Project SkyPower

Five key policy interventions to unlock the scale-up of e-SAF in the EU

Preliminary Annex: a starting point for dialogues between policy, industry, and finance

March 2025

project-skypower.org

Disclaimer

This annex has been developed by the Project SkyPower Secretariat as an independent piece of work to complement the main open letter. It is supported by the Steering Committee of Project SkyPower, but should not be taken as a direct reflection of the views of all signatories of the main open letter. It has been developed in order to provide European Union policy makers with greater detail and clarity on the policy interventions, as well as provide some worked examples of the proposed policy instruments to illustrate how they could be applied in practice.

While these examples have been informed by the broad industry engagement conducted to date by the Project SkyPower Secretariat, further industry consultation is essential to ensure the suggested policy interventions achieve their intended impact for airlines, e-SAF project developers, fuel suppliers and other stakeholder groups. This annex should be considered a starting point for future dialogues between policy, industry, and finance on the design of the policy instruments outlined in the main open letter.

The Project SkyPower Secretariat is available for further engagement to clarify or develop the policy interventions discussed in this document and can be reached at secretariat@project-skypower.org.

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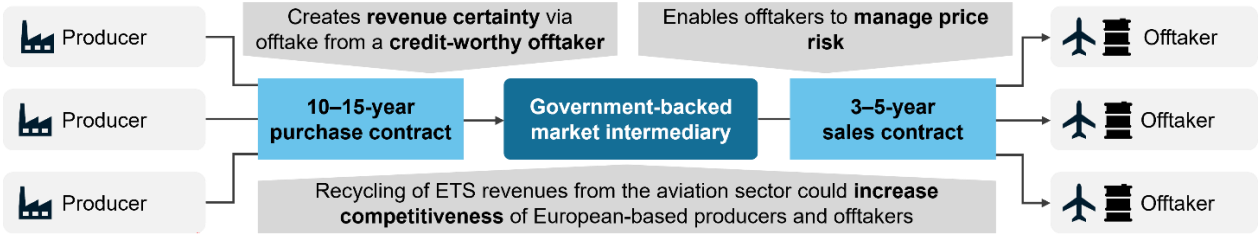
Vision for a successful scale-up of e-SAF in the EU

The five key policy interventions outlined in the open letter intend to unlock the scale-up of e-SAF in Europe, in line with synthetic aviation fuel sub-mandates in the ReFuelEU Aviation Regulation (Regulation (EU) 2023/2405, "RFEUA"). The following narrative envisions the outcomes of implementing these policy interventions.[1]

1. The Sustainable Transport Investment Plan (STIP) recognises **e-SAF as a critical priority** for the European aviation transition, technological competitiveness on a world stage, and geopolitical security. It establishes robust, implementable policy interventions that address key barriers to e-SAF scale-up in the coming years. As a result of this, Europe establishes a uniquely competitive policy environment for first-of-a-kind e-SAF projects, which unlocks waves of private investment.
2. A **market intermediary** is established to create revenue certainty for e-SAF producers, and to overcome the risk airlines face in the scenario where e-SAF market prices drop considerably after locking in high prices with first-of-a-kind plants. The intermediary is an independent entity from the European Commission. It holds a supply-side auction, signing 10-15-year purchase contracts with the lowest bidding (eligible) e-SAF producers. This allows producers to secure financing and reach Final Investment Decisions (FIDs). The intermediary then holds a demand-side auction, signing 3-5-year sales contracts with the highest bidding (eligible) e-SAF offtakers (e.g. airlines and fuel suppliers). Every 3-5 years, the intermediary repeats the demand-side auction until all purchased e-SAF is sold.



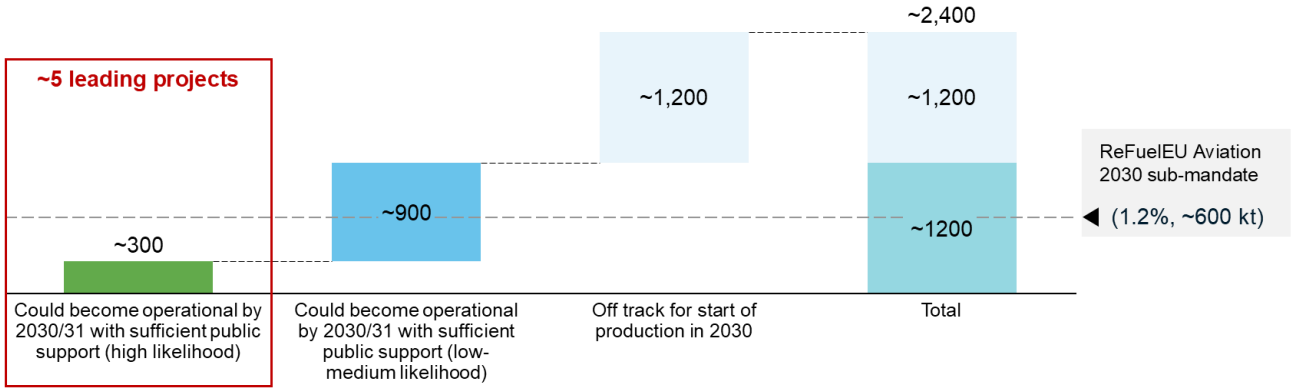
   The intermediary is capitalised with funding to cover the expected price gap between the purchase and sales contracts, by recycling a share of EU Emission Trading System (ETS) revenues from the aviation sector and revenues from non-compliance fines under RFEUA. This intermediary operates for the first wave of e-SAF plants to create certainty in the market, before phasing out.
3. A **financial bridging mechanism** avoids the offtake market from stalling until the market intermediary becomes active. A handful of leading e-SAF projects could already get to FID in 2025/2026. Only those projects will be able to start production by 2030 and contribute to e-SAF mandates. For those projects to not get delayed, they require short-term public support to enable the most advanced offtakers to sign long-term offtake agreements with the most advanced e-SAF project developers. Offtakers need to be ensured that they do not lock in disproportionally high prices with a first-of-a-kind plant, compared to future market price expectations.
4. The European Commission and Member States provide **long-term regulatory clarity** on e-SAF mandates, penalties and production criteria, to instil the market certainty that e-SAF producers and offtakers need to trigger the first wave of e-SAF production. This creates market confidence and triggers new waves of private investment.
5. InvestEU launches a **backstop mechanism** under its Sustainable Infrastructure policy, to address considerable project-on-project risk for the first e-SAF projects. Through this, a government-backed counterparty underwrites the risk of an e-SAF plant operating below its intended capacity due to delivery delays/failures of key feedstocks. Thanks to strict eligibility criteria that limit access to only the most commercially viable projects, the backstop mechanism is triggered sparingly. It is therefore a capital-efficient way to provide the market confidence required by financial institutions to finance first-of-a-kind e-SAF projects.

[1] The implementation would be managed in compliance with EU competition law, including the European Commission's Revised Guidelines on Horizontal Cooperation particularly as they apply to sustainability agreements.

Policy intervention #1: Make e-SAF a strategic priority in the Sustainable Transport Investment Plan

The upcoming STIP should recognise e-SAF, an alternative jet fuel produced using clean electricity, as a strategic priority and critical solution for reducing emissions from mid-to-long haul flight. Aviation accounts for 2.5% of global CO_2 emissions[2] and while several emissions abatement solutions are emerging, Sustainable Aviation Fuels (SAFs) are currently considered the only viable option for mid-to-long haul flights (above 2,500 km). Virtually all SAFs used today are biofuels (HEFA), but their future expansion is constrained by the availability of sustainable feedstocks. Therefore, other SAF production pathways such as e-SAF are a critical component of the solution and to reach the required capacities by 2050, scale-up needs to start now. With ~60% of the currently announced global e-SAF production capacity and access to all critical feedstocks – clean power, captured CO_2 and water – the EU is uniquely positioned to drive this first-of-a-kind innovation to commercial scale, to bolster industrial competitiveness, energy security and climate leadership. As such, e-SAF fits within the ambition in the recently published Clean Industrial Deal that *"a Sustainable Transport Investment Plan will outline short-and medium-term measures to prioritise support to specific renewable and low-carbon fuels for aviation"*.

Exhibit 1: Only 300 kt of e-SAF capacity, half of the required volumes in the EU by 2030, are on track to being operational in time for the first mandates



Notes: Planned e-SAF capacity only refers to e-SAF output and does not include byproducts such as e-naphtha or e-diesel/gasoline. If announcement does not state SAF fraction of total product output, a SAF share of 70% is assumed. Some plants are hybrid power and biomass to liquid plants (PBtL), for which the e-SAF share on the total SAF fraction is assumed as 50%, the rest being classified as biofuel. The EU fuel consumption by 2030 is assumed as 50 Mt. **Source:** Press search. Non-exhaustive data, upsides possible. Data status: February 2025.

