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UPDATE ON ICAO WORK ON SUSTAINABLE AVIATION FUELS (SAF)

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SAF and LTAG officer, ICAO

ISCC Stakeholders meeting

27 October 2022





1) Globally Accepted Standards



Sustainability

CORSIA sustainability criteria for CORSIA eligible fuels
First global approach to sustainability for an industry sector



Sustainability Themes

1. Greenhouse Gases (GHG)
2. Carbon stock
3. Water
4. Soil
5. Air
6. Conservation
7. Waste and Chemicals
8. Human and labour rights
9. Land use rights and land use
10. Water use rights
11. Local and social development
12. Food security

Carbon-reduction themes
(CORSIA pilot phase, 2021-2023)

**Environmental and socio-economic
 Themes for SAF**
(After CORSIA pilot phase, from 2024)

*Sustainability criteria for LCAF is
 under consideration by Council*



Life Cycle Assessment of SAF

There are two options to obtain the life cycle emissions of SAF and LCAF

DEFAULT Life Cycle Emissions

ICAO document “CORSIA Default Life Cycle Emissions Values for CORSIA Eligible Fuels”

Default emission values, as a function of the feedstocks and conversion processes.



Latest updates (2021 and 2022)
inclusion of default values for various new feedstocks (Brassica Carinata, waste gases, jatropha, molasses, coprocessed fuels)

ACTUAL Life Cycle Emissions

ICAO document “CORSIA Methodology for Calculating Actual Life Cycle Emissions Values”

Allows calculation of specific emissions values to a given SAF or LCAF



Recent updates (June 2022)
Methodologies for LCAF
Methodologies for co-processed fuels

First Global Approach to life cycle assessment



Sustainability Certification

ICAO-approved “Sustainability Certification Schemes (SCS) ” are responsible for:

- Ensuring compliance with the Sustainability Criteria
- Ensuring that the Life Cycle Emission value of the fuel has been applied/calculated correctly.

ICAO document
“CORSIA Eligibility
Framework and
Requirements for SCSs”

ICAO document “CORSIA
Approved SCSs”



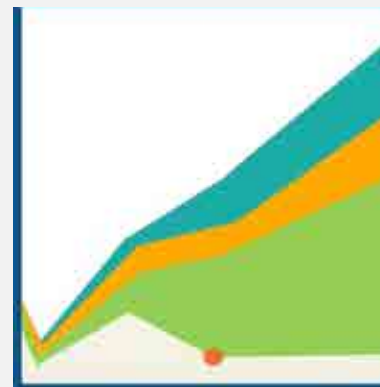
Requirements that an SCS needs to meet.

List of approved SCSs under CORSIA.
Currently two approved SCSs:
-ISCC
-RSB

Open invitation for SCSs to apply - www.icao.int/environmental-protection/CORSIA/Pages/CORSIA-SCS-evaluation.aspx



2) Policies and Goals





LTAG Report – published on March/2022 to support LTAG decision



<https://www.icao.int/environmental-protection/Pages/LTAG.aspx>

LTAG Report Appendices (English only)

Appendix B1 Background (12 pages)	Appendix R1 Summary Sheets (61 pages)	Appendix R2 Comparison to Trends (8 pages)	Appendix R3 Results in the Climate Science Context (10 pages)	Appendix S1 Climate Science Context (24 pages)
Appendix M1 Overview of the Modelling Approaches (60 pages)	Appendix M2 COVID-19 Forecast Scenario Development (8 pages)	Appendix M3 Technology (101 pages)	Appendix M4 Operations (12 pages)	Appendix M5 Fuels (84 pages)

including:

- Council briefing on LTAG report



- Videos on LTAG Report introduction



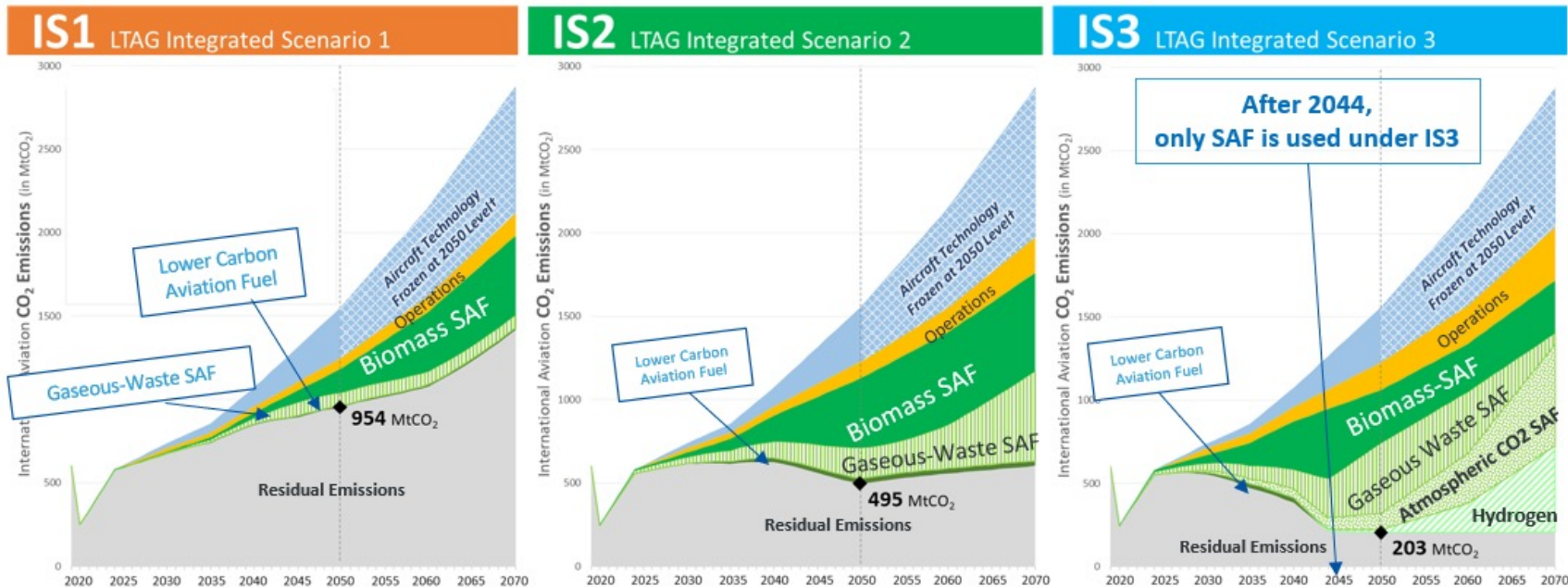
- LTAG data to States





LTAG and SAF

- **LTAG Report - SAF will play a key role in the sector's decarbonization efforts**
 - Largest potential impact on aviation CO₂ emissions reductions to come from **fuel-related measures**





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LTAG Decision



**Adopted by ICAO Assembly resolution
Resolution A41-21 (2022)**

https://www.icao.int/environmental-protection/Documents/Assembly/Resolution_A41-21_Climate_change.pdf



ASSEMBLY RESOLUTION A41-21 (CLIMATE CHANGE):

- **Level of Ambition:** ICAO and its Member States are encouraged to work together to strive to achieve a **collective long-term global aspirational goal for international aviation (LTAG) of net-zero carbon emissions by 2050**, in support of the Paris Agreement's temperature goal, recognizing that each State's special circumstances and respective capabilities will inform the ability of each State to contribute to the LTAG within its own national timeframe
- **Monitoring of Progress:** The Assembly requested the Council to **regularly monitor the progress on the implementation of all elements of the basket of measures** towards the achievement of the LTAG, including through the ICAO stocktaking process, updates of the ICAO Vision for Sustainable Aviation Fuels (SAF), and monitoring of State Action Plans

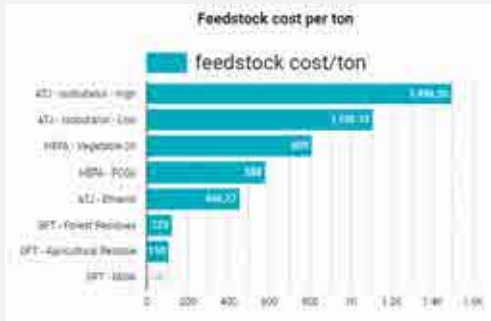


ASSEMBLY RESOLUTION A41-21 (CLIMATE CHANGE):

- **Means of Implementation:** The Assembly recognized that various possible modalities and/or funding mechanisms could be used by ICAO, and requested the Council to **initiate specific measures or mechanisms for ICAO to facilitate better access to financing for developing countries and States having particular needs, and to consider the establishment of a possible finance initiative or funding mechanism under ICAO**, for reporting at the 42nd Session of the Assembly. This is complementary to a robust assistance and cooperation programme for LTAG, such as the **ICAO Assistance, Capacity-building and Training for Sustainable Aviation Fuels (ACT-SAF) programme, which should be extended to an ACT-LTAG programme** to add support to other CO2 reduction measures



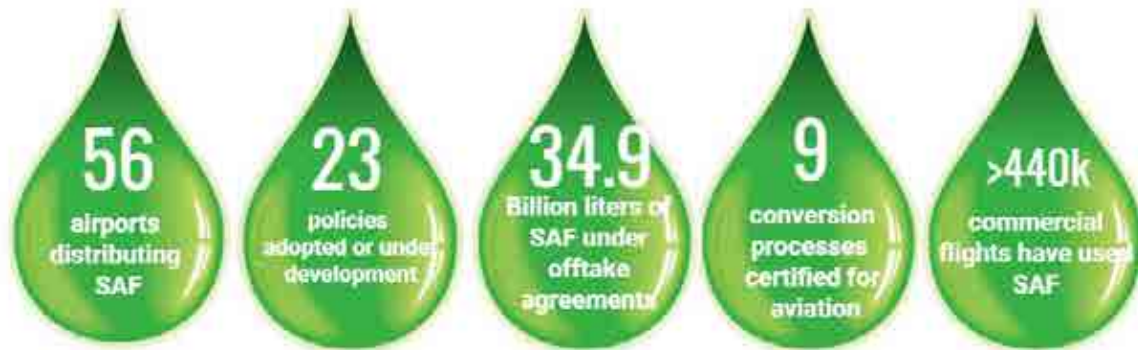
3) Outreach of information





SAF tracker tools

- Updated daily
- Transparent – all data available for consultation



ICAO SAF facilities map

This map provides information on facilities existing and announced that could produce Sustainable Aviation Fuel. Contact @icaoenvironmental for support for recovery of information.

Map | Satellite | 3D

ICAO SAF facilities map

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Latest news (click for details)

Search: Enter a value

Date	Link
Sep 23, 2022	Sustainable fuel startup Air Company to sell to JetBlue, Virgin Atlantic
Sep 23, 2022	Catalytic Process With Lignin Could Enable 100% Sustainable Aviation Fuel
Sep 23, 2022	Breitling and SWISS intk partnership to promote SAF
Sep 22, 2022	Air India, Airasia India, and Vistara sign MOU for SAF
Sep 20, 2022	QMV and Ryanair signs MOU for eight years of SAF supply starting in 2023
Sep 18, 2022	Indian Ministeries To Issue Sustainable Aviation Fuel Roadmap
Sep 16, 2022	Gevo breaks ground on commercial-scale sustainable aviation fuel facility in South Dakota
Sep 13, 2022	QMV and Lufthansa Group further strengthen partnership with Sustainable Aviation Fuel

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- **Guidance on Potential Policies and Coordinated Approaches for the deployment of SAF (2022)**
 - Developed by the ICAO Committee on Aviation Environmental protection (CAEP)
 - Describes various policy mechanisms to:
 - Stimulate growth of the SAF Supply (e.g. via R&D, investment, finance);
 - Create SAF demand (e.g. via mandates, subsidies and commitments); and,
 - Enable the SAF marketplace (e.g. via standards).





4) Capacity Building





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ICAO ACT-SAF

ICAO Assistance, Capacity-building and Training for Sustainable Aviation Fuels



Launched on 1 June 2022, in an event
Associated to the Stockholm+50
Conference



<https://www.icao.int/environmental-protection/Pages/act-saf.aspx>



What is ICAO ACT-SAF?

- An ICAO initiative to facilitate the development and deployment of SAF
- Tailored support for States
- Facilitate cooperation under ICAO coordination
- A Platform to facilitate knowledge sharing and progress monitoring

Why ICAO ACT-SAF programme?

- Builds on existing ICAO “ACT” experience, through partnerships and cooperation amongst States
- ICAO LTAG report foresees largest CO₂ reductions coming from fuels/cleaner energy sources
- Need for immediate action to fully realize SAF potentials





How does ACT-SAF work

1) Interested party* expresses interest in becoming an ACT-SAF Partner	2) ICAO coordinates with the interested party to detail the offers and requests, and suggest possible projects	3) ICAO connects ACT-SAF Participants	4) Agreement is signed and projects defined
Supporting State / Organization can participate by providing experts and/or resources Requesting State can participate by providing a focal point for coordination	Possible projects: <ul style="list-style-type: none">• Feasibility Studies• Training programmes• Support for SAF certification• Support for Policy implementation	Criteria for connection: <ul style="list-style-type: none">• Matching expertise• Language, cultural and geographical aspects• Resources availability	Agreement will contain: Details on the cooperation terms, including the roles and responsibilities of ICAO and each participant

Promoting SAF together through ICAO ACT-SAF

- A State letter invited all ICAO Member States to participate (24/May/2022)
- 42 States and 11 International Organizations interested in actively participating (as of October 2022)
- ACT-SAF platform provides the details on ACT-SAF initiatives



ICAO ACT-SAF Platform
Here you will find more information on our ACT-SAF Participants*

42
Interested States

Name of State

- Algeria
- Argentina
- Brazil
- Cambodia
- Canada
- Costa Rica

11
Organizations

- AACO - Arab Air Carriers Organisation
- Airbus
- Cranfield University
- Eurocontrol
- European Commission
- INAC

* States and Organizations that expressed intention to actively participate in the ACT-SAF Programme



Status of ICAO ACT-SAF and next steps

1) Interested party* expresses interest in becoming an ACT-SAF Partner

2) ICAO coordinates with the interested party to detail the offers and requests, and suggest possible projects

3) ICAO connects ACT-SAF Participants

4) Agreement is signed and projects defined

Ongoing effort

Identification of needs and offers from States
- 26 Coordination calls held

Identification of financing opportunities
“Informal Exchanges on SAF financing”
held with 10 financial institutions

Next step:

Facilitate the match of opportunities and needs from States



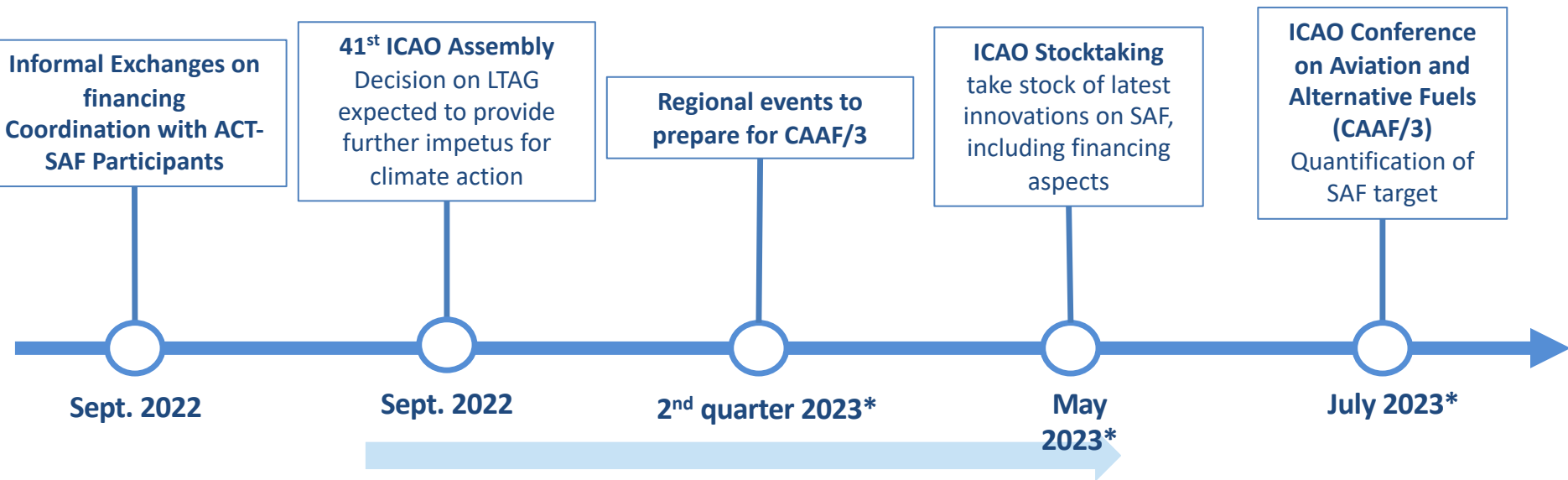
Next step:

Promotion of opportunities on the ICAO ACT-SAF platform

Next step:

Coordination of specific ACT-SAF projects (Q1 2023)

Practical next steps



Ongoing activities in ACT-SAF to support SAF development and deployment

*TBC

Conclusions

- **Sustainable Aviation Fuels are a reality – Technology and Standards are ready**
- **Opportunities exist for States to develop this new industry**
- **Challenges remain for further deployment**
 - Further policies to drive cost down and increase volumes
 - Level playing field with ground transportation
 - Harmonized approach
- **ACT-SAF will facilitate cooperation**

Contact ICAO to join ACT-SAF

<https://www.icao.int/environmental-protection/Pages/ACT-SAF.aspx>





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North Atlantic
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Southern African
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(APACI) Sub-office
Beijing

Asia and Pacific
(APACI) Office
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THANK YOU