Sustainable Aviation Fuels and the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)

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What is ICAO?

• United Nations specialized agency for international aviation matters
• Established by the “Chicago Convention” (1944)
• 192 Contracting States and 86 International Organizations
要点 ICAO aspirational goal - Carbon neutral growth (CNG) from 2020 onwards.

- To be achieved with a “basket of measures” for CO₂ reduction.

- Market-based measures (CORSIA) will complete the reductions needed.

Range of CO₂ reductions from Sustainable Aviation Fuels (SAF)


CORSIA is the first global MBM scheme for any industry sector.

Monitoring, reporting and verification (MRV) of CO₂ emissions starting on 1 January 2019.

https://www.unitingaviation.com/publications/Annex-16-Vol-04/#page=1
All Member States are encouraged to participate in the pilot and first phase of the CORSIA

76 States (75.96% of international aviation activity) to participate in the pilot phase (As of 20 November 2018)

Second phase participation criteria:
• 90% of global RTK
• 0.5% of RTK

Exemptions:
• LDCs, LLDCs, SIDS

Reference: Assembly Resolution A39-3, Paragraph 9
CORSIA Package

1. Standards and Recommended Practices (SARPs) – Annex 16, Volume IV
   - Mandatory actions by States and operators (the “what” and “when”) to implement CORSIA

2. Environmental Technical Manual (ETM) Volume IV
   - Guidance on the process (the “how”) to implement CORSIA

3. Implementation Elements
   - Directly referenced in Annex 16, Volume IV, and essential information for the implementation of CORSIA
CORSIA and Sustainable Aviation Fuels

The use of Sustainable Aviation fuels or lower carbon aviation fuels may reduce the airlines offsetting requirements under CORSIA

Annex 16 Vol IV definitions:

- **CORSIA sustainable aviation fuel.** A renewable or waste-derived aviation fuel that meets the CORSIA Sustainability Criteria under this Volume.
- **CORSIA lower carbon aviation fuel.** A fossil-based aviation fuel that meets the CORSIA Sustainability Criteria under this Volume.
- **CORSIA eligible fuel.** A CORSIA sustainable aviation fuel or a CORSIA lower carbon aviation fuel, which an operator may use to reduce their offsetting requirements.
• Detailed methodologies for SAF consideration under CORSIA are still under development.
• These will include:

  ✓ **Sustainability Criteria** (Including a minimum 10% emission reduction)
  ✓ **Framework for Sustainability Certification**
  ✓ **Methodologies for Life Cycle Emissions**
2.2.4.1 The aeroplane operator that intends to claim for emissions reductions from the use of CORSIA eligible fuels shall use a CORSIA eligible fuel that meets the CORSIA Sustainability Criteria as defined within the ICAO document entitled “CORSIA Sustainability Criteria for CORSIA Eligible Fuels” that is available on the ICAO CORSIA website.

2.2.4.2 The aeroplane operator that intends to claim for emissions reductions from the use of CORSIA eligible fuels shall only use CORSIA eligible fuels from fuel producers that are certified by an approved Sustainability Certification Scheme included in the ICAO document entitled “CORSIA Approved Sustainability Certification Schemes”, that is available on the ICAO CORSIA website. Such certification schemes meet the requirements included in the ICAO document entitled “CORSIA Eligibility Framework and Requirements for Sustainability Certification Schemes”, that is available on the ICAO CORSIA website.

3.3.1 The aeroplane operator that intends to claim for emissions reductions from the use of CORSIA eligible fuels in a given year shall compute emissions reductions as follows:

\[
ER_x = FCP \times \sum_i MS_{i,x} \times \left(1 - \frac{iS_i}{LC}\right)
\]

3.3.2 If a Default Life Cycle Emissions value is used, then the aeroplane operator shall use the ICAO document entitled “CORSIA Default Life Cycle Emissions Values for CORSIA Eligible Fuels” that is available on the ICAO CORSIA website for the calculation in 3.3.1.

3.3.3 If an Actual Life Cycle Emissions value is used, then an approved Sustainability Certification Scheme shall ensure that the methodology, as defined in the ICAO document entitled “CORSIA Methodology for Calculating Actual Life Cycle Emissions Values” that is available on the ICAO CORSIA website, has been applied correctly.
ICAO is facilitating SAF development and deployment by:

1. Facilitating **high-level agreements** among States
2. Organizing **information-sharing events**
3. Sharing information and best practices, including through **ICAO’s Global Framework for Aviation Alternative Fuels (GFAAF)**
4. Developing **guidance material and feasibility studies**
5. Developing harmonized **sustainability criteria and life cycle analysis methodologies**
High-level Agreements

- ICAO Conference on Aviation Alternative Fuels in Mexico City (CAAF/2)
  (11 to 13 October 2017) - [https://www.icao.int/Meetings/CAAF2/](https://www.icao.int/Meetings/CAAF2/)

- Endorsement of the **2050 ICAO Vision for Sustainable Aviation Fuels**
- Calls for a **significant proportion of SAF use by 2050**
- **A quantified long-term goal for SAF** to be defined in CAAF/3 (by 2025)
- **A Stocktaking process** will support the definition of this goal
Global Framework for Aviation Alternative Fuels

- Over 600 announcements since 2005
- Details on 35 SAF projects
- Frequently asked questions
- Facts and Figures
- Live feed of SAF flights

https://www.icao.int/environmental-protection/GFAAF/
ICAO Capacity Building and Assistance Projects

Feasibility Studies
To be Developed with Project Funding

The feasibility studies will provide the governments of the selected States decision-making tools that may unveil new opportunities to get to the edge of innovations for a sustainable aviation sector.

- Dominican Republic
- Trinidad & Tobago
- Burkina Faso
- Kenya

https://www.icao.int/environmental-protection/Pages/ICAO_EU.aspx
SUSTAINABLE AVIATION FUELS GUIDE (2018)

- Information to facilitate SAF deployment on States
- Describes SAF production pathways, usage constraints, environmental and other benefits,
- Policy perspectives on the use and development of these fuels.

CONCLUSIONS

• The development and deployment of sustainable aviation fuels will be instrumental in achieving the environmental Sustainability of air transport.

• Work on CORSIA contributes to a harmonized global approach to Sustainability Criteria and Life Cycle methodologies for Sustainable aviation fuels.

• Quantified long term goals and the establishment of a clear roadmap will be paramount for clarifying the proportion such fuels can contribute in reaching long term sustainability.

• ICAO is working to facilitate SAF development and deployment through the development of guidance materials and feasibility studies; the coordination of the stock taking process leading to CAAF/3; the organization of events; and the continuous update of the ICAO GFAAF.
For more information, please visit our website: http://www.icao.int/env