The introduction of the ReFuelEU Aviation Regulation (RFEUA) has created an essential demand signal for e-SAF in the EU but has been insufficient to get first projects to FID. The RFEUA introduces sub-mandates for e-SAF, referred to as synthetic aviation fuels, starting in 2030, recognising e-SAF for its potential for "*as much as 100 % emissions savings compared to conventional aviation fuel"* and *"resource efficiency"*[3]. Of the roughly 30 large-scale[4] e-SAF projects announced in Europe, equating to around 2 million tonnes of e-SAF capacity, none have reached FID. Only ~300 ktpa, half of the required mandated volumes in the EU by 2030/31, could be considered on track to contribute towards these mandates as shown in Exhibit 1.

Existing public funding instruments have not been widely accessible to e-SAF projects given competition with other sectors. Only three e-SAF projects have received considerable funding from the EU through the EU Innovation Fund to date, with a combined production capacity of ~100 ktpa e-SAF announced. E-SAF production in 2030 is expected to cost 5–8 times the price of fossil jet fuel (incl. ETS price)[5]; this combined with the unique risks of commercial-scale e-SAF production, means public funding is critical to de-risk offtake and investment. While public funding instruments at the EU-level (e.g. EU Innovation Fund, the European Hydrogen Bank, etc.) have been

[2] Factoring in non-CO_2 emissions (e.g. NOx, contrails and cirrus clouds), aviation is responsible for even 3.5% of global warming (measured in the net anthropogenic effective radiative forcing). Source: Lee et al. (2021).
[3] Source: European Commission (2023)
[4] i.e. a production capacity of 25+ ktpa e-SAF.
[5] Project SkyPower Insights Report (2024); Project SkyPower e-SAF Techno-economic Model (2024)

open for e-SAF projects to bid, they have typically led to unsuccessful outcomes due to competition with other sectors. Three e-SAF projects (with ~100 kt of e-SAF capacity) have successfully received a total of ~EUR 160 million from the EU Innovation Fund over the last four years as shown in Exhibit 2.[6] In the previous EU Innovation Fund window, no e-SAF project was awarded funding.

Exhibit 2: Only three e-SAF projects have secured grants via the EU Innovation Fund in the last four years

Funding framework	no. of e-SAF projects funded	Total grant funding for e-SAF projects	E-SAF production capacity per project
Innovation Fund 1 st call (2021)	One[1]	€40 Mn	7 ktpa
Innovation Fund 2 nd call (2022)	One[2]	€80 Mn	41 ktpa *(shelved)*
Innovation Fund 3 rd call (2023)	One[3]	~€40 Mn	~50 ktpa
EHB pilot auction (2023)	*None*	*None*	*None*
Innovation Fund 4 th call (2024)	*None*	*None*	*None*

Notes: 1) Nordic Electrofuel's project in Norway; 2) Vattenfall's HySkies project in Sweden (which has since been shelved); 3) ST1's and SCA's BioØstrand Sweden project, which is a Power-and-Biomass-to-Liquid project that produces foremost bio-SAF and a certain share of e-SAF which is assumed to be about a quarter of the total product output. Therefore, the grant funding in the table only shows the proportional share that would directly support e-SAF production and the capacity only shows the e-SAF share in the total product output.
Sources: Press search; Innovation Fund Project Portfolio Dashboard (2025)

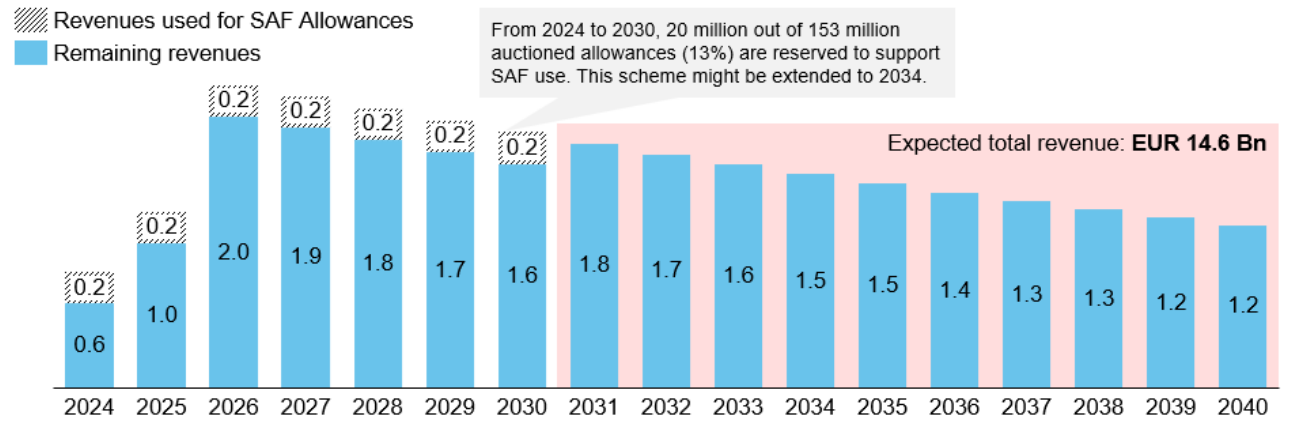
To date, public support from the EU has focused on CAPEX and OPEX support but has not addressed two fundamental challenges: (i) producers need long-term revenue certainty from creditworthy counterparties to make projects bankable, and (ii) offtakers need to manage price risk. On challenge (i), given the unique risk profile of first-of-a-kind e-SAF production, debt providers require revenue certainty from a creditworthy counterparty over the debt period (i.e. 10–15 years). Hence, offtake contract durations must match that long-term period and be signed by creditworthy offtakers. On challenge (ii), offtakers are subject to high price risk when signing long-term offtake contracts. This risk emerges from potential cost reductions for second- and third-of-a-kind e-SAF production plants, resulting from technological innovation, economies of scale and better-informed risk assessments. As a result of (i) and (ii), FIDs of e-SAF projects are hindered by the differing requirements of producers and offtakers.

The STIP is an opportunity to solve these two fundamental challenges (see proposal under policy intervention #2 and #3) and ensure the global competitiveness of both Europe-based e-SAF producers and offtakers by earmarking ETS revenues from the aviation sector to e-SAF. Currently, only ~13% of expected ETS revenues from aviation until 2030 are earmarked for supporting the uptake of SAF via SAF Allowances (or 'Fuels Eligible for ETS Support'), as shown in Exhibit 3. As free allocation of ETS allowances to aviation will be fully phased out by 2026, there is an opportunity, particularly with the planned ETS review in 2026, to recycle the additional ETS revenues to also support the uptake of e-SAF from first-of-a-kind projects. The SAF Allowances scheme (with an initial allocation of 20 million allowances) provides a critical incentive for offtakers and is important to ensure the continued competitiveness of European airlines. Yet, this scheme is currently insufficient to support the uptake of e-SAF as it does not yet enable the signing of long-term offtake contracts that producers need for long-term revenue certainty. A long-term support system, funded by the continued and extended recycling of ETS revenues, is essential for the global competitiveness of European e-SAF production and offtake. An efficient way to establish a support system is via a market intermediary, as described in Intervention #2.

[6] Other funding streams for EU-based e-SAF projects have included direct funding from Member States via Important Projects of Common European Interest (IPCEI) e.g. with EUR 350 million provided by the German government to support Concrete Chemicals e-SAF project with a capacity of ~30 ktpa e-SAF, as well as public-private finance support via the EU Catalyst Partnership: Ineratec's ~2.5 ktpa e-SAF project received a EUR 70 million funding package (combination of venture-debt-loan from the European Investment Bank and grant from Breakthrough Energy Catalyst).

Exhibit 3: EUR 14.6 billion of ETS revenues projected between 2030 and 2040

Projected revenues from EU ETS Aviation from 2024-2040, in EUR Bn (assuming a constant carbon price of 80 EUR/tCO_2e)



Note: This chart assumes SAF Allowances are spread evenly across years.
Sources: EU Commission (2023): *Adoption of the Commission Decision on the total quantity of allowances to be allocated in respect of aircraft operators in the EU ETS for 2024*; European Environment Agency (2024): *EU ETS data viewer*

In addition to that, regulatory certainty (policy ask #4) and financial de-risking mechanisms (policy ask #5) are essential to create the market confidence that financial institutions need to finance the first wave of e-SAF projects.

Proposed measures outlined in the Clean Industrial Deal as well as the upcoming STIP could enable the implementation of all policy asks described in the following sections. Key instruments could e.g. be the announced EUR 100 billion Industrial Decarbonisation Bank, the EUR 1 billion third call under the EU Hydrogen Bank and the increase in InvestEU's risk-bearing capacity.

Policy intervention #2: Recycle ETS revenues from aviation to capitalise a market intermediary that enters into auctioned, 10–15-year contracts with e-SAF producers and 3–5-year contracts with offtakers

I) Problem and proposed solution

As discussed in the previous section, enabling FIDs for the first commercial-scale e-SAF projects requires overcoming (i) the lack of long-term revenue certainty for producers from creditworthy counterparties and (ii) the price risk for offtakers.

A government-backed, and thus creditworthy, market intermediary can overcome these two barriers by (i) entering into bankable long-term purchase contracts with producers to provide revenue certainty and (ii) enabling offtakers to sign short-term contracts to manage their price risk. Market intermediaries – increasingly referred to as 'Market Makers' – cater to the differing requirements of producers and offtakers by acting as active market participant (i.e. as buyer and seller of products such as e-SAF) that signs long-term purchase contracts with producers and short-term sales contracts with offtakers. In doing so, it meets the needs of both sides of the market and over-comes the market failure. As an example, Hintco[7] (the executing subsidiary of the H2Global Foundation) is an existing entity that has already rigorously designed, developed and implemented[8] such an instrument at scale and could be considered.

A key prerequisite for a market intermediary is its high creditworthiness, through a combination of capitalisation and guarantees, 'using' the EU's high credit rating. Government-backing, in the form of a combination of capitalisation with concessional capital and government guarantees, is critical to ensure the creditworthiness of the market intermediary and create confidence in the market. The pilot purchase auctions conducted by Hintco (e.g. the successful auction for e-ammonia) were 100% collateralised[9] due to the requirements of the German government, the provider of the concessional capital. However, in a mandated market, there is EU legislation supporting a counterfactual scenario where higher penalties are incurred for non-compliance than the cost of compliance. The existence of the mandate may justify that part of the capitalisation requirement could be displaced by guarantees from the EU to reduce the potential capitalisation the intermediary requires, while the future fines paid by non-compliant fuel suppliers could also be recycled to the intermediary in a self-balancing system.

Finally, the intermediary could support the global competitiveness of Europe-based e-SAF producers and offtakers by providing subsidies via the recycling of ETS revenues from the aviation sector. Europe is the heart of e-SAF innovation and given that today around 30 e-SAF projects (equivalent to two million tonnes of annual production capacity) have been announced in Europe (however none yet reached FID), the EU has a unique chance to become a first mover and market leader. In the long run however, the cost of fuel production at larger scale could be lower in other geographies. Therefore, European producers face the risk that production locations outside Europe could benefit from lower electricity prices or government subsidies, hypothetically enabling lower cost e-SAF production. While the risk of this is currently low, given the expectation of a short market and the low number of e-SAF projects outside of Europe, it may increase over the period of purchase contracts covered by the market intermediary i.e. 10-15 years. For European offtakers, a level playing field compared to other geographies without SAF mandates should be considered. To ensure global competitiveness of Europe-based e-SAF production and offtake, ETS revenues from the aviation sector could be earmarked to be recycled back to support the sector's decarbonisation via the market intermediary in the early stages of scale-up of the e-SAF industry.

The following sections describe design options for a market intermediary (based on the proven model implemented by H2Global as well as a derivative of this model customised for e-SAF) as well as key considerations, i.e. (A) how to ensure the creditworthiness of this government-backed intermediary,

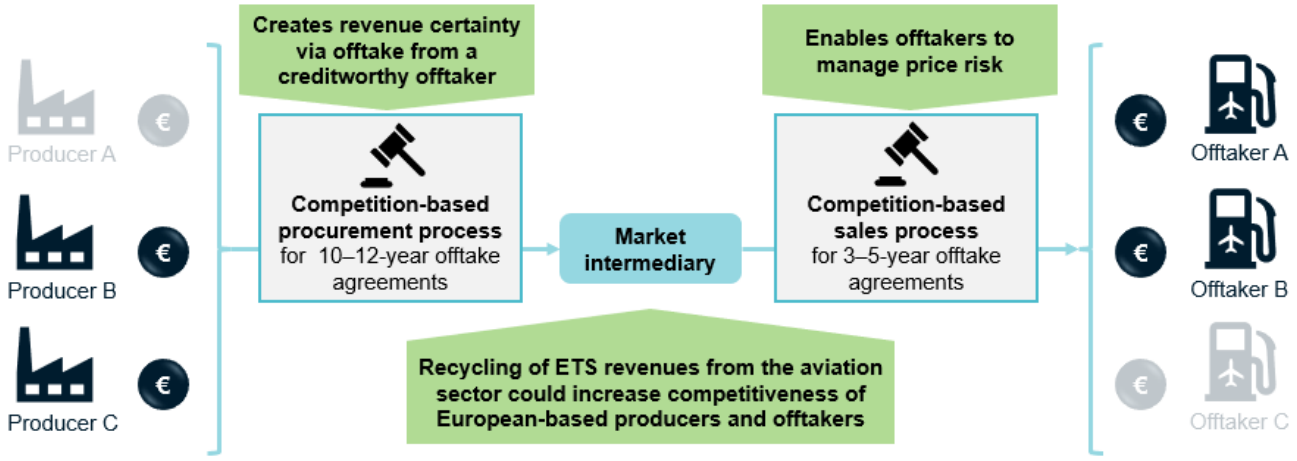
[7] The identification of such an intermediary should be done in line with competition rules and antitrust law. Hintco is referenced as an example of an existing entity that carries out such a model.
[8] See Hintco (2024): "Hintco and Fertiglobe sign landmark renewable ammonia supply contract"
[9] This means that 100% of the capital required to buy the full contracted volumes of the purchase agreement was capitalised into the market intermediary, Hintco, before the start of the contract to avoid any form of credit risk.

(B) how to boost global competitiveness by recycling ETS revenues from aviation to the intermediary and (C) open instrument design questions that need to be resolved to bolster competitiveness while ensuring an EU competition law compliant setup. Note that these are work-in-progress considerations that have yet to be fully aligned with industry/Hintco.

II) Solution deep dive: design options of the market intermediary

The existing H2Global model has established a government-backed market intermediary, Hintco[10], that offers double-sided competitive auctions. Hintco facilitates double-sided auctions where long-term contracts are awarded to the lowest bids on the supply side and short-term contracts to the highest bids on the demand side. It also minimises the difference between the purchase and the sales price to be bridged by concessional public funding in order to reduce the burden on taxpayers. In the case of Hintco, the funder, e.g. a government, can specify the available funds for a specific product (e.g. e-SAF), as well as other design parameters such as eligibility criteria, geography and contract durations.

Exhibit 4: In the existing H2Global model, a market intermediary holds double-sided auctions



Sources: H2GlobalStiftung (2025)

A government-backed market intermediary (e.g. set up by the European Commission or the European Investment Bank) serving the European e-SAF market could adopt the following process (see Exhibit 4):

1. The market intermediary notifies the supply side of the purchase auction and publishes auction design and eligibility criteria (e.g. specifying a fixed contract duration of 10–15 years and a maximum net product price – the exact duration and ceiling price to be decided by the European Commission).
2. The market intermediary holds the purchase auction for a defined delivery period (e.g. 2030-2040). The best bids, i.e. the lowest price bids from eligible producers, are selected up until the funding is exhausted (depending on its capitalisation/guarantees).
3. The market intermediary awards 10–15-year purchase contracts to winning producers. With the bankable purchase contracts, e-SAF plants get to FID and are constructed. The total volume of winning bids on the supply side determines the volumes of e-SAF to be auctioned on the demand side.
4. The market intermediary notifies the demand side (incl. fuel suppliers and airlines) of the sales auction[11] and publishes auction design and eligibility criteria (e.g. specifying a fixed contract duration of 3–5 years[12] – the exact duration to be decided by the European Commission – as well as price collars, i.e. a 'floor price' and a 'ceiling price' to prevent disproportionally low or high bids

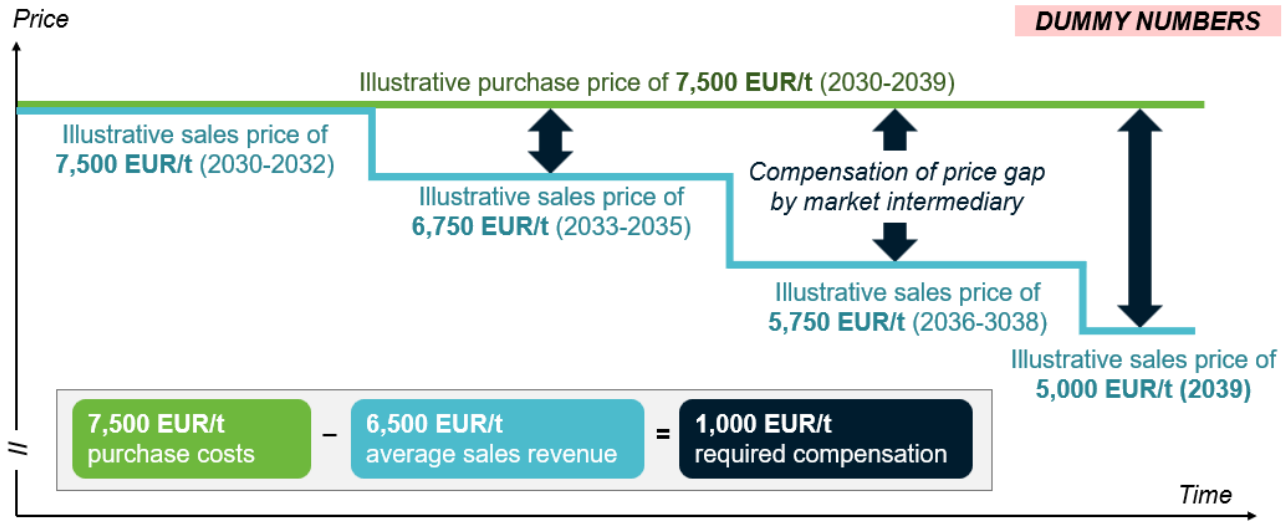
[10] Note that the identification of such an intermediary should be done in line with anti-trust compliance and competition law. Hintco is referenced as an example of an existing entity that carries out such a model.
[11] Demand-side sales auctions can be held as close to start of operation of the e-SAF plants as possible to reduce any technological performance issues and therefore reduce the risk of delivery delays or failures for the offtakers. However, the intermediary could consider holding the sales auction close to the signing of purchase contracts, thereby using projected sales revenues from the first demand-side auction to reduce the need for capitalisation of the full contract values.
[12] While Hintco plans to offer 1-year sales agreements for its ammonia auction, given that e-SAF is a mandated market, longer contracts could be feasible and would reduce administrative burden.

particularly given the fines for non-compliance that are at least twice the price differential between e-SAF and fossil jet fuel).

5. The market intermediary holds the auction and the best bids, i.e. the highest price bids from eligible offtakers (incl. airlines and fuel suppliers), are selected until the first tranche of the supply-side volumes (following the announced contract duration, e.g. 3-5 years) are exhausted.
6. The market intermediary awards short-term sales contracts to winning offtakers. [Note that the physical fuel delivery to a pre-defined delivery point is handled by the producer and the offtaker, not the intermediary.]
7. Further demand-side auctions are held every e.g. 3–5 years for the remaining e-SAF volumes from the supply-side contracts.
8. The difference between the total value of all sales contracts and total value of all purchase contracts is compensated by the funding entity.

Exhibit 5 shows an illustration of a double-sided auction and how much compensation through public funding would be required on average.

Exhibit 5: Illustrative prices of one long-term purchase and four short-term sales contracts



Hintco has already conducted successful *purchase* auctions in a pilot tender for ammonia but its pilot auction for e-SAF did not find a winning bidder. Since 2022, the German Federal Ministry for Economic Affairs and Climate Action (BMWK) has funded three pilot auctions for e-ammonia, e-methanol and e-SAF with a total of EUR 900 million, targeting production regions outside of the EU and EFTA. While the purchase auction for e-ammonia successfully resulted in awarding a contract to a green ammonia project, the e-methanol auction is still being processed, and no final bids were submitted in the e-SAF lot.[13] A major reason for this was that the funding period was specified as 2024-2033, which is a mismatch with currently planned production start dates of 2030 for the most advanced e-SAF projects.[14] Furthermore, the capital allocation (EUR 300 million) for the e-SAF auction, coupled with the need for full capitalisation of the contract value would have resulted in relatively small contract values and therefore also small annual e-SAF purchase volumes of around ~5 ktpa. In summary, e-SAF purchase auctions could be made feasible by reducing the capitalisation requirement as well as defining ceiling prices to avoid disproportionally high bids in a short market.

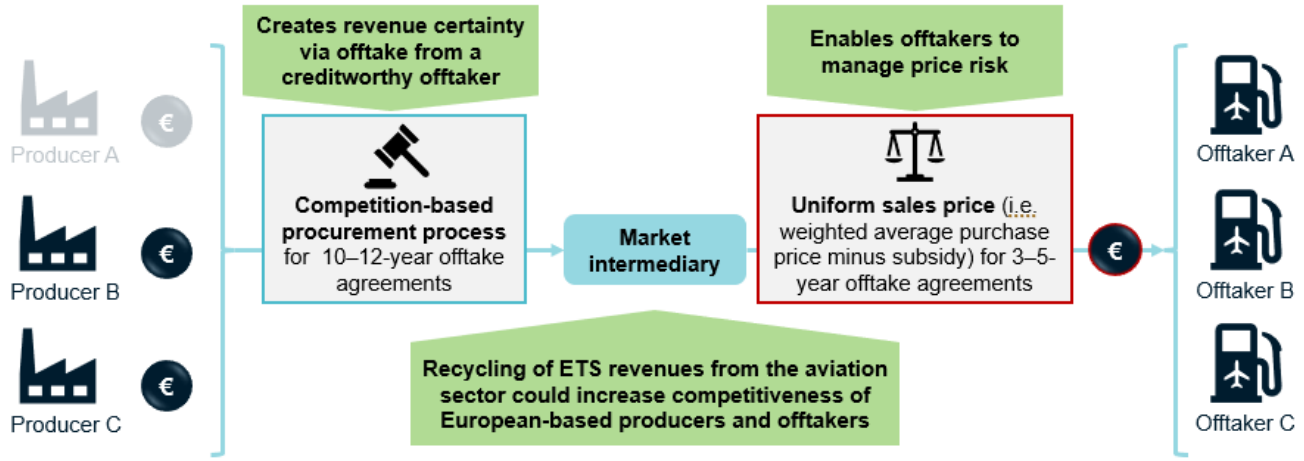
Implementing these learnings, the original Hintco setup could be modified for e-SAF: in a mandated market, price collars set by the European Commission for the *sales* auctions are instrumental to avoid disproportionally low or high bids that could lead to market distortions. Low bids could theoretically be submitted at levels similar to the price of HEFA – requiring the market

[13] Results of the pilot auction; Hintco and Fertiglobe sign landmark renewable ammonia supply contract;
[14] The delivery period for the winning ammonia project, Fertiglobe, is 2027-2033, i.e. H2Global enters into purchase contracts with Fertiglobe for 6 years of production, with optional additional volumes. As the most advanced e-SAF projects would only start production in 2030, the funding period would have been insufficient for the intermediary to enter long-term purchase contracts with e-SAF projects, required for producers to get to FID. Other reasons were related to the implementation of Delegated Acts of the Renewable Energy Directive, hence not to the design of the instrument.

intermediary to bridge a high price gap, entailing a high need for public subsidies. High bids could be just under the price of non-compliance, consisting of fines and the make-up obligation, leading to disproportional additional costs for airlines. The likelihood for very high bids is high in an expected short market by 2030. Therefore, defining a floor price for offtake bids, e.g. at a fixed delta to purchase prices, would reduce the difference in purchase and sales contract values that would need to be compensated by concessional capital. Defining a ceiling price could prevent disproportionally high bids in a short market, resulting from high non-compliance fines potentially distorting the market.

If floor and ceiling price for the sales auction were identical, this would lead to a derivative of the model where a weighted average of the production price yielded by the purchase auctions would be passed through to the market (Exhibit 6). Similarly to the existing H2Global model, a purchase auction yields a set of winning bids. The market intermediary – backed and guided by the European Commission – would then calculate the weighted average purchase price. It would use this weighted average production price as a uniform sales price (approved by the European Commission), which is offered to all eligible offtakers[15]. It therefore represents a complete cost pass-through to the offtakers. Over time, this price would evolve dynamically, e.g. setting different price levels after the first 3–5-year sales auctions. If capitalised via recycled ETS revenues from aviation, the market intermediary can reduce this price with a uniform subsidy per tonne of e-SAF. The uniform sales price would increase the predictability of sales revenues and volumes supported (to ensure mandates are met) and could potentially reduce the level of capitalisation required for purchase contracts. The demand-side allocation is repeated every 3-5 years (depending on the contract duration) with the weighted average sales price brought down by new, lower cost production plants to satisfy higher mandate volumes. In the case of a short market, volumes are awarded in proportion to offtaker's obligations under the mandate.

Exhibit 6: In a derivative model, the market intermediary could offer all offtakers a uniform sales price



This alternative concept is new and would require rigorous design via industry consultation, but it could offer a number of potential benefits to address the unique challenges of first-of-a-kind commercial-scale e-SAF production, as shown in Exhibit 7.

[15] Compliance with competition rules and antitrust laws in the EU would be ensured, with particular focus on implementing sustainability agreements under the Horizontal Guidance issued by competition authorities.

Exhibit 7: Double-sided auctions enable pure competition, but a uniform sales price could be more capital efficient

Not exhaustive

		Double-sided auctions with price collars	Uniform sales price
Process	Supply-side purchase process	**Competition-based auction** between eligible producers (lowest price bids win, auction includes ceiling price)	
	Demand-side sales process	**Competition-based auction** (highest price bids win; auction includes floor price)	**Uniform price set by European Commission** based on the weighted average purchase price of winning supply-side bids
Evaluation	Has the intermediary been **designed rigorously?**	**Yes** – H2Global has conducted supply-side pilot auctions[1] and published draft demand-side framework agreements[2]	**Partially** – H2Global has conducted supply-side pilot auctions, but the sales process in this option is a new concept
	Do producers get **revenue certainty**?	**Yes** – Winning bidders are awarded long-term and bankable offtake contracts	
	Are offtakers enabled to sign **offtake contracts**?	**Yes** – Winning offtakers are awarded short-term contracts	**Yes** – All eligible offtakers are awarded short-term contracts (proportionally acc. to their legal obligations)
	Does the process foster **competition**?	**Yes** – Both auctions are competition-based but may cause market distortion	**Yes between producers; No between offtakers** as all are offered a uniform price
	How much **public funding** is needed?	**Highly dependent on gap between producer and offtaker bids** (hence, uncertainty around how much volume can be supported)	**Low - intermediary chooses public funding support** (hence, certainty on volumes that can be supported)
	How can the **credit-worthiness** of the intermediary be guaranteed?	**Via a combination of capitalisation and guarantees.** The intermediary can be capitalised via recycling of ETS revenues from the aviation sector and recycling of fines paid within ReFuelEU Aviation. In addition, guarantees (by AAA-rated EU) as well as entering purchase and sales contracts in parallel can potentially reduce the collateralisation needs.	

Note: 1) Pilot auction winner ; 2) HINT.CO GmbH - Hydrogen Sales Framework Agreement, Draft, Jan 2025

II) Considerations: creditworthiness, competitiveness and open design questions

A) Ensuring the creditworthiness of the intermediary

Creditworthiness of the market intermediary is a critical requirement for its success. To mitigate counterparty credit risk, critical to securing debt, the intermediary needs to be creditworthy; hence government-backing via concessional capital and/or guarantees is critical. Hintco has carried out pilot procurement processes with full capitalisation of the purchase contracts (i.e. funding covers the entire price of e-SAF not just the price gap between purchase and sales contracts, with sales revenues recycled back to funder).

In a mandated market with high penalties for non-compliance, part of the capitalisation requirement could be displaced by guarantees from the EU, as well as the recycling of any future fines paid by non-compliant fuel suppliers to the intermediary. Introducing guarantees (backed by the EU's strong AAA credit rating) could be done similarly to export credit agencies at the national level. As e-SAF offtake is mandated in the EU from 2030, the e-SAF market will likely be short by 2030 and 60+% of the globally announced e-SAF production capacity is currently in Europe, the intermediary's risk exposure to potentially not finding successful offtakers in the demand-side auction is lower than in a non-mandated market.[16] In addition, non-compliance fines could be recycled to the intermediary, in line with the intended use of those revenues outlined in the RFEUA.[17]

[16] The intermediary requires a certain level of capitalisation because of the hypothetical scenario in which e-SAF could be produced at lower costs in extra-European geographies compared to within Europe in the future. In such a scenario, European offtakers could potentially decide to enter offtake agreements with extra-European producers rather than Europe-based projects, putting future sales agreements and revenues for the intermediary at risk.

[17] Per Article 12.10: "Member States shall endeavour to ensure that revenues generated from fines, or the equivalent in financial value of those revenues, are used to support research and innovation projects in the field of SAF, the production of SAF or mechanisms allowing the price differences between SAF and conventional aviation fuels to be bridged."

B) Boosting competitiveness by recycling ETS revenues from aviation to the intermediary

Europe is well positioned to become home to the first large-scale e-SAF projects. However, the Clean Industrial Deal needs to ensure the global competitiveness of producers and offtakers. As extra-European geographies are likely able to produce e-SAF at lower costs in the future (due to lower renewable electricity costs as well as potential subsidies) while complying to the EU's e-SAF criteria, public support could strengthen the global competitiveness of the first wave of e-SAF projects in Europe and strengthen its technological leadership. Additionally, it could support the competitiveness of airlines in the light of increasing SAF mandates in the EU compared to other geographies without SAF mandates in place (yet).

Recycling ETS revenues from the aviation sector as well as fines for non-compliance within RFEUA[18] to the market intermediary can be a strategic way to strengthen the global competitiveness of European e-SAF. Required public funding volumes to ensure that global competitiveness depend on multiple factors: (1) the cost of e-SAF production in Europe vs other geographies, (2) the globally projected e-SAF supply by 2030 onwards, (3) the concessional capital provided per tonne of e-SAF, and (4) the e-SAF volume that should be contracted via the market intermediary. Exhibit 8 shows illustratively how much public funding could be required to lower the price of European-based e-SAF, resulting in a total e-SAF volume that the market intermediary could enter contracts for. (Note that the funding allocation specified is only used to bridge part of the green premium and excludes the required capital for collateralisation, which is discussed in the previous section.)

Exhibit 8: Public funding can ensure global competitiveness of EU domestic e-SAF production - *illustrative heatmap of potential impact of public funding*

Capacity of e-SAF supported for 10 years at varying levels of total funding and support per unit, in ktpa e-SAF

Funding allocated	250 €/t e-SAF	500 €/t e-SAF	1,000 €/t e-SAF	1,500 €/t e-SAF	2,000 €/t e-SAF	2,500 €/t e-SAF
€ 4 Bn	1,600	800	400	270	200	160
€3 Bn	1,200	600	300	200	150	120
€2 Bn	800	400	200	130	100	80
€1 Bn	400	200	100	70	50	40
€0.5 Bn	200	100	50	30	25	20

e-SAF volume contracted by intermediary (ktpa): <50 | 50-100 | 100-200 | 200-400 | 400+

Average subsidy level

Previous European Hydrogen Bank auction clearing price equivalent

US IRA support[1] equivalent

European Hydrogen Bank ceiling price equivalent

Note: 1) Upper end of US Inflation Reduction Act 45V Incentive, H_2 equivalent.

C) Open instrument design questions

To ensure the effectiveness of this mechanism, careful design underpinned by extensive industry consultation is advised. While the list below is not exhaustive, we would recommend prioritising answering the following open questions[19]:

[18] Per Article 12 Enforcement.

[19] Please note that all hypothesis answers have been drafted with a short turnaround time and limited stakeholder consultation. Therefore, their sole purpose is to trigger further solution-oriented discussions to find the best answer per question resulting from the consideration of objective grounds – the hypothesis answers contained herein do thus not claim to provide optimal or even feasible answers.

1. **What strict, unambiguous and objective eligibility criteria should apply for participants to ensure public support effectively achieves its intentions through competitive, transparent and non-discriminatory processes?**

   Hypothesis answer:

   Eligibility criteria for producers:
   - *Product: Synthetic aviation fuels (incl. synthetic low-carbon aviation fuels) as defined under RFEUA.*
   - *Maturity: projects must be in or post-FEED*
   - *Scale: projects should have kilo-tonne e-SAF production capacity.*
   - *Geography: To be defined by the European Commission in line with the industrial strategy as articulated in the Clean Industrial Deal.*

   Additional criteria to consider: a maximum net product price; "stackability" with other subsidy schemes; a low risk of non-delivery; specification around production pathways; incentives for lifecycle GHG emissions reductions above the minimum of 70%.

   Eligibility criteria for offtakers to be defined e.g. eligible parties, and potential restrictions on bid volumes.

2. **How can the risk of non-delivery be managed for offtakers, with respect to their liability under RFEUA?**

   Hypothesis answer: the European Commission could waive fines and make-up obligations for offtakers who signed offtake contracts with the market intermediary, if certain conditions are met and instead employ a buy-out price equal to the price of e-SAF (minus the price of fossil jet fuel plus the ETS price).

3. **How can the demand-side sales process be managed in a short market?**

   Hypothesis answer: In the existing model, it would proceed as normal; price collars could prevent disproportionally high prices just below the non-compliance fines. In case of a uniform sales price, volumes are allocated in proportion to the offtaker's supply/ offtake obligation.

4. **How can the risk of parties submitting outsized offtake bids and re-selling volumes at higher prices be managed?**

   Hypothesis answer: The maximum offtake volumes could be capped per bidder, e.g. proportional to demonstrated assumed consumption.

5. **Should there be any limitations on stacking with other support mechanisms?**

   Hypothesis answer: A fair market intermediary setup should ensure that a project receiving other forms of public support passes on that support to the end customer. Clawback clauses could be used to limit profitability and return.

6. **Could a book-and-claim system simplify the flow of molecules from the e-SAF plant to the fuel supply at airports, up until scale is reached?**

   Hypothesis answer: This should take into account the recommendations of the SAF Flexibility Mechanism proposed by European Commission. A well-designed book-and-claim system could reduce the physical delivery complexity from the e-SAF plant to the airport at which obligated parties (that are winning offtakers in the market intermediary) need to be supplied. An effective process would minimize additional costs from transportation.

Policy intervention #3: Establish a bridging mechanism until a capitalised market intermediary comes online, to give early adopters priority access[20] to the new funding instrument

I) Problem and proposed solution

The first e-SAF projects must reach FID by 2025-27 to meet RFEUA sub-mandates by 2030/31, but the announcement of a capitalised market intermediary could disincentivise offtake contracts prior to the establishment of such an instrument. To meet the e-SAF sub-mandates in 2030/31, approximately 600 ktpa of e-SAF capacity (e.g. 12 projects of 50ktpa) needs to be developed, which requires FIDs to be taken by 2025-27, given the ~4-year construction timelines (excl. commissioning). Without these FIDs, the EU risks missing the 2030/31 mandates, undermining its progress towards long-term aviation emissions reduction targets. While a government-backed market intermediary could be an effective way of supporting early-stage projects, the expected 1-2 years for its operationalisation could delay FIDs. The UK's upcoming Revenue Certainty Mechanism for SAFs which is expected to go live in 2026 highlights how the prospect of future support can cause delays to offtake agreements and stall projects[21].

A bridging mechanism is essential to prevent the EU market from stalling – one way of providing bridging support is by granting early adopters priority access[22] to the market intermediary. Prior to a market intermediary coming online, FIDs require the signing of bankable – and therefore long-term – offtake agreements. Hence, the mechanism needs to provide incentives for early adopters to enter these agreements. This mechanism requires careful design and industry consultation to ensure it is effective in advancing e-SAF projects that meet clearly defined criteria to FID prior to the establishment of a market intermediary. The bridging support could be provided at a European level or via Member States.

II) Solution deep dive: timeline towards the establishment of a bridging mechanism and scenario analysis for offtakers

The STIP provides an opportunity to introduce a bridging support mechanism, unlocking offtake agreements and FIDs within the next year. The European Commission should articulate a clear roadmap to the 2030/31 e-SAF mandates in Europe as soon as possible and at the very latest in the STIP, planned for around Q3 2025. Bridging support should accompany the announcement of the market intermediary, to incentivise early adopters[23]. This could unlock bankable offtake agreements and thus FIDs already in 2025 and 2026, enabling first operations by 2030 (Exhibit 9).

The bridging support ensures that in all scenarios, early offtakers face a lower risk compared to those who delay offtake decisions[24]. While fuel suppliers are the obligated party under RFEUA, airlines risk exposure to penalties if fuel suppliers pass them on to their customers. Exhibit 10 indicates the potential outcomes for offtakers under two scenarios: (1) entering offtake agreements as early as possible, vs. (2) waiting to sign offtake contracts until a market intermediary potentially materialises. In all scenarios – and assuming a short market for large parts of a potential long-term offtake agreement – early adopters face lower risk compared to those who delay offtake decisions.

[20] Compliance with competition rules and antitrust laws in the EU would be ensured, with particular focus on implementing sustainability agreements under the Horizontal Guidance issued by competition authorities.
[21] See London Chamber of Commerce and Industry letter to the Department for Transport (2024)
[22] Compliance with competition rules and antitrust laws in the EU would be ensured, with particular focus on implementing sustainability agreements under the Horizontal Guidance issued by competition authorities.
[23] Compliance with competition rules and antitrust laws in the EU would be ensured, with particular focus on implementing sustainability agreements under the Horizontal Guidance issued by competition authorities.
[24] Compliance with competition rules and antitrust laws in the EU would be ensured, with particular focus on implementing sustainability agreements under the Horizontal Guidance issued by competition authorities.

Exhibit 9: A bridging mechanism needs to be established as soon as possible to enable first e-SAF volumes by 2030 – *Illustrative timeline*

Exhibit 10: In a short market, early offtakers face lower costs under all scenarios

Low risk to offtakers
Medium risk to offtakers
High risk to offtakers

	Intermediary comes online; offtaker receives winning bid	Intermediary comes online; offtaker receives losing bid	Intermediary does not come online
Scenario 1: offtaker enters offtake agreements in 2025, receiving bridging support	Lock-in competitive short-term e-SAF contracts; avoids penalties	Locked-into original long-term contract; avoids penalties	Access to e-SAF in short market; avoids penalties
Scenario 2: offtaker delays offtake until market intermediary becomes operational	Lock-in competitive short-term e-SAF contracts; avoids penalties	Limited access to e-SAF; exposure to penalties	Limited access to e-SAF; exposure to penalties

III) Considerations: design criteria for a bridging mechanism and UK case study learnings

While immediate bridging support is critical to avoid stalling the EU e-SAF market, its design requires comprehensive industry consultation. The design of the mechanism should ensure that it gives offtakers sufficient incentive to enter bankable offtake agreements, supports the best e-SAF projects, can be implemented in 2025 and does not require additional earmarking of funding (Exhibit 11).

Exhibit 11: Four key design requirements to ensure the bridging mechanism enables FIDs prior to the market intermediary coming online

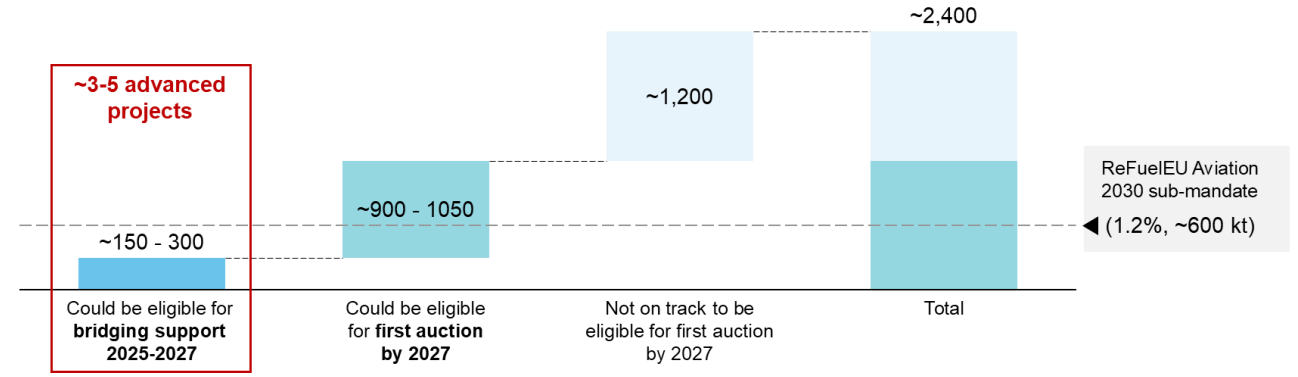
Non-exhaustive

1. **Provides sufficient incentive to enter bankable offtake agreements** prior to market intermediary coming online
2. **Supports e-SAF projects with highest chance of successful operations** by 2030
3. **Minimal complexity and lead time** by leveraging existing mechanisms and institutions (e.g. EIB, EU H2 Bank,...)
4. **No need to earmark additional funding** (beyond funding allocated to market intermediary)

We estimate that 3-5 announced e-SAF projects, i.e. 150-300 kt of e-SAF capacity, could qualify for such support before 2027, as only projects that are on track to FID in the next 1-2 years and meet carefully defined eligibility criteria would qualify (Exhibit 12). The eligibility criteria to gain access to this mechanism would require careful consideration by the European Commission and should be aligned closely with the criteria defined for the market intermediary in the previous chapter.

Exhibit 12: Up to 5 e-SAF projects could qualify for bridging mechanism support before 2027

EEA announced e-SAF capacity, in kt of annual e-SAF output, ranked by estimated potential likelihood of support eligibility



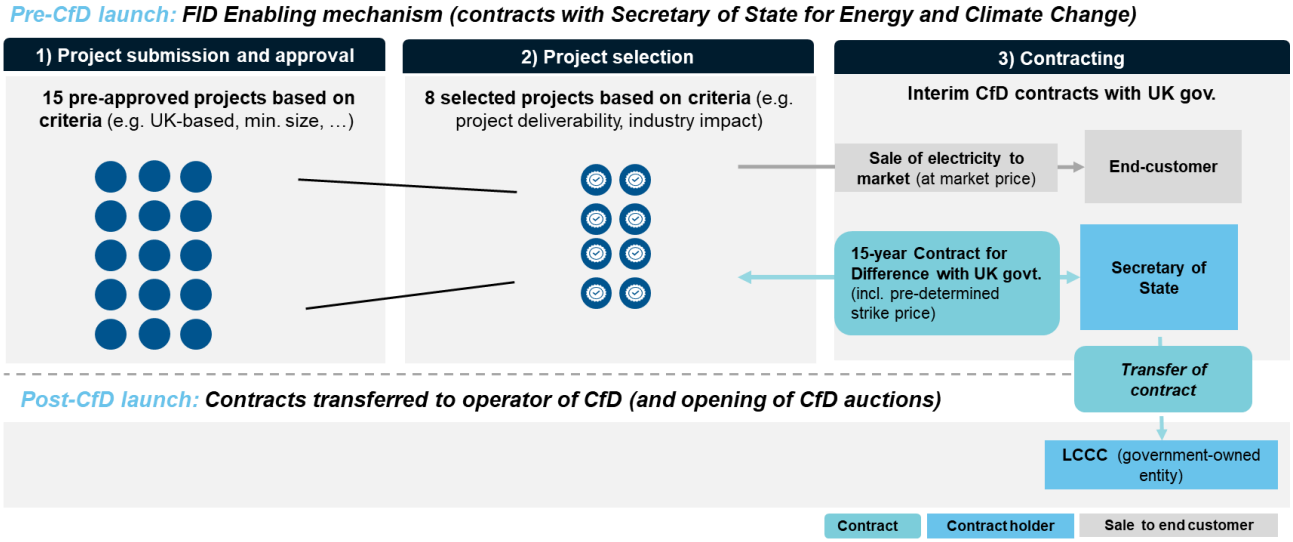
Notes: Planned e-SAF capacity only refers to e-SAF output and does not include byproducts such as e-naphtha or e-diesel/gasoline. If announcement does not state SAF fraction of total product output, a SAF share of 70% is assumed. Some plants are hybrid power and biomass to liquid plants (PBtL), for which the e-SAF share on the total SAF fraction is assumed as 50%, the rest being classified as biofuel. The EU fuel consumption by 2030 is assumed as 50 Mt.
Source: Press search. Non-exhaustive data, upsides possible. Data status: February 2025.

Learnings can be taken from a case study on bridging support prior to renewables contracts-for-difference (CfD) launch in the UK. The UK FID Enabling (FIDE) scheme for renewables provided bridging support prior to the launch of a CfD mechanism to accelerate investment decisions of renewable energy projects. Although it is not directly applicable in this context, given its design to serve a CfD instrument, the mechanism, shown in Exhibit 13, offers valuable insights into the design and execution of bridging support.

Notably, the key success factors of the FIDE scheme, which included objective and well-defined evaluation criteria and easily transferable contracts, can be applied to the design of a bridging mechanism for e-SAF. While the final CfD mechanism relied on competitive auctions, the FIDE scheme selected individual projects based on their potential industry impact, deliverability, and need for public support; this was made possible through carefully designed selection criteria. The UK government set a pre-determined strike price at a favourable contract duration[25]. Initial contracts between renewable projects and the UK government in the FIDE scheme included key components of CfD agreements (strike price, contract duration, etc.), enabling a straightforward transfer to the government-owned entity managing the final CfD scheme, in this case the Low Carbon Contracts Company (LCCC). Based on the UK case study, a similar concept could be employed for e-SAF prior to the market intermediary being established, enabling the transfer of offtake contracts from an offtaker to the market intermediary if certain criteria are met.

[25] This pre-determined strike price later proved to be higher than the auction-based strike prices of the final CfD mechanism, hence had an additional upside for the initial projects.

Exhibit 13: The UK's FID Enabling mechanism provided bridging support to renewables projects prior to the CfD scheme launch

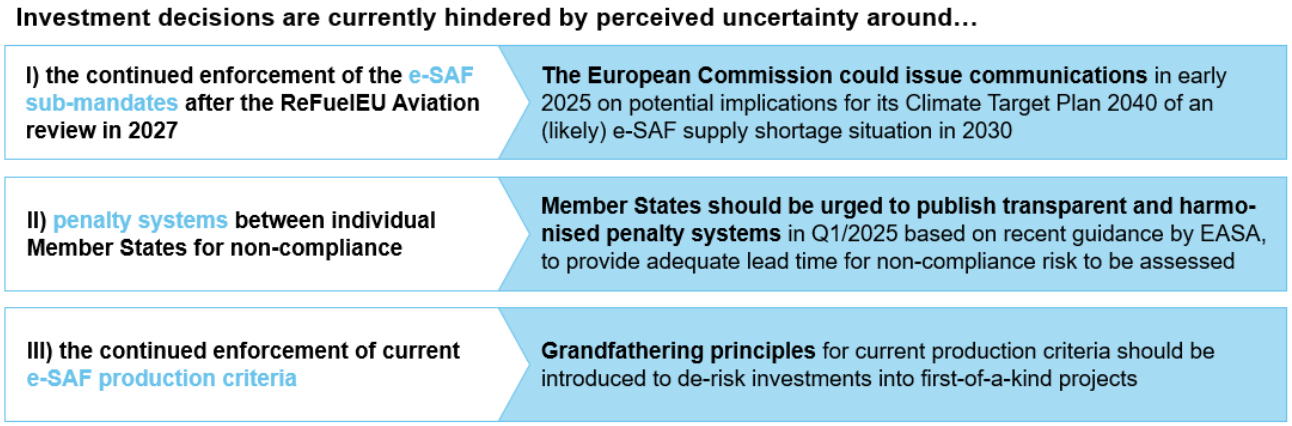


Note: UK government (2014): Final Investment Decision Enabling for Renewables: Updates 1, 2, and 3

Policy intervention #4: Provide long-term certainty over mandates, production criteria and penalties

The perception of regulatory uncertainty around the continued enforcement of the mandates, the penalty systems and e-SAF production criteria creates risks for investors and offtakers, posing critical barriers to FIDs, as detailed in Exhibit 14. Long-term certainty on these three aspects is critical to sufficiently de-risk the e-SAF environment.

Exhibit 14: Perceived uncertainty around three critical aspects of the regulation is hindering investment decisions

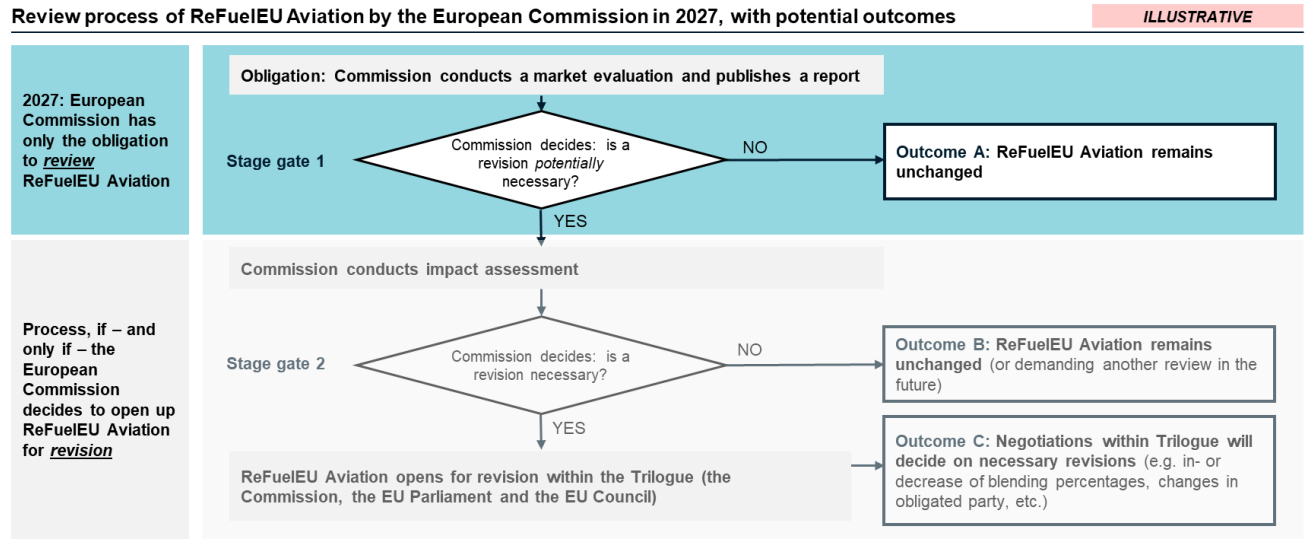


I) The continued enforcement of e-SAF mandates after the 2027 ReFuelEU Aviation review

Early communications by the European Commission on potential outcomes of the 2027 market evaluation in a short market scenario by 2030 could reduce perceived uncertainty around the mandates – without pre-empting the assessment conducted in 2027. The review obligation of the European Commission within Article 17 of the RFEUA follows standard EU evaluation processes[26]. The European Commission is, however, not obliged to *revise* the regulation but must conduct a market evaluation. If the report on this indicates the potential need for revision, an impact assessment will be conducted. Only if warranted would Trilogue negotiations determine adjustments, potentially affecting blending percentages (up or down) or other aspects (e.g. obligated parties, or penalty criteria). In short, multiple stage gates need to be passed before any changes to the blending mandate would be up for discussion (Exhibit 15). Nevertheless, the perception exists that the review poses a risk to the longevity of the mandates which is exacerbated by an expectation of a short supply by 2030. This perception creates hesitation to act among potential offtakers and investors until the outcomes of the review are communicated, reinforcing the likelihood of a short market. Hence, communications on the planned review could state potential outcomes of the market evaluation in a short market scenario by 2030 – without pre-empting the assessment conducted in 2027. Particularly, clarity on implications for the Climate Target Plan 2040 is essential to increase the security of long-term investments.

[26] Article 17 of RFEUA foresees a regular review of RFEUA, starting with a report by 1 Jan 2027 and every four years thereafter. These are standard evaluations under Better Regulation.

Exhibit 15: The European Commission is obliged to *review*, not necessarily *revise* the ReFuelEU Aviation regulation in 2027



Note: For the official text on evaluations, please refer to Article 17 of the RFEUA and the European Commission's guidelines on Better Regulation.

II) Guidance on penalty systems between individual Member States

Transparency on penalty systems is instrumental to provide a counterfactual to e-SAF offtake and assess non-compliance risks; however, no Member State has published guidance on this. While the guidance remains unclear, Exhibit 16 indicates the progress that is being made according to publicly available information. As a result of national regulations, some countries are obligated to set absolute penalties whereas others have the flexibility of setting penalties relative to a benchmark price, resulting in different approaches emerging across the EU. The European Commission, together with a group of Member States, is currently drafting a report[27] to harmonise penalty mechanisms across the Member States, a crucial requirement to ensure a level playing field, ease of implementation, and to avoid market distortions.

Exhibit 16: No Member State met the end of 2024 deadline for publishing penalty guidance, but signals indicate the emerging direction

Member State	Status of ReFuelEU Penalty System — Non-exhaustive; based on limited public data as of January 2025
Netherlands	• Dedicated implementation bill on ReFuelEU Aviation entered into force on Jan 1st 2025, but **no indication of a reference price** • Expected to follow EASA benchmark price
Finland	• The national legislation to implement ReFuelEU Aviation in Finland **entered into force Nov 25th 2024** • Penalty range is **2-4 times** the difference between the yearly average price of conventional aviation fuel and SAF per tonne • Stakeholder consultation concluded in 2024
Sweden	• Current plan is to **finalise penalty framework by May 1st 2025** but unclear if this will include penalties for e-SAF • Stakeholder consultation concluded in 2024 but did not include e-SAF producers
France	• **Refuel EU transposed into national law;** awaiting to publish an administrative act that details penalties
Germany	• Penalties likely to be determined through **RED Implementing Act**

Sources: Communications with relevant authorities; Dutch Government press release (2024); EASA (2024): State of the EU SAF market in 2023; Swedish Government press release (2025); French government communications (2024); Wasserstoffrat (2024)

[27] Communications with the Federal Ministry for Digital and Transport

III) The continued enforcement of current e-SAF production criteria

Grandfathering principles for the current e-SAF production criteria are critical to de-risk investment decisions. Given expected developments in e-SAF production criteria, e.g. with the upcoming Delegated Act that sets out the methodology to determine the emission savings of low-carbon fuels, there is limited predictability of future criteria which is hindering investment decisions. In addition to creating clarity as soon as possible on production criteria, grandfathering principles are critical to ensure that the current regulation continues to apply over the full lifetime of a project. This mitigates any threat to the bankability of projects developed today as a result of potential future regulatory changes, by ensuring existing projects can continue to use technologies approved in the FID phase.

Policy intervention #5: Mitigate project-on-project risk via government-backed safeguards and financing structures

I) Problem and proposed solution

Post project completion, an e-SAF plant's ability to meet production targets depends on securing sufficient renewable energy (or clean hydrogen) and CO_2, or e-methanol. While the EU with access to all critical feedstocks is uniquely positioned, the secured supply of these feedstocks to some extent still relies on the completion of new upstream projects[28], creating project-on-project risk beyond the control of e-SAF producers. This hinders access to finance given uncertainty around e-SAF producers generating sufficient free cash flow. Project completion risk from renewable energy, carbon capture, or e-methanol projects stems from technical and engineering challenges, regulatory uncertainties, supply chain disruptions, delayed grid connections, and financing challenges.

A backstop mechanism that provides a minimum level of protection for lost revenues could address this risk. Only projects sourcing renewable energy, CO_2 or e-methanol (or similar intermediate feedstocks) from third parties would be eligible for the backstop. The following sections describe how the backstop mechanism could work in practice as well as eligibility criteria for accessing this mechanism and an implementation plan to be considered.

II) Solution deep dive: structure, financing and cost of a backstop mechanism

A government-backed counterparty (e.g., an InvestEU implementation partner) could underwrite the risk of an e-SAF plant operating below its intended capacity due to non-delivery of the key feedstocks. The backstop mechanism would not cover routine risks, such as minor supply chain disruptions. It could provide revenue protection to cover fixed operating costs, debt interest payments, and could potentially include a minimum return to equity investors for a predefined period. Initial indications suggest cover of three years could be sufficient for risk mitigation. However, the period will depend on the specific nature of each project.

The financing of the backstop mechanism could be managed in multiple ways. One option is to treat it as a form of project insurance, with participating projects paying an insurance premium for access, calculated based on expected loss rates. **Alternatively, it could be designed to include a repayment mechanism**, which would allow for the recovery of costs once the plant generates sufficient free cash flow after operating expenses, debt service costs, and a minimum return for equity.

The cost of the backstop could vary based on the nature and volume of the undelivered feedstock. Delays in the completion of core infrastructure, e.g. the CO_2 transport network through which the e-SAF plant accesses CO_2, could make the facility unable to produce e-SAF. In this case, full coverage of fixed operating costs and debt obligations would be necessary. If there is only a delay in part of the required feedstock supply, a proportional backstop would apply to cover fixed costs, debt and minimum equity return based on the shortfall, structured as compensation per kiloton of e-SAF not produced.

As investors have similar risk considerations to debt providers, a minimum return for equity could address the project-on-project risk for investors. The return for equity could be capped at the risk-free rate +300 basis points. Exhibit 17 is an example of the potential liability for the backstop described above.

The risk of triggering the backstop mechanism could be mitigated through buffers in the form of reserve accounts or sponsor guarantees. For example, e-SAF project sponsors could be required to have debt service reserve accounts (DSRA) in place for the initial 6 months, to provide debt financing coverage before the backstop mechanism (Exhibit 18). Renewable energy, carbon capture, and e-methanol projects could provide project delivery guarantees to oblige them to complete their projects as per agreed timelines.

[28] With the exception of projects located in countries which have grid conditions that exempt them from the additionality criteria, or in the case of the production of low-carbon fuels of non-biological origin.

Exhibit 17: Illustrative example of the potential liability for the backstop mechanism

Capital Structure		Debt		Equity	
Total Capital Required	1059	Total Debt	741	Total Equity	318
Debt	70%	Interest Rate	8%	Min. Return on Equity	7%
Equity	30%	Loan Term	15 years		

Backstop to cover: Fixed OPEX, Debt Interest Only, Minimum Return on Equity	2029	2030	2031
Total Fixed OPEX	29	29	29
Debt Interest Costs	68	74	80
Minimum Equity Return		11	22
Annual Backstop Required	**97**	**114**	**131**
Rolling Total	**97**	**211**	**343**

Plant Profile	
Capacity of plant (kt)	50
Construction Period	3 years
Production Due to Start, YE	2028
Backstop Profile	
Backstop kicks in	01/2029
Backstop for maximum	3 years
Minimum Eq. Return after	18 months

Exhibit 18: Illustrative example of the initial coverage provided by the e-SAF developer DSRA

Fixed OPEX, Debt Interest, Minimum Return on Equity	2029	2030	2031
Total	97	114	131
e-SAF Project DSRA (6m)	-34		
Annual Total	**63**	**114**	**131**
Rolling Total Backstop	**63**	**177**	**308**

III) Considerations: eligibility criteria and implementation plan

Applying strict, unambiguous and objective eligibility criteria will secure fair access of only the most advanced and commercially viable projects, mitigating the risk of the mechanism being triggered. Initial considerations for eligibility criteria could include:

- Detailed FEED studies have been completed by reputable engineering firms. Robust project execution planning and appropriate contingency and schedules in place to mitigate the inherent risks associated with FOAK projects.
- Feedstock, offtake, energy supply, and principal EPC agreements have been secured by options or firm contracts subject to standard conditions, e.g. financing for the e-SAF project has been secured.
- Key personnel can demonstrate a strong track record of project delivery across similar projects, e.g. commercial-scale industrial chemicals or fuels production.
- Alternative sourcing strategies are in place to mitigate supply disruptions, recognising potential constraints of binding contracts.

InvestEU could consider supporting this mechanism under its Sustainable Infrastructure policy. Pillar 3 of its assessment scorecard highlights the need to address market failures, including investments that financiers avoid due to risk associated with innovation, unproven technology, or sector uncertainty —directly aligning with e-SAF financing challenges.

A high-level implementation plan could consist of the following steps:

1. Understand existing EU public finance organisation capability (e.g., via InvestEU) to provide such a backstop mechanism.
2. Engage renewable and carbon capture project developers, in addition to e-SAF developers and financiers, to ensure all perspectives are captured in model design.
3. Further develop commercial contract structures and mechanism trigger events, including legal opinion on optimal contract design to limit underwriter value at risk.

4. Take learnings from other sectors with similar models e.g., the Northern Endurance Partnership CCUS project in the UK.
5. Develop case studies/ scenarios on potential projects to understand value at risk to the underwriter, e.g. through financial modelling of potential scenarios.
6. Develop selection criteria for the mechanism, based on other EU financing mechanisms, but tailored to the unique risk profile of e-SAF projects.

The mechanism described above seeks to address the specific project-on-project risk associated with e-SAF plant development. Industry consultation has also identified the scale-up and integration risks associated with first-of-a-kind projects as a barrier, which may need to be considered in the design of any such mechanism.

Conclusion: kick-starting the e-SAF industry in 2025 will set the aviation sector on track to achieve large-scale emissions reductions by 2050 for the benefit of the EU

The EU has a unique opportunity to lead the global e-SAF industry, enhancing energy security, industrial competitiveness, and climate leadership. However, without urgent policy action, the region risks missing its 2030 RFEUA sub-mandates, delaying critical progress on climate targets, and losing ground to international competitors on e-SAF development.

The Clean Industrial Deal (incl. its announced STIP, Industrial Decarbonisation Bank, InvestEU's increased risk-bearing capacity, etc.) is a critical opportunity to position e-SAF as a strategic priority and to establish a clear roadmap to meet the 2030 mandates. With targeted support in the critical early years, the EU could lead the development of this technology at scale. Decisive action in 2025 will determine whether the EU sets the aviation industry on track towards climate targets and positions itself to capture a share of a potential EUR 350+ billion global e-SAF market. The European e-SAF value chain stands ready.