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 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$_2$ 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

ｭ ICAO aspirational goal - Carbon neutral growth (CNG) from 2020 onwards.
ｭ To be achieved with a “basket of measures” for CO2 reduction (A39-2).

ICAO Basket of Measures

- Technology and Standards
- Operational Improvements
- Sustainable Aviation Fuels
- Market-Based Measures

Range of CO₂ 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...

- 6 conversion processes certified for use in aviation
- 4 Feasibility studies concluded at ICAO
- >160,000 Commercial flights have used a blend of alternative fuel
- CORSIA-Related agreements
- 6 Airports regularly distributing blended alternative fuel

ICAO Global Framework for Aviation Alternative Fuels (GFAAF)

- 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...
ICAQ 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:

<table>
<thead>
<tr>
<th>Airlines</th>
<th>Departing from</th>
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<tbody>
<tr>
<td>United Airlines</td>
<td>Los Angeles International Airport</td>
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<tr>
<td>KLM</td>
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<td>Lufthansa</td>
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<td>KLM</td>
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<td>BRA</td>
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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-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 International Aviation (CORSIA)

• From 2021 onwards, the total CO₂ emissions each year will be compared against the average of CO₂ 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.
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.