



ICAO

ENVIRONMENT



2023 ICAO STOCKTAKING AND PRE-CAAF/3 POLICY AND FINANCE CONSULTATION



11 to 13 July 2023
Montréal, ICAO Headquarters



Jane Hupe
Deputy Director Environment, ICAO

**Session 1:
Setting the Scene**

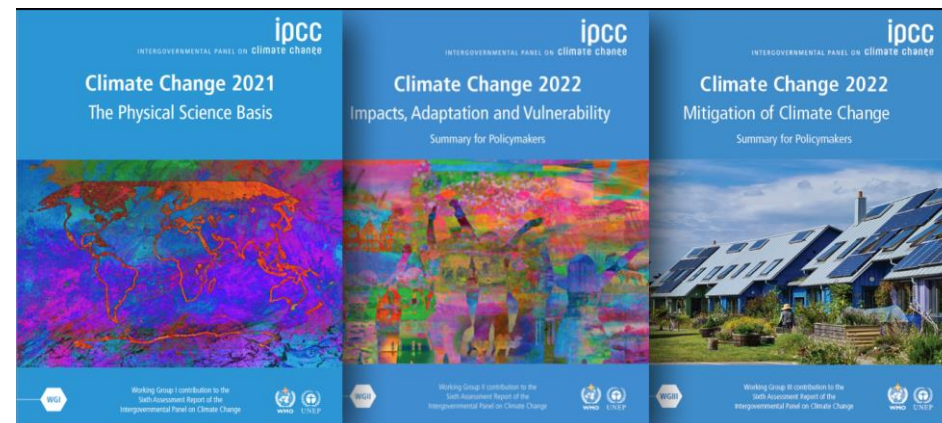


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2023 STOCKTAKING

ipcc

INTERGOVERNMENTAL PANEL ON
climate change



CLIMATE CRISIS >

Two global records in two days: the climate crisis and the warming of the North Atlantic take the planet into uncharted territory

This past week, the record for the highest average daily temperature on Earth has been broken twice. The previous one was established back in August of 2016, which is further evidence of global warming

Montreal has worst air of any major city as wild-fires rage, according to monitor

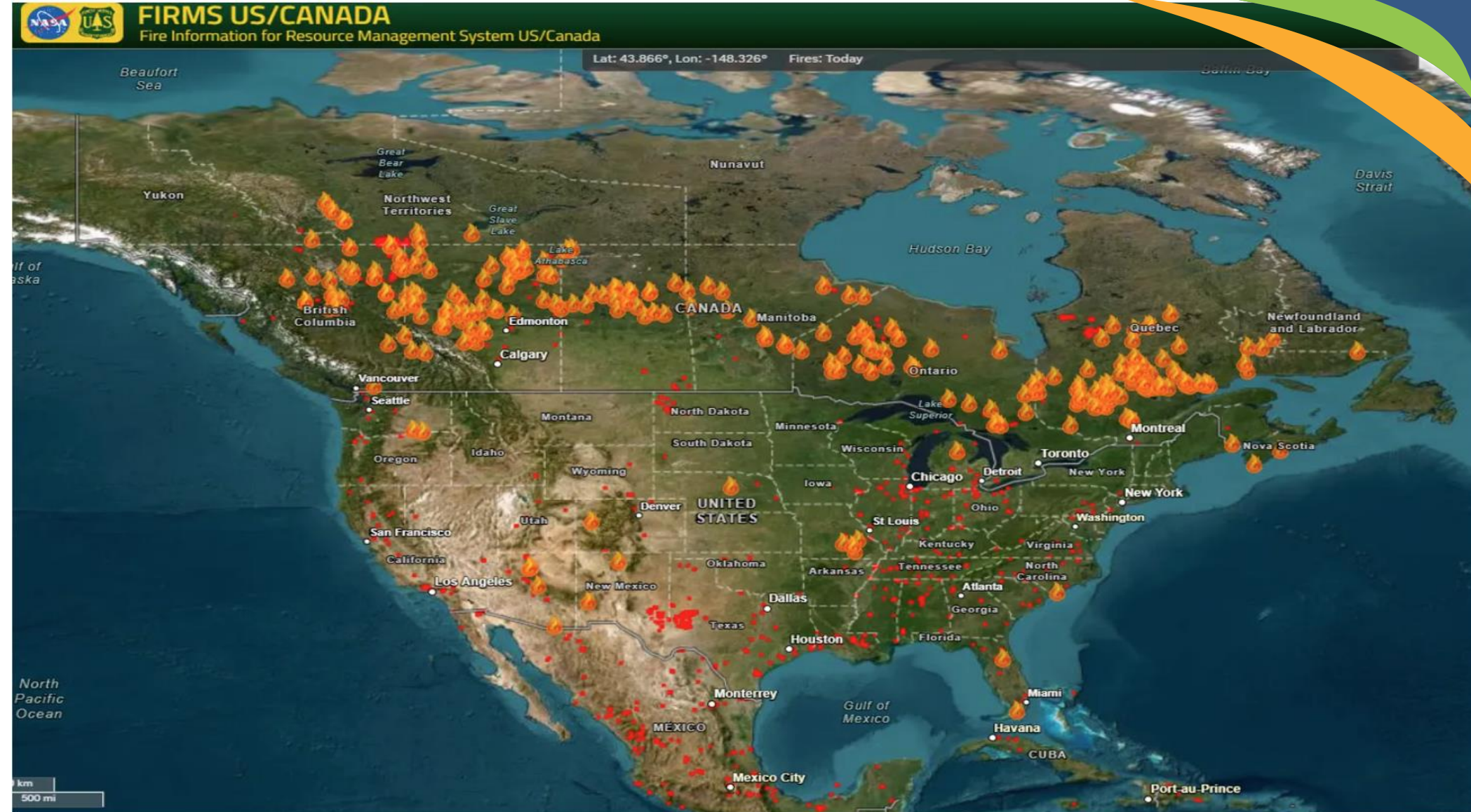
Forest fires in Canada left Montreal blanketed with smog on Sunday, giving it the worst air quality of any major city in the world, according to a pollution monitor.

Issued on: 27/06/2023 - 00:39 ⌚ 1 min

Forest fires could destabilize Quebec wildlife for years to come, say experts

If fires last through summer it 'may take years for habitat to recover' says biologist

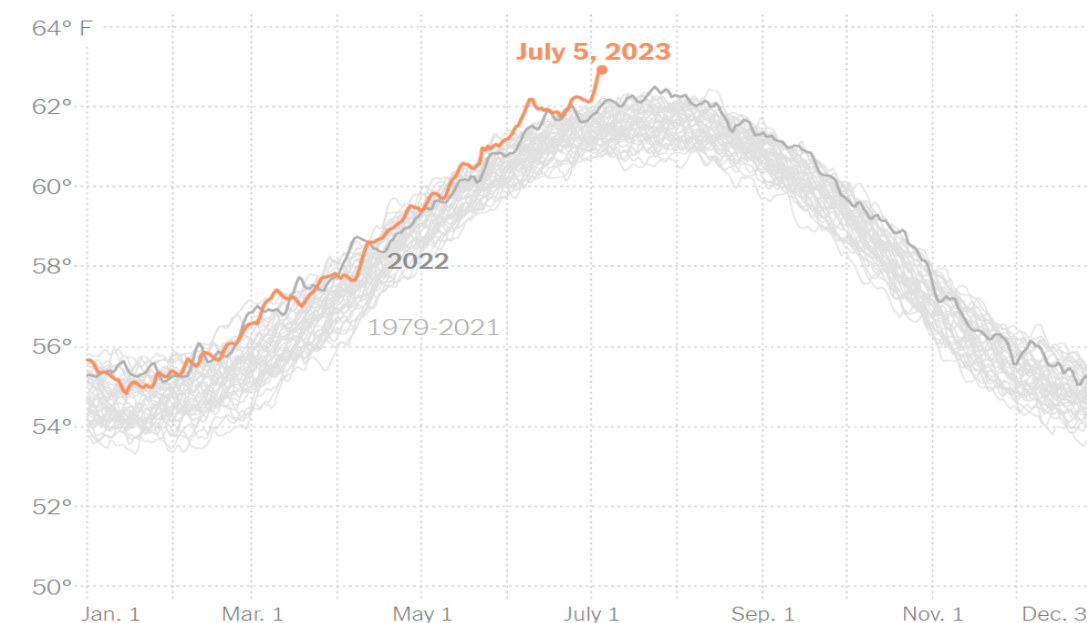
CBC News · Posted: Jun 07, 2023 4:00 AM EDT | Last Updated: June 7



Fires are shown burning across Canada in this June 28, 2023 map created by NASA and the Fire Information for Resource Management System US/Canada. *NASA / Screenshot*

Earth's Hottest Days on Record Were July 3-5

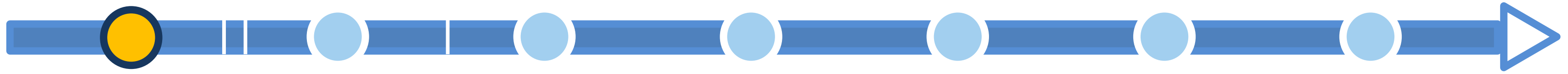
Daily surface air temperatures worldwide since 1979



The skyline of Montreal is obscured by a haze of smog, Sunday, June 25, 2023, as a smog warning is in effect for Montreal and multiple regions of the province due to forest fires. *THE CANADIAN PRESS/Graham Hughes*

Source: Climate Reanalyzer, Climate Change Institute at the University of Maine, based on data from the National Centers for Environmental Prediction Climate Forecast System • By Elena Shao/The New York Times

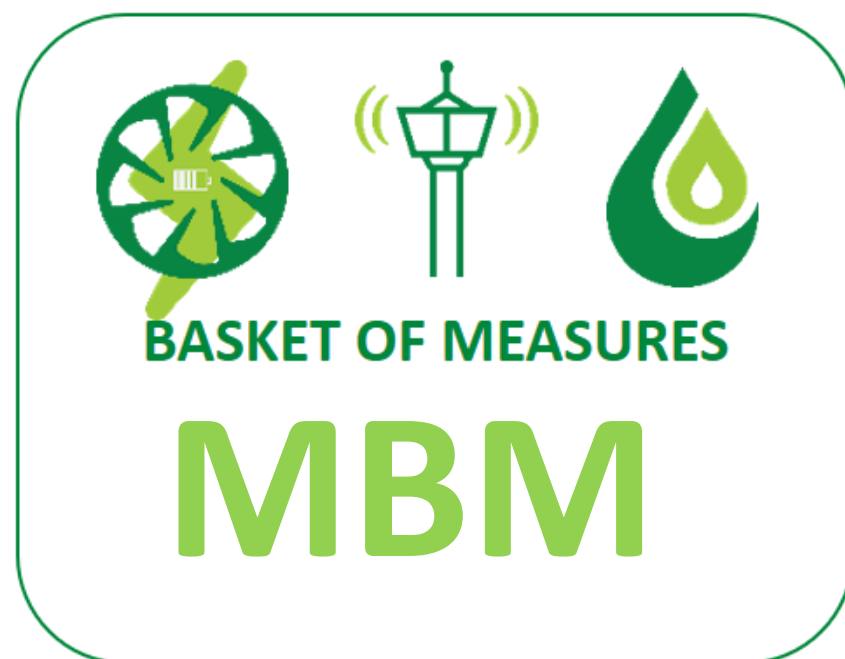
2010 2016 2018 2019 2020 2021 2022



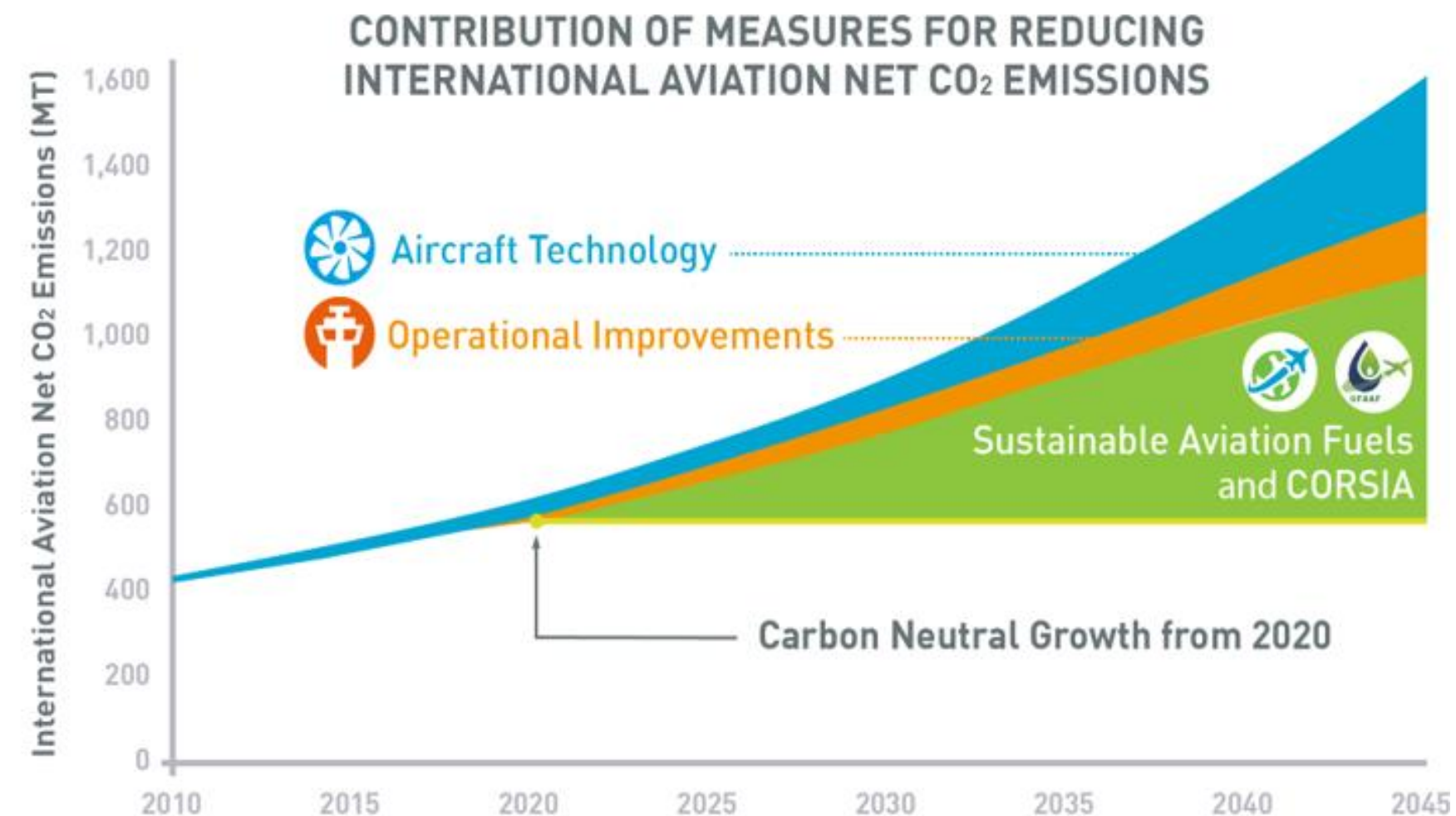
The 37th Session of ICAO Assembly:

