

RefuelEU Aviation

Case study for:
Mandatory Quotas

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Case Study: ReFuel EU Aviation (1/2)

Jurisdiction: European Union 

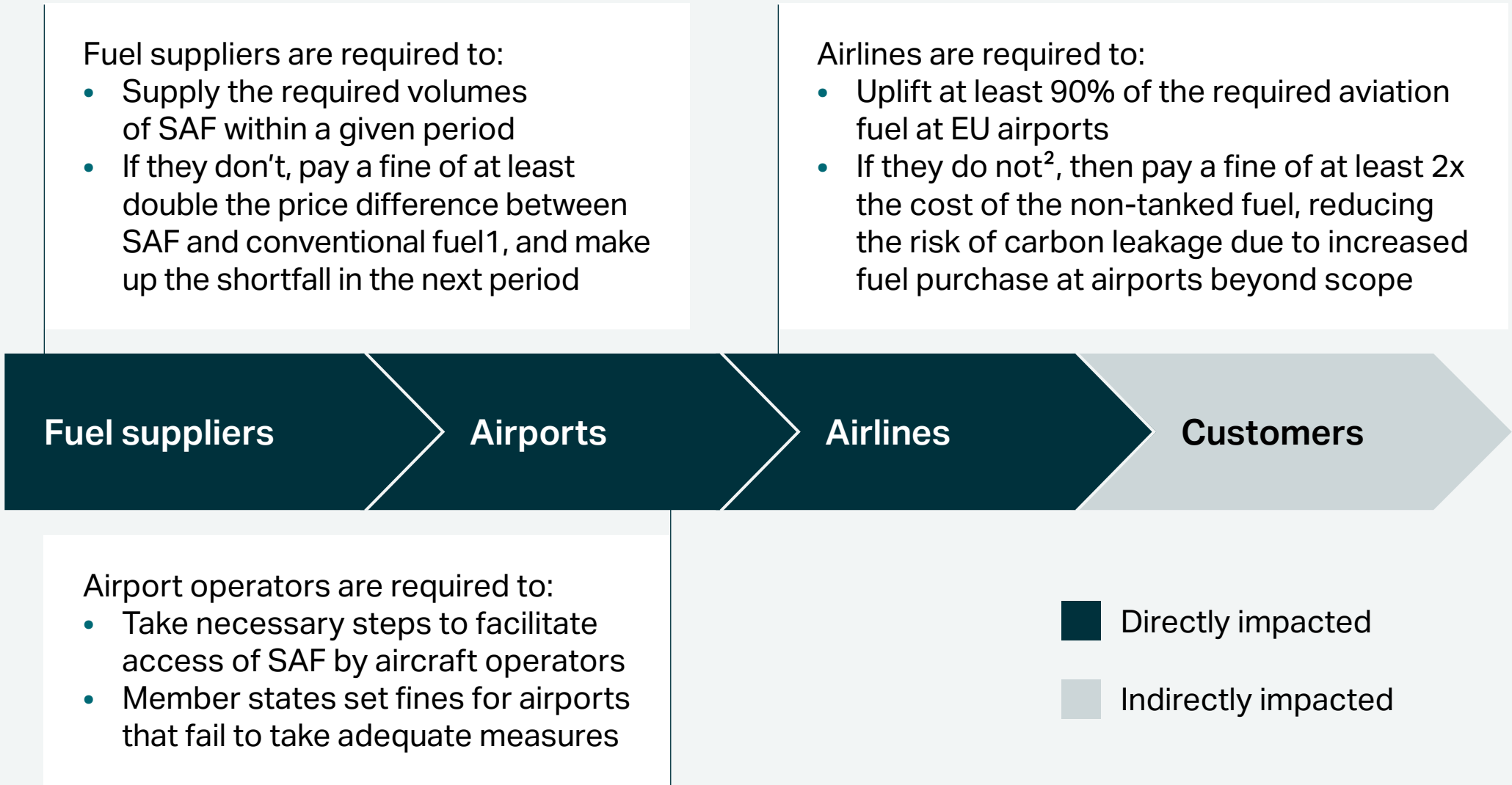
Adopted: 2023

Applies to: Flights departing EU airports

ReFuel EU is the European Union’s SAF blending mandate. It sets blending quotas for SAF, where fuel suppliers must incorporate 2% of SAF by volume into jet fuel supplies by 2025, rising to 70% by 2050. From 2030, 1.2% of fuels must be synthetic fuels. This increases to 35% in 2050.

Aviation value chain

Stakeholders impacted



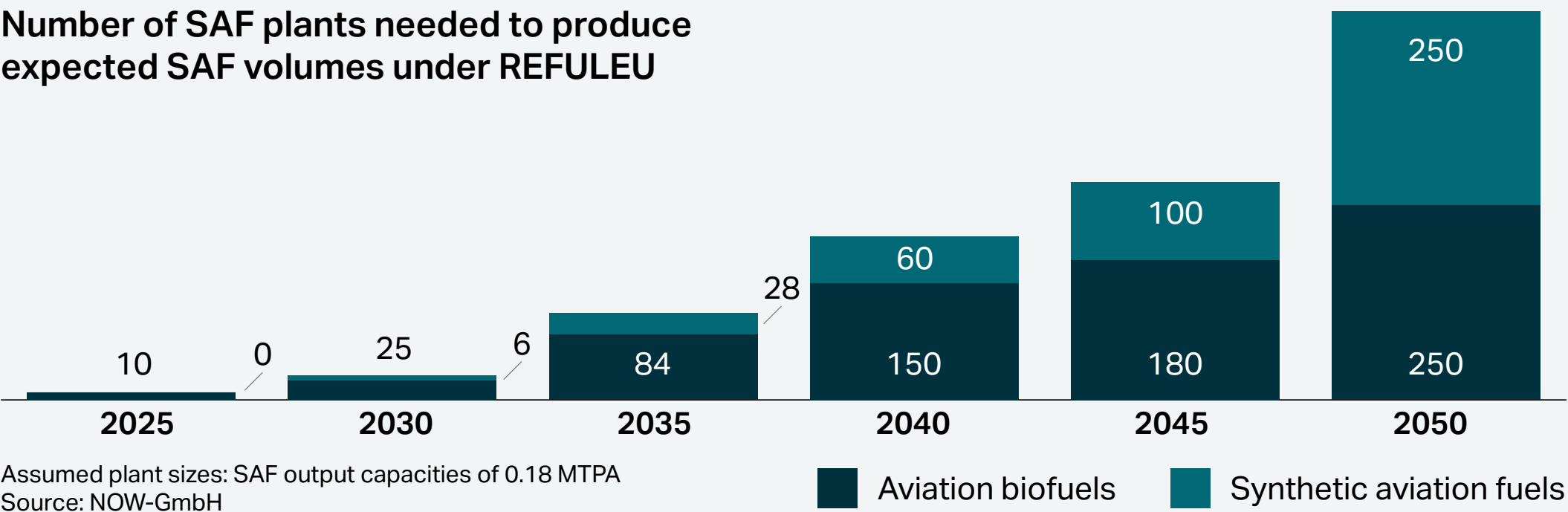
Impact

- The EU currently has the largest pipeline of both announced (pre-FID) and past-FID SAF projects of any jurisdiction.
- Since ReFuelEU was announced, 12 offtake agreements have been signed globally. Two out of the top five largest disclosed agreements involve European airlines:

Date	Offtaker	Contract Length	Supplier	Volume (Million litres)
Feb 2024	International Airlines Group	14-year	Twelve	981.3
Jan 2024	Ryanair	6-year	Enlive	125

- If fully realised, the mandate would create demand equivalent to approximately 31 SAF plants by 2030.

Number of SAF plants needed to produce expected SAF volumes under REFULEU



1: for the Power-to-Liquids sub-quota, the fine is at least twice the price difference between fuel derived via e-SAF and conventional jet fuel
2: barring exceptional circumstances
Sources: ICAO, [NOW-GmbH](#), [European Commission](#), [Ishka Sustainable Aviation Intelligence](#)

Case Study: ReFuel EU Aviation (2/2)

Key challenges/risks



1 Variations in ability to meet targets across the EU

- ReFuel EU includes a flexibility mechanism that allows the blending of SAF to be averaged across EU airports before 2035, with further flexibility granted to peripheral airports.
- As the early market for SAF will be fragmented, it is key that quotas for the use of sustainable fuels are underpinned by flexibility systems to ensure these function efficiently.

2 Regulatory uncertainty

- The legislation includes a revision clause stating it will be reviewed in 2027. This may lead to adjustments to the definition of SAF, fuels permitted, fine levels and mandated blending percentages.
- The review clause reduces the strength of the demand signal sent by the legislation. It may undermine its efficacy, particularly if SAF production does not increase as anticipated. This in turn creates uncertainty among investors and weakens the policy's effectiveness as a market signal.

3 Carbon leakage

- One of the key carbon leakage risks associated with the policy are tankering practices. This involves airlines uplifting additional fuel in jurisdictions outside of the mandate's scope, to mitigate increased fuel costs associated with the mandates. This would increase emissions.
- The policy requirements for uplifting 90% of necessary fuel at EU airports are a key measure to mitigate such a risk.

4 Establishing fines

- The fines set under ReFuel EU need to be sufficiently high to ensure that compliance is the cheapest option. As such, they are specified as twice the cost difference between SAF and e-SAF and conventional jet fuel.
- However, it may be challenging to establish accurate fines given the current lack of transparent pricing data for SAF routes (especially e-SAF, because there are not yet any commercial scale operational or past-FID in Europe). This will likely improve over time as SAF scales in the market.

5 Ensuring compliance across EU member states

- Member states must designate a regulatory authority to enforce fines and ensure that reporting standards are in line with the regulation. Member states are encouraged to use any fines collected to support SAF uptake.