ICAO Stocktaking Seminar toward the 2050 Vision for Sustainable Aviation Fuels – Setting the Scene

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Vision

Achieve the sustainable growth of the global civil aviation system.

Mission

To serve as the global forum of States for international civil aviation.

ICAO Strategic Objectives:

Safety	Security & Facilitation	**Environmental Protection**	Air Navigation Capacity and Efficiency	Economic Development of Air Transport

ICAO Environmental Goals

ICAO Strategic Objective on Environmental Protection:

Minimize the adverse effect of global civil aviation on the environment

Limit or reduce the number of people affected by significant aircraft **noise**

Limit or reduce the impact of aviation GHG emissions on **global climate**

Limit or reduce the impact of aviation emissions on **local air quality (LAQ)**

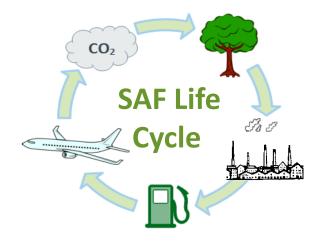**Quantify**

Mitigate

Implement

What is SAF

- Must meet the same safety standards as current aviation fuels

- "Drop-in" fuels : fuels that are fully compatible with existing aircraft and fuel-supply systems

- In addition to safety standards, SAF needs to meet **Sustainability Criteria** **(e.g. minimum CO_2 reductions on a life cycle basis)**

Example: *Fuels made from biomass*

CO_2

SAF Life Cycle

CO_2 emitted by combustion is up-taken by plant growth

ICAO is facilitating SAF development and deployment by:

1) Establishing **policies and measures** that foster the use of SAF (i.e., CORSIA, Assembly Resolution A39-3)

2) Developing globally-accepted **sustainability criteria** and **life cycle methodologies** (through the work of CAEP)

3) Organizing **events** for information-sharing and outreach

4) Sharing information and best practices, including through ICAO's **Global Framework for Aviation Alternative Fuels (GFAAF)**

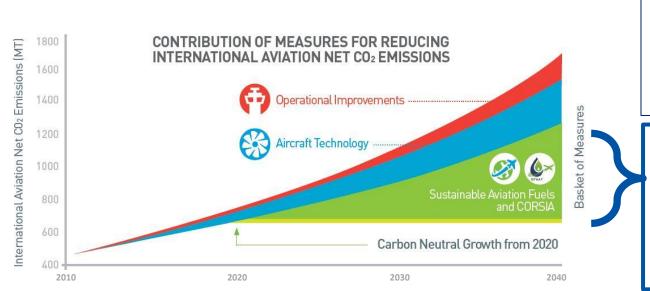5) Assisting on the development on SAF feasibility studies.

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 (A39-2).

CONTRIBUTION OF MEASURES FOR REDUCING
INTERNATIONAL AVIATION NET CO_2 EMISSIONS

International Aviation Net CO_2 Emissions (MT)

Operational Improvements

Aircraft Technology

Sustainable Aviation Fuels
and CORSIA

Basket of Measures

Carbon Neutral Growth from 2020

ICAO Basket of Measures
- **Technology and Standards**
- **Operational Improvements**
- **Sustainable Aviation Fuels**
- **Market-Based Measures**

Range of CO_2 reductions from Sustainable Aviation Fuels (SAF)

10 years ago

- **Technical feasibility and safety under consideration**
- **No certified conversion processes**
- **Very few demonstration flights**
- **Then, in 2009, CAAF/1 was convened and recommended:**
  - the use of SAF as a means to reduce aviation emissions;
  - the establishment of the ICAO Global Framework for Aviation Alternative Fuels (GFAAF);
  - the development of life cycle analysis methodologies;
  - the development of a common definition of Sustainability requirements

Since 2009…

ICAO Global Framework for Aviation Alternative Fuels (GFAAF)

6 conversion processes certified for use in aviation

4 Feasibility studies concluded at ICAO

6 Airports regularly distributing blended alternative fuel

>160,000 Commercial flights have used a blend of alternative fuel

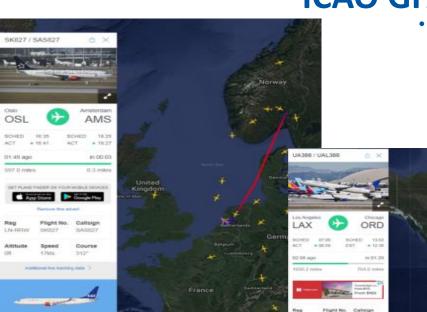CORSIA-Related agreements

GFAAF
Global Framework for Aviation Alternative Fuels

- Over 600 news announcements dating back to 2005
- Details of 35 past and on-going projects
- Answers to frequently asked questions
- Facts and Figures
- And…

