



Certification of Sustainable Aviation Fuels

Thomas Bock, System Manager, ISCC System
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Bogotá, Colombia, 30 August 2023

As governments and the aviation industry commit to significantly reducing the sector's emissions, SAF are seen as a crucial pillar

	2020	2025	2030	2035	2040	2045	2050
Commuter » 9-50 seats » < 60 minute flights » <1% of industry CO ₂	SAF	Electric and/or SAF	Electric and/or SAF	Electric and/or SAF	Electric and/or SAF	Electric and/or SAF	Electric and/or SAF
Regional » 50-100 seats » 30-90 minute flights » ~3% of industry CO ₂	SAF	SAF	Electric or Hydrogen fuel cell and/or SAF	Electric or Hydrogen fuel cell and/or SAF	Electric or Hydrogen fuel cell and/or SAF	Electric or Hydrogen fuel cell and/or SAF	Electric or Hydrogen fuel cell and/or SAF
Short haul » 100-150 seats » 45-120 minute flights » ~24% of industry CO ₂	SAF	SAF	SAF	SAF	Electric or Hydrogen combustion and/or SAF	Electric or Hydrogen combustion and/or SAF	Electric or Hydrogen combustion and/or SAF
Medium haul » 100-250 seats » 60-150 minute flights » ~43% of industry CO ₂	SAF	SAF	SAF	SAF	SAF	SAF	SAF potentially some Hydrogen
Long haul » 250+ seats » 150 minute + flights » ~30% of industry CO ₂	SAF	SAF	SAF	SAF	SAF	SAF	SAF

Source: Air Transport Action Group – Waypoint 2050

Our Commitment to Fly Net Zero by 2050



Fly Net Zero is the commitment of airlines to achieve net zero carbon by 2050.

At the 77th IATA Annual General Meeting in Boston, USA, on 4 October 2021, a resolution was passed by IATA member airlines committing them to achieving net-zero carbon emissions from their operations by 2050. This pledge brings air transport in line with the objectives of the Paris agreement to limit global warming to 1.5°C.

To succeed, it will require the coordinated efforts of the entire industry (airlines, airports, air navigation service providers, manufacturers) and significant government support.

Read the press release: [IATA members' AGM resolution on Net Zero 2050](#)

International Air Transport Association (IATA),
 representing more than 300 airlines worldwide

States adopt net-zero 2050 global aspirational goal for international flight operations



International Civil Aviation Organization (ICAO),
 a UN agency with more than 193 Member States

To get to net-zero in aviation, a huge scale-up of SAF will be needed

- 5,000 - 7,000 production facilities will be needed*
- Investments of 1,000 - 1,500 billion USD will be required*

* Based on ICF – Fueling Net Zero study, available [here](#)

SAF volumes in
2022

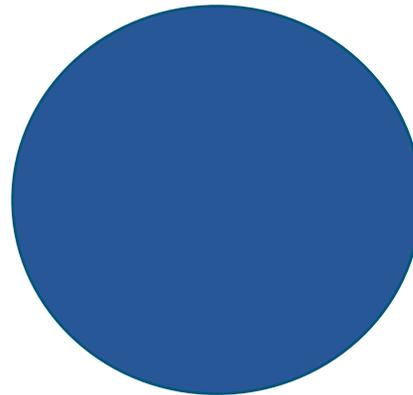


240,000
mt of SAF

Production scale-up
by more than 1,500
times necessary

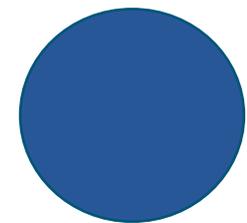


Needed SAF volumes in
2050 to reach net-zero



≈ 400,000,000
mt of SAF

For comparison:
Volume of biofuel
market in 2022



≈ 130,000,000
mt of biofuel

A wide range of regulatory frameworks to promote SAF uptake have been put in place or are in the process of implementation

Examples

ICAO CORSIA

- Offsetting scheme to ensure carbon-neutral growth of international aviation from 2020
- Airlines can use SAF to reduce their offsetting obligations under CORSIA

ReFuelEU Aviation Regulation

- Sets a mandate on fuel suppliers to supply a defined percentage of SAF to EU airports, starting 2025
- 2% of SAF in 2025, increasing to 70% by 2050

EU Emissions Trading System (ETS)

- Requires airlines to buy and surrender allowances for each metric ton of CO₂ emitted on intra-EU flights
- Airlines can use SAF to reduce the allowances they will need to buy and surrender

UK ETS and upcoming UK SAF mandate

- Under the UK ETS, similarly to the EU ETS, airlines can use SAF to reduce the allowances they will need to buy and surrender
- SAF mandate set to start in 2025, requiring 10% SAF blend by 2030

National SAF mandates in Europe

- Different European countries (e.g. France, Norway, Sweden) have put in place their own SAF mandates

SAF blender's tax credit (US IRA)*

- Grants tax credits for SAF that achieves a life cycle emissions reduction of at least 50%

*US IRA = US Inflation Reduction Act

California Low Carbon Fuel Standard (LCFS)

- Aims to reduce GHG emissions by promoting cleaner transport fuels
- Since 2018, SAF can earn compliance credits under the LCFS ("opt-in")

US Renewable Fuel Standard (RFS)

- Aims to increase the use of renewable fuels in the US, while reducing GHG emissions
- SAF can be eligible under the RFS, provided it meets GHG saving targets ("opt-in")

Many of these regulatory frameworks make use of certification schemes to ensure the sustainability of SAF

ICAO CORSIA

- Airlines can only reduce their offsetting obligations under CORSIA through SAF that is **certified under an ICAO-approved certification scheme** (e.g. ISCC CORSIA)

ReFuelEU Aviation Regulation

- Fuel suppliers obligated under ReFuelEU must supply SAF that is **certified under an EU RED II-approved certification scheme** (e.g. ISCC EU)

EU Emissions Trading System (ETS)

- Airlines can only account for the use of SAF with zero emissions if it is **certified under an EU RED II-approved certification scheme** (e.g. ISCC EU)

UK ETS and upcoming UK SAF mandate

- Airlines can only account for the use of SAF with zero emissions if it is **certified under an RTFO-approved certification scheme** (e.g. ISCC EU)
- Under the SAF mandate, UK foresees **use of currently accepted certification schemes** (e.g. ISCC EU)

National SAF mandates in Europe

- EU countries with national SAF mandates generally require the SAF to be **EU RED II certified** (e.g. ISCC EU)

SAF blender's tax credit (US IRA)*

- Use of CORSIA methodology one option of determining life cycle emissions of SAF
- IRS guidance refers to **ICAO-approved certification schemes** (e.g. ISCC CORSIA)

California Low Carbon Fuel Standard (LCFS)

- California LCFS uses different type of certification

US Renewable Fuel Standard (RFS)

- US RFS uses different type of certification

*US IRA = US Inflation Reduction Act

SAF can be (and is!) certified under all three ISCC certification systems. System choice depends on regulatory compliance and/or customer needs

ISCC EU



- Officially approved by the EU Commission
- Used to demonstrate compliance with the **EU RED II sustainability criteria**
- ISCC EU certified SAF can be claimed under **EU ETS, UK ETS and**, once in effect, **ReFuelEU Aviation**

ISCC PLUS



- Applicable for mostly **voluntary markets**
 - Energy and renewable fuels outside the EU RED II market
 - Industrial applications
 - Food and feed markets
- Oftentimes used for SAF claims in **non-regulated markets**

ISCC CORSIA



- Officially approved by ICAO
- Used to demonstrate compliance with the **ICAO CORSIA sustainability criteria**
- ISCC CORSIA certified SAF can be claimed under **CORSIA**
- ISCC CORSIA is referred to in the IRS guidance for the **US IRA's SAF blender's tax credit**
- ISCC CORSIA certified SAF recognized by the **Science-Based Targets Initiative (SBTi)**

CORSIA News: ISCC's recognition under the CORSIA scheme has been extended by ICAO to cover CORSIA's *post-pilot* phase



The ISCC CORSIA certification system was first recognized by ICAO in November 2020, applicable to **CORSIA's pilot phase from 2021 to 2023**.

In June 2023, ISCC CORSIA's recognition was extended by ICAO to cover **CORSIA's post-pilot phase from 2024 to 2026**.

Economic operators and airlines can **demonstrate compliance with the CORSIA Sustainability Criteria for CORSIA Eligible Fuels** by applying the ISCC CORSIA Certification System.



Name of the Sustainability Certification Scheme	Date of approval	Website	Scope of approval
International Sustainability and Carbon Certification (ISCC)	16 Jun. 2023	https://www.iscc-system.org/about/sustainable-aviation-fuels/corsia/	Certification of CORSIA Sustainable Aviation Fuels economic operators covered by Chapters 1 and 2 of the ICAO document "CORSIA Sustainability Criteria for CORSIA eligible fuels"

Currently, 54 economic operators are ISCC CORSIA certified. In LATAM, Raizen is now the first ISCC CORSIA certified company

Type of operation	No. of ISCC CORSIA certified economic operator types
Trader/Trader with Storage	43
Collecting Point (waste/residues)	6
Point of Origin (waste/residues)	4
Processing Unit	17
Central Office	2
Logistic center	3
Warehouse	3

Numbers as of 29 August 2023.
Please note that each certificate may be issued for more than one type of operation



RAÍZEN IS THE FIRST ETHANOL PLAYER IN THE WORLD TO RECEIVE CERTIFICATION THAT ENABLES THE PRODUCT TO MANUFACTURE SUSTAINABLE AVIATION FUEL

The company's biofuel has been certified by the ISCC Corsia standard as a feedstock for the production of sustainable aviation fuel, following International Civil Aviation Organization (ICAO) standards.

🕒 08/21/2023 - 06:15 PM

Source: Portal Datagro, available [here](#)



SAF certification provides opportunities for producers in LATAM

- Broad agreement in aviation industry that SAF scale-up is needed, signaling a **clear commitment towards getting to net-zero**
- **Growing number of regulatory frameworks** are coming online, providing **incentives** (e.g. tax credits) **and/or demand certainty** (e.g. through fixed SAF mandates)
- **Many feedstocks of relevance for LATAM are eligible under various frameworks** (including crop and waste/residue feedstocks)
- **ISCC certification** of feedstocks, intermediate products and SAF **can open the door to many of the regulated markets**
- **New certification approaches**, such as low land use change risk certification, **can help access specific niche markets**
- **Demand for SAF is also picking up in voluntary markets** (e.g. with companies committing to Science Based targets)

Happening soon: We warmly invite you to our Stakeholder Committee Meeting on SAF as well as to our ISCC CORSIA Training!

19 September 2023, online



ISCC Technical Stakeholder Meeting Sustainable Aviation Fuels
Online in Zoom

19 September 2023
11.00 am – 05.30 pm
Central European Summer Time

CONTENT

- Latest Developments – ISCC Update
- Innovative Practices in SAF Supply Chains
- ISCC Credit Transfer System

ISCC Association (e. V.) 2023

Registration via the ISCC website!

20 - 21 September 2023, online



ISCC CORSIA Training

CONTENT

- Regulatory framework for CORSIA eligible fuels
- Comprehensive information about the ISCC CORSIA and CORSIA PLUS certification systems
- Supply chain certification, traceability and chain of custody
- Life cycle assessment and verification
- Sustainability requirements for eligible feedstocks
- Low LUC risk certification

ISCC System 2023



Thank you!

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