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FONDO
DE SUSTENTABILIDAD
ENERGÉTICA

ICAO's Work on Sustainable Aviation Fuels

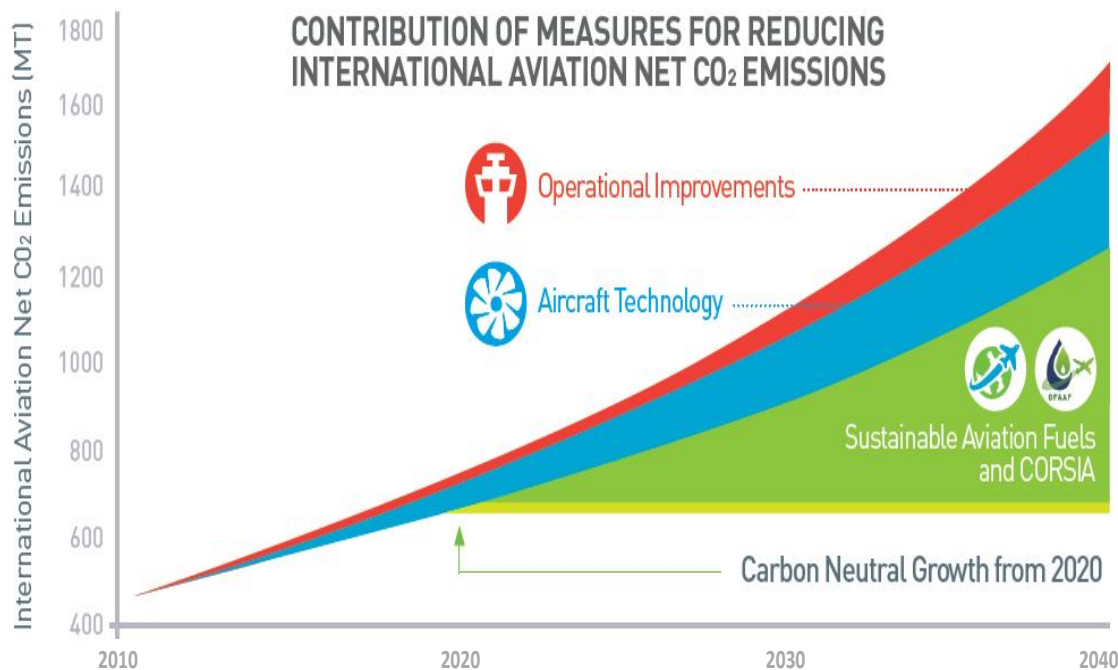
Speaker: Dr. Bruno Silva

Date: 02 September 2018

ICAO global aspirational goals

→ ICAO aspirational goal - Carbon neutral growth (CNG) from 2020 onwards.





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



Range of CO₂ reductions from Sustainable Aviation Fuels (SAF)

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

ICAO Basket of Measures

	Aircraft technology	First-ever global CO₂ certification Standard for aeroplanes
	Operational improvements	CO₂ benefits from Aviation System Block Upgrade (ASBU) Strategy; Airport Planning Manual (Doc 9184)
	Sustainable aviation fuels	100,000 commercial flights with SAF; 5 conversion process, several feedstocks. Four airports regularly distributing SAF
	Global market-based measure	Carbon Offsetting and Reduction Scheme for International Aviation (CORSI A) – Annex 16 Vol IV



Sustainable Aviation Fuels (SAF)

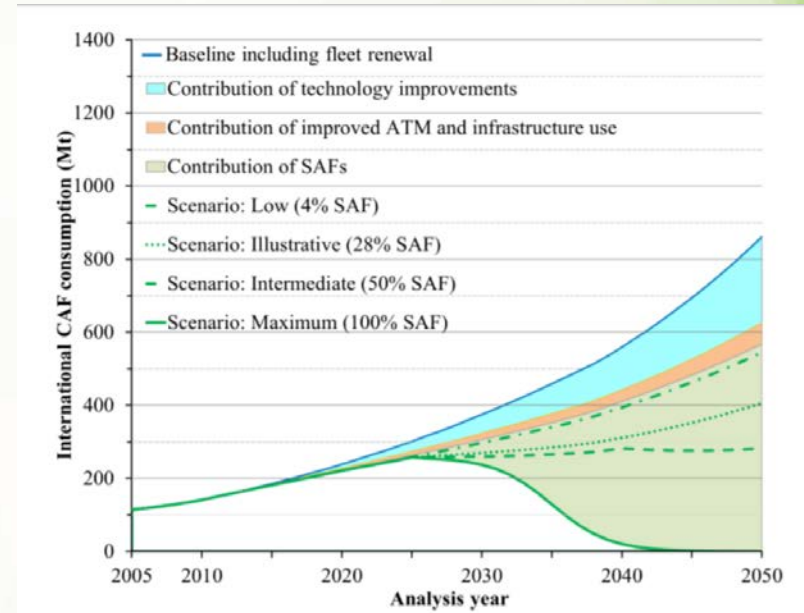
- **SAF definition in CORSIA (Annex 16 Vol IV)**
- *A renewable or waste-derived aviation fuel that meets the CORSIA Sustainability Criteria under this Volume.*
- **ICAO is facilitating SAF development and deployment by:**
 1. Facilitating **high-level agreements** among States
 2. Organizing **information-sharing 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/>



- 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



2050 ICAO Vision for Sustainable Aviation Fuels

- ICAO ROADMAP TOWARDS THE VISION – Support States efforts by:

- Sharing **information and best practices**

Continuous updates
on the GFAAF

- Fostering **international cooperation**

Agreements on
CORSA

- Organizing regular **events** to support the
the **SAF goal definition** in CAAF/3

ICAO Seminars on
Alternative Fuels

- Developing **guidance materials**

SAF guide (2018)

- Facilitate **capacity building and
assistance**

ICAO Capacity
Building Projects



2050 ICAO Vision for Sustainable Aviation Fuels

- **STATES INITIATIVES TOWARDS THE VISION**

The 2050 ICAO Vision encourages States to:

- Develop and implement **stable policy frameworks**
- **Share results and lessons learned** for the ICAO GFAAF
- Evaluate and facilitate **funding** sources
- Promote **collaborative initiatives** within the State and among States
- Support the development of **new Conversion processes**



ICAO Events

- **ICAO Seminar on Alternative Fuels – February 2017**
<https://www.icao.int/Meetings/altfuels17/>



- 47 Presenters from ICAO States, fuel producers, certification schemes
- Preparation for the CAAF/2
- **ICAO will organize similar events in preparation for CAAF/3 (stocktaking process and definition of a long-term SAF goal)**

ICAO Global Framework for Aviation Alternative Fuels (GFAAF)



Global Framework for Aviation Alternative Fuels

- Over 600 announcements since 2005
- Details on 35 SAF projects
- Frequently asked questions
- Facts and Figures
- And...

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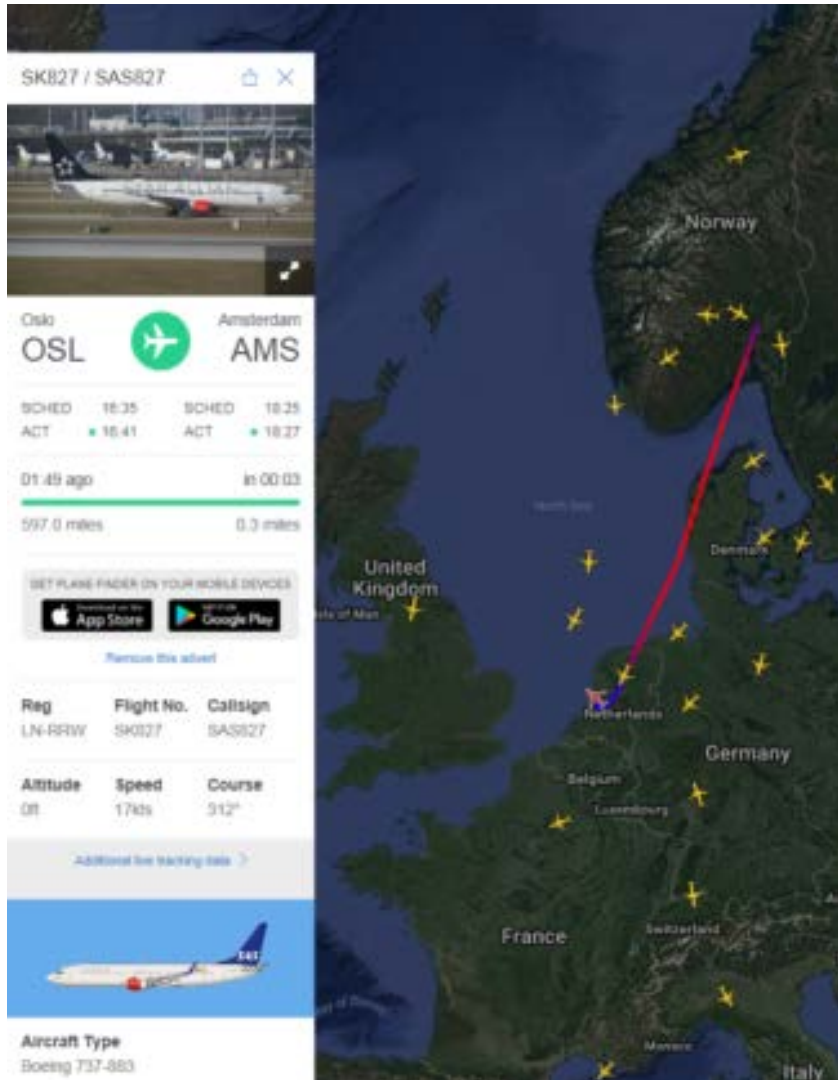


<https://www.icao.int/environmental-protection/GFAAF/>

The screenshot displays the GFAAF website interface. On the left, there are two world maps: 'Current Activities' and 'Current Initiatives'. The 'Current Activities' map includes a legend with categories: Commercial flight, Communication and analysis, Deployment, Policy, R&D, and Sustainability. Below the map is a 'Click to View' button and a note: 'Or to see more information visit the News and Activities page. *Zoom in for best results'. The 'Current Initiatives' map also has a 'Click to View' button and a note: 'Or to see more information visit the Initiatives & Projects page'. On the right side, there are two sections: 'Frequently Asked Questions' with a list of seven questions, and 'Facts and Figures' which includes a prompt to 'Click the image below to view Facts and Figures from 2016' and four pie charts: 'Initiatives by Funding Source (Active in 2016)', 'Initiatives by Type (Active in 2016)', 'Initiatives by Region (Active in 2016)', and 'News Announcements in 2016'.

ICAO Global Framework for Aviation Alternative Fuels (GFAAF)

- ICAO GFAAF Live-Feed of SAF flights



Airlines	Departing from
United Airlines	Los Angeles International Airport
KLM	
Lufthansa	Oslo Airport
SAS	
KLM / KLC	
SAS	Stockholm Arlanda Airport
KLM	
BRA	
All Departures	Bergen Airport
Batches of AAF have also been delivered to: Stockholm Bromma Airport, Åre Östersund Airport, Göteborg Landvetter Airport, Karlstad Airport, Halmstad Airport, Brisbane Airport, Chicago O'Hare International Airport.	

ICAO Capacity Building and Assistance Projects

ICAO-EU project *Capacity Building for CO₂ Mitigation from International Aviation*



ICAO-UNDP project *Transforming the Global Aviation Sector: Emission Reduction from International Aviation*



- **Development of guidance documents**
 - Sustainable Aviation Fuels
 - Renewable Energy
 - Governance
 - Financing of Clean Energy projects

<https://www.icao.int/environmental-protection/knowledge-sharing/Docs/Forms/AllItems.aspx>

- **Pilot project on renewable energy at two airports in Jamaica**



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ICAO-EU Capacity Building and Assistance Project



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.



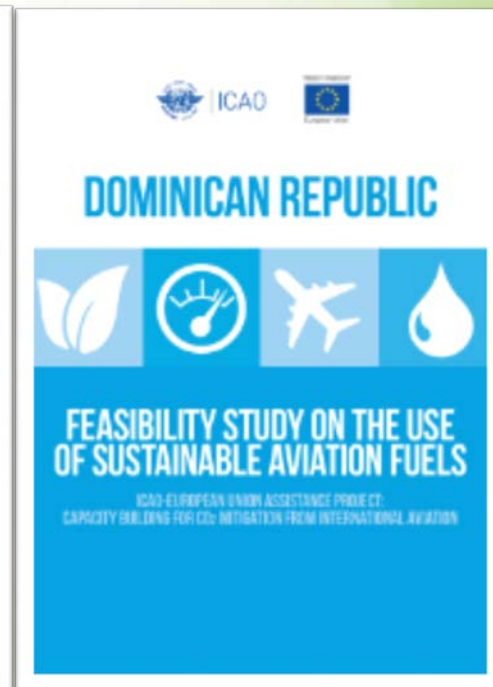
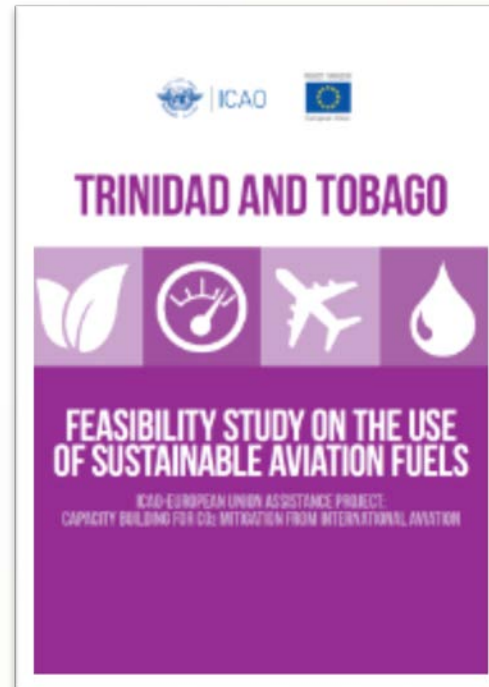
DOMINICAN REPUBLIC



TRINIDAD & TOBAGO

BURKINA FASO

KENYA



ICAO-UNDP-GEF Capacity Building and Assistance Project

- **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.

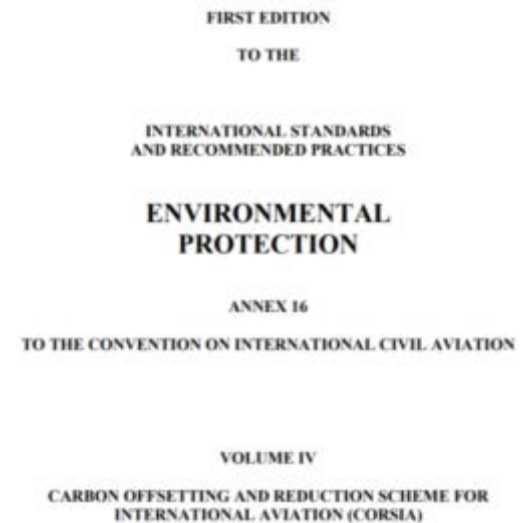
https://www.icao.int/environmental-protection/knowledge-sharing/Docs/Sustainable%20Aviation%20Fuels%20Guide_vf.pdf

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ICAO CORSIA

- The Council at its 214th Session (June 2018) adopted the **First Edition of Annex 16, Volume IV (CORSA – Carbon Offsetting and Reduction Scheme for International Aviation)**.
- [CORSA 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>

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.*

CORSIA and Sustainable Aviation Fuels

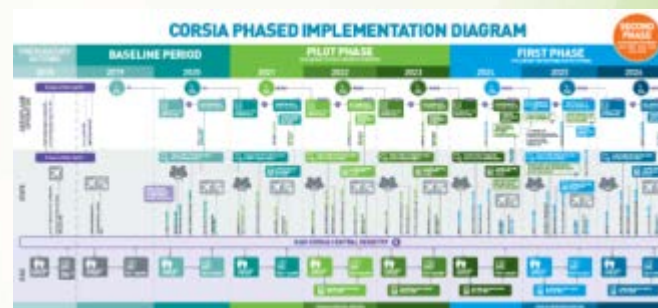
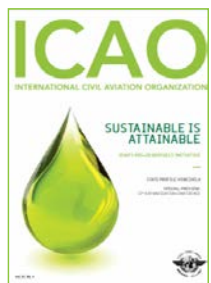
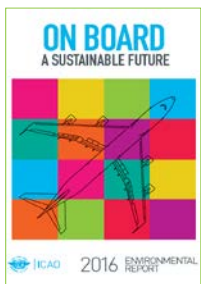
- Detailed methodologies for SAF consideration under CORSIA are still under development.
- These will include:
 - ✓ **Sustainability Criteria** (Including a minimum 10% emission reduction)
 - ✓ **Framework for Sustainability Certification**
 - ✓ **Methodologies for Life Cycle Emissions**



Conclusions

- The development and deployment of sustainable aviation fuels will be instrumental in achieving the environmental Sustainability of air transport
- 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.
- Work on CORSIA contributes to a harmonized global approach to Sustainability Criteria and Life Cycle methodologies for Sustainable aviation fuels

For more information, please visit our website:
<http://www.icao.int/env>





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Questions



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**THANK YOU
FOR YOUR ATTENTION**