

SUSTAINABLE AVIATION FUELS

Regulatory Framework and Compliance

9th Athens Conference on European Energy Law and Policy | Panel II – Technological Innovation & Advanced Energy Systems
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Agenda



Sustainable Aviation Fuel

International Agreements

ReFuelEU-Aviation, Regulation (EU) 2023/2405

Flanking EU instruments

Certification

Key Messages

Sustainable Aviation Fuel

Definitions

CORSIA Eligible Fuel - Definition

Sustainable Aviation Fuel (since 1 January 2024)

- Renewable or waste-derived; fulfilling sustainability criteria
- Greenhousegas (GHG) emissions reductions of at least 10%
- Various other goals, e.g.: land/biodiversity conservation, protection of human/labour rights



Lower Carbon Aviation Fuel

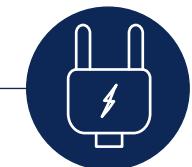
- Fossil-based aviation fuel
- Includes fossil-fuel and SAFs mixtures
- At least 10% reduction of greenhouse gases



EU - Definition

Sustainable Aviation Fuel

- Article 3 para. 7 of the EU-Regulation 2023/2405:
 - Synthetic aviation fuels
 - Aviation biofuels
 - Recycled carbon aviation fuels



Synthetic aviation fuels

- Renewable fuels made from non-biological material

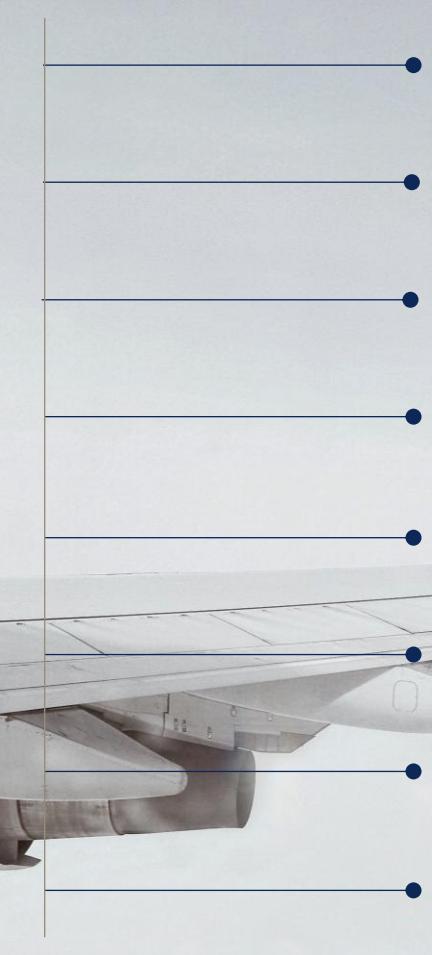
International Agreements

C Carbon
O Offsetting and Reduction
R Scheme for International Aviation

- The Carbon Offsetting and Reduction Scheme for International Aviation (**CORSIA**) was adopted in 2018 by the International Civil Aviation Organisation (ICAO) to reduce aviation greenhouse gas emissions
 - Aim to achieve carbon-neutral growth in the aviation sector from 2020 and climate neutrality by 2050
 - 65% of emissions ought to be eliminated through the use of SAFs
- From 2021-2026 voluntary participation, from 2027 mandatory participation for all UN member states
- Implementation of reporting duties
 - Applies to all airline operators with annual emissions >10.000 tons of CO2
- Implementation of offsetting mechanisms
 - Applicable to all flights in between party states

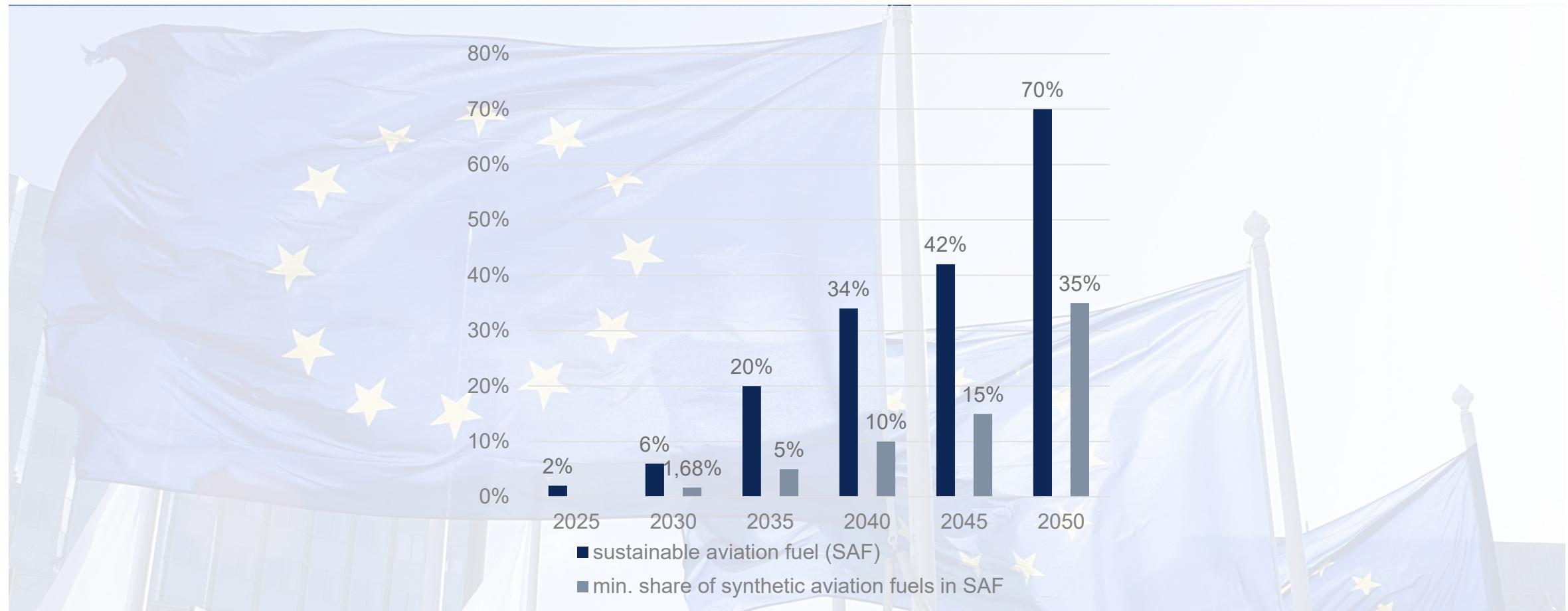
ReFuelEU-Aviation, Regulation (EU) 2023/2405 (1/3)

- The ReFuelEU-Aviation Regulation entered into force on 1 January 2025 as part of the European Green Deal
- Legislative aim: decreasing carbon footprint of aviation sector and developing industry for sustainable aviation fuels
- It sets **mandatory requirements** for the use of SAF – not only incentives like CORSIA
- Establishing **minimum SAF blending requirements** for aviation fuel suppliers (Art. 4 para. 1 subpara. 1 + Annex I) – **see next slide**
- **Refueling obligation** for aircraft operators in the Union (Art. 5)
- **Obligation** of airport managing body to facilitate the access to SAF (Art. 6)
- Enforcement of rules on penalties applicable to infringements of Art. 4 - 6 (Art. 12)
- **Since 2025:** EU label for the environmental performance of flights



ReFuelEU-Aviation, Regulation (EU) 2023/2405 (2/3)

SAF blending requirements, Art. 4 para. 1 subparagraph. 1 and Annex I



ReFuelEU-Aviation, Regulation (EU) 2023/2405 (3/3)

Market status 2024/2025 - EASA ReFuelEU Aviation Annual Technical Report

0.6 %

of aviation fuel supplied to Union Airports in 2024 was
SAF = 192.7 kt

but 99 % were supplied to airports in only 5 member states

98 %

of this SAF supply to Union airports consisted of „aviation biofuels“, with 81 % derived from used cooking oil as feedstock

91 %

of GHG emission savings with SAF supply compared to conventional jet fuel

Flanking EU instruments



- Since 2012, airlines must monitor, report and verify CO2 emissions and surrender allowances under the European Emission Trading Scheme
- More ambitious than CORSIA due to higher carbon pricing
- Applies only to flights within the EEA, to Switzerland and the UK
- By 2026, aviation allowances will only be allocated by auctioning (phasing out of free allowances)



- No revision since 2003
- Proposal of the Commission to revise and align the current taxation of energy products with EU energy and climate politics
- Fossil fuels used as fuel for **intra-EU air transport shall no longer be fully exempt** from energy taxation
- The adoption requires unanimity in the Council, but the member states are currently unable to reach an agreement



- Binding Union requiring that by 2030, at least 42.5 % of the Union's gross final consumption of energy must come from renewable sources
- Fuel suppliers must ensure a share of 29% renewable energy in transport fuels by 2030
- RED III underscores the future importance of advanced biofuels and PtL-fuels in aviation decarbonization

Certification

ISCC and RSB

INTERNATIONAL SUSTAINABILITY AND CARBON CERTIFICATION (ISCC)

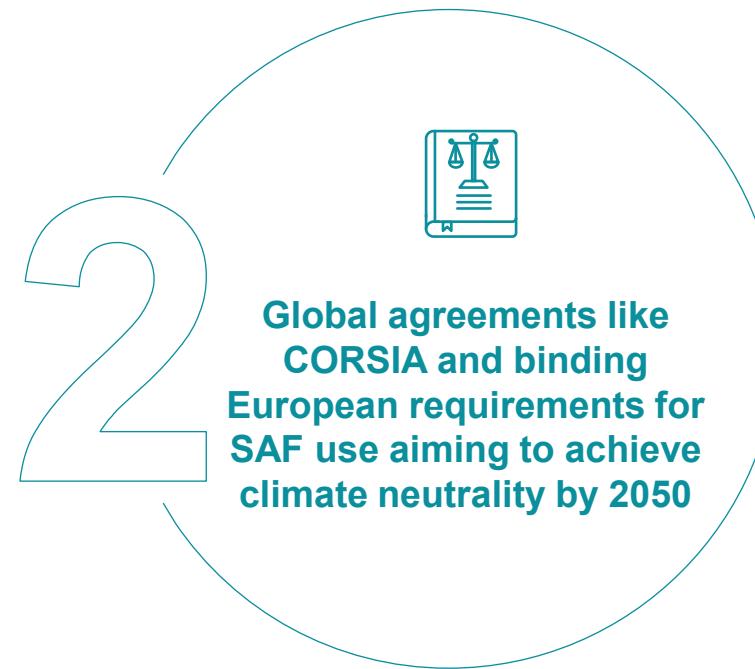
- Global certification system ensuring sustainable production of renewable resources and fuels
- Verifies compliance with environmental, social, and economic sustainability criteria, including GHG savings, traceability, and chain of custody
- Different certification systems for different markets:
 - ISCC CORSIA, ISCC CORSIA PLUS: specifically for SAF, comply with CORSIA requirements
 - ISCC EU: complies with criteria set by RED III
 - ISCC PLUS: applicable outside of the EU

ROUNDTABLE ON SUSTAINABLE BIOMATERIAL (RSB)

- Most stringent certification system for sustainable biofuels and biomaterials, exceeding EU RED III and ICAO CORSIA requirements
- Standards cover a broad range of sustainability issues, including land rights, food security, labor rights, and environmental protection like soil, water, and air quality
- Different certification systems for different markets:
 - RSB Global Fuel: for fuels produced worldwide
 - RSB EU RED Fuel: for fuels produced in the EU
 - RSB CORSIA: specifically for SAF



Key Messages





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