ICAO GFAAF Live-Feed

- Based on publically-available information from airports and airlines involved in on-going alternative fuel purchase agreements. The live feed displays all flights that comply with the following criteria:

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 CO_2 Mitigation from International Aviation

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

Four SAF Feasibility Studies:

- **Burkina Faso**
- **Trinidad and Tobago**
- **Kenya**
- **Dominican Republic**

- *Development of guidance documents*
  - *Sustainable Aviation Fuels*
  - *Renewable Energy*
  - *Governance*
  - *Financing of Clean Energy projects*
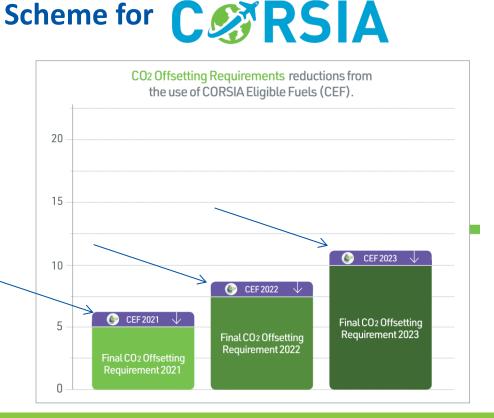- *Pilot project on renewable energy at two airports in Jamaica*

Carbon Offsetting And Reduction Scheme for CORSIA International Aviation (CORSIA)

- From 2021 onwards, the total CO_2 emissions each year will be compared against the average of CO_2 emissions from international aviation covered by CORSIA in 2019 and 2020

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

CO_2 Offsetting Requirements reductions from the use of CORSIA Eligible Fuels (CEF).

CEF 2021 — Final CO_2 Offsetting Requirement 2021

CEF 2022 — Final CO_2 Offsetting Requirement 2022

CEF 2023 — Final CO_2 Offsetting Requirement 2023

ICAO Conference on Aviation Alternative Fuels in Mexico City (CAAF/2)

(11 to 13 October 2017) - https://www.icao.int/Meetings/CAAF2/

SECOND ICAO CONFERENCE ON AVIATION AND
ALTERNATIVE FUELS
MEXICO CITY, MEXICO, 11–13 OCTOBER 2017
LEARN MORE

- 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

Now - This Seminar

Aim:

- Take stock of the progress in the deployment of Sustainable Aviation Fuels
- The first step towards the establishment of a quantified 2050 ICAO Vision for SAF (expected by 2025).

Agenda:

Day 1
- Agenda Item 1. Development in certification and deployment of aviation fuels
- Agenda Item 2. State and Organization initiatives for the deployment of alternative fuel
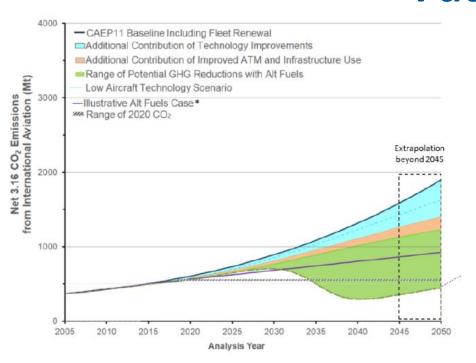- Networking Session. Facilitating Partnerships for the Deployment of SAF

Day 2
- Agenda Item 3. Financing and assistance programmes for aviation fuels
- Agenda Item 4. Developments in sustainability of aviation fuels
- Agenda Item 5. Current information for updating the 2050 ICAO Vision for Sustainable Aviation Fuels

Future

SAF can be a game changer!

- SAF will play a major role in reducing international aviation emissions.
- ICAO 40th Assembly is an opportunity to establish policies to support SAF deployment

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Central American
and Caribbean
(NACC) Office
Mexico City

South American
(SAM) Office
Lima

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Montréal

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Central African
(WACAF) Office
Dakar

European and
North Atlantic
(EUR/NAT) Office
Paris

Middle East
(MID) Office
Cairo

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Southern African
(ESAF) Office
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Asia and Pacific
(APAC) Sub-office
Beijing

Asia and Pacific
(APAC) Office
Bangkok

THANK YOU