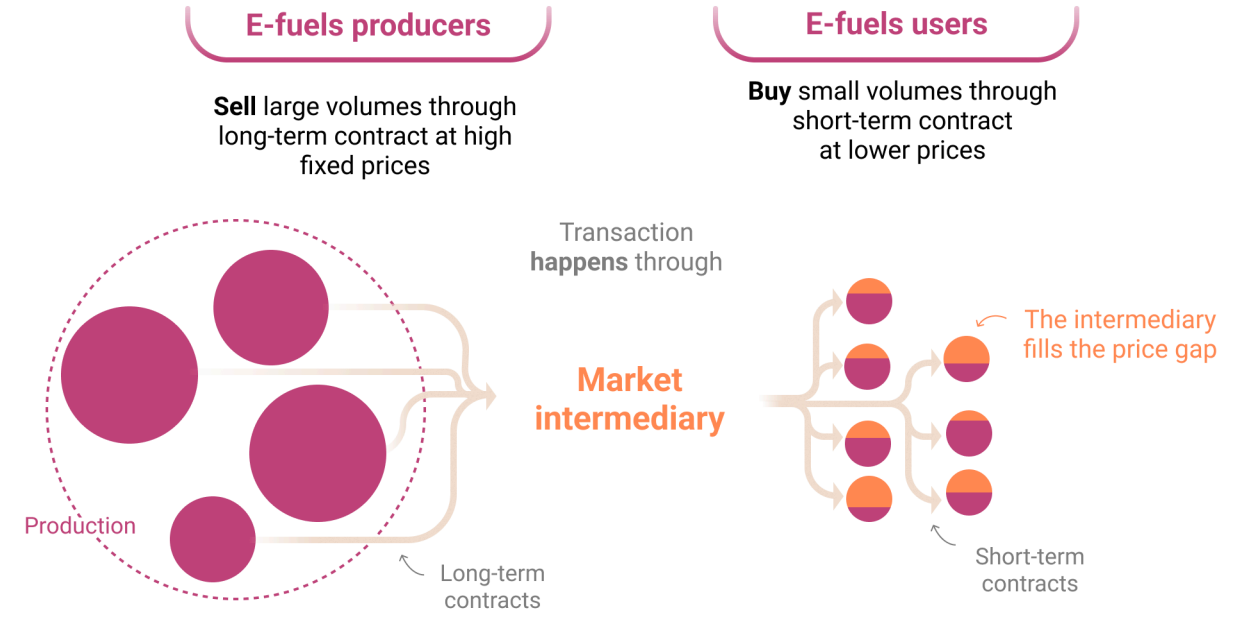
This stalemate stems from a classic "chicken-and-egg" market failure driven by commercial risks on both sides:

- **Producer-side barriers**: E-fuel projects require large upfront capital and are often led by small developers with limited financial backing. Financiers demand demonstrable and predictable future revenue streams: 10+ year offtake agreements covering a major share of production before committing capital to achieve FID.
- **Offtaker-side barriers**: Buyers (airlines, shipowners, fuel suppliers) operate on short-term purchasing cycles (1-3 years) in highly cost-sensitive markets. Fearing a "first-mover disadvantage," they refuse to lock in today’s early-stage price premiums while competitors wait for future price drops. E-fuels remain considerably more expensive than their fossil alternatives to date - even if this cost gap is expected to narrow as production scales up and technologies mature. Finally, concern over potential regulatory rollbacks such as during the 2027 ReFuelEU review further delays commitments.

Without intervention, producers cannot move forward without guaranteed demand, and demand will not materialise until scale drives prices down.

To break this stalemate, **the EU should establish a market intermediary to absorb commercial risks using double-sided auctions**. This entity would purchase fuel from producers under long-term contracts, providing the revenue certainty needed for project financing, and resell it through shorter-term contracts to airlines/shipping companies and/or fuel suppliers, enabling them to manage their price risk. The intermediary would run **double-sided auctions** to match supply and demand. Producers would bid for the minimum price at which they are willing to sell, while buyers would bid for the maximum price they are willing to pay. The intermediary would cover the gap between these bids, using its budget to ensure transactions can take place. This creates competitive pressure on both sides, narrows the price gap, reduces the subsidy requirement and results in transparent price signals that can support the emergence of a liquid e-fuels market.

Double-sided auctions scenario



Source: T&E

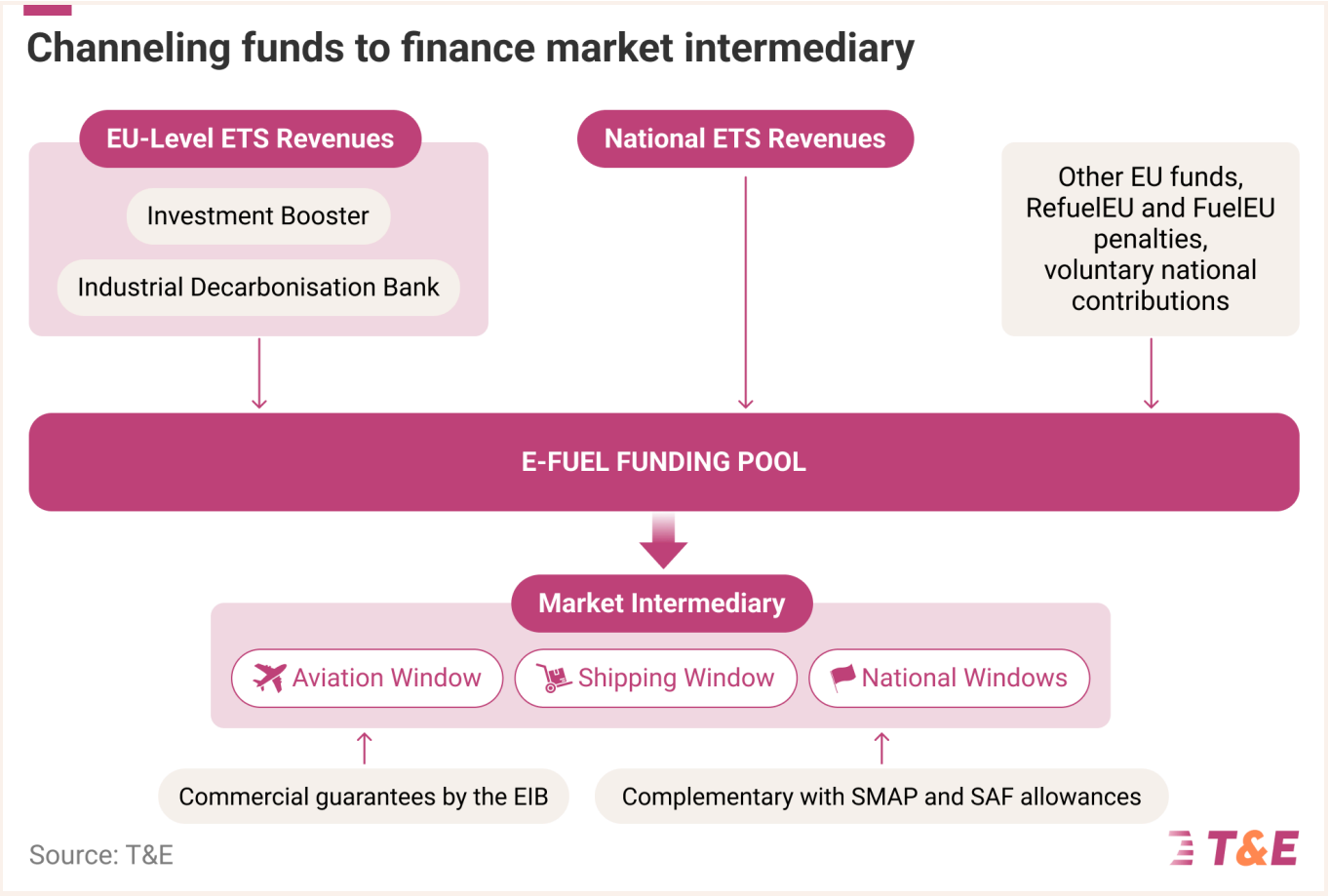
In its Sustainable Transport Investment Plan (STIP), the Commission committed to "work toward" the creation of an intermediary running EU-wide double-sided auctions for the European SAF and SMF market. The Commission should be done assessing the feasibility of the scheme by 2027, but its design and financing remain yet undefined.

The intermediary should focus its support on EU-made RNFBOs. At a time when investments must be strategically prioritised, the mechanism should support green e-fuels – the only fuels that are *sustainable*, *scalable* and *sovereign* (see T&E's studies on aviation and shipping e-fuels).

Co-financing this intermediary is the best use of ETS revenues for aviation and shipping. To achieve this, the ETS Directive should establish a dedicated **E-fuels Funding Pool** to channel resources from the ETS Investment Booster, the IDB, and national ETS revenues into competitive support for domestic e-fuel production and uptake.

Created as a standalone mechanism outside the long-term EU budget framework, the Funding Pool can be established immediately under the ETS Directive, leaving governance open to a dedicated entity or hosting by the IDB. Fully operational by 2028, the intermediary would use the Pool to run double-sided auctions.

The Pool should also be open to additional funding sources, including contributions from the Innovation and Modernisation Funds, national revenues from penalties under ReFuelEU Aviation and FuelEU Maritime, and voluntary Member State contributions. Pooling different funding sources would create the scale and predictability needed to support a European e-fuels market.



SAF and SMAP allowances - strengthen their impact to guarantee e-fuel offtake

The ETS proposal strengthens the dedicated allowance scheme to support uptake in clean fuels in aviation and introduces a similar mechanism for shipping. For aviation, the ETS has provided airlines with **SAF allowances** since 2024 to cover part of the price gap between sustainable aviation fuels (SAF) and fossil kerosene. The current mechanism reserves up to 20 million allowances until 2030, with higher support rates for more expensive fuels such as eSAF. The Commission now proposes to significantly expand this mechanism, reserving *an additional 110 million allowances* linked to the extension of the aviation ETS and broadening support beyond sustainable fuels to other aviation decarbonisation solutions.

For shipping, the proposal introduces a similar mechanism: **the Sustainable Maritime Alternative Propulsion (SMAP) mechanism.** *Up to 110 million allowances* between 2028 and 2040 would support shipping companies in using sustainable maritime fuels, including RFNBOs, as well as zero-emission propulsion technologies such as electric and wind-assisted propulsion. Similarly to SAF allowances, SMAP allowances are designed to bridge part of the cost gap between conventional and cleaner alternatives and thereby support their uptake.

SAF and SMAP allowances can play an important role in stimulating demand and thereby indirectly enabling domestic supply of e-fuels, provided their design is improved. Earmarking would increase the predictability of these schemes and ensure that allowances are mostly used for EU-made RFNBOs - the only fuels that are *sustainable, scalable,* and *sovereign*. T&E calls for an earmarking of 80% of total SAF allowances (~90 million allowances) specifically for e-SAF. For the shipping sector, c.70% of the total (76 million allowances) should be earmarked for RNFBOs, with 30.5 million of those specifically produced in the EU. In addition, 'book-in-advance' mechanisms must be introduced in SMAP, and strongly expanded in SAF, to turn both schemes into effective offtake incentives for EU-made e-fuels. The option to book a major share of allowances multiple years in advance is required if these schemes are to support long-term offtake agreements. Please refer to this analysis for an exhaustive account of T&E positions on SAF and SMAP allowances.

However, these market-based schemes are not a substitute for the structural market-making function of double-sided auctions (DSAs). They serve a different purpose and do not deliver the same benefits as double-sided auctions. If designed correctly, SAF and SMAP work as a *decentralised* price-gap subsidy to provide incentives to offtakers of e-fuels and *indirectly* enable supply. By contrast, schemes like DSAs work as a *top-down, direct intervention* in both demand and supply. They directly de-risk both sides at once by offering 10-year revenue guarantees for producers and short-term, capped-price purchasing for offtakers. This is intended to overcome the shortcomings of a nascent market locked in a stalemate that presents itself as a chicken-and-egg problem (see box above). DSAs therefore have a *structural function in centralised*

market-making that cannot be substituted with *decentralised, one-sided, bottom-up incentives*. **SAF and SMAP allowances should therefore not come at the expense of DSAs.**

Complementarity between double-sided auctions and SAF and SMAP allowances should be ensured. While DSAs cannot be replaced by SAF and SMAP, it should be explored how they can complement each other best. For this, one has to weigh possible benefits of cumulation with risks of over-compensation - conclusions may differ across sectors and instruments. For example, 'stacking' both schemes (i.e. allowing for cumulation) for a specific time period could create additional first-mover incentives in some cases. In other cases, stacking benefits may lead to effective over-compensation or be too difficult to implement in practice. In any case, support instruments need to be aligned to avoid joint coverage exceeding more than 100% of eligible costs.

Further information

Christopher Schröder

Sustainable Finance Expert

T&E

christopher.schroeder@transportenvironment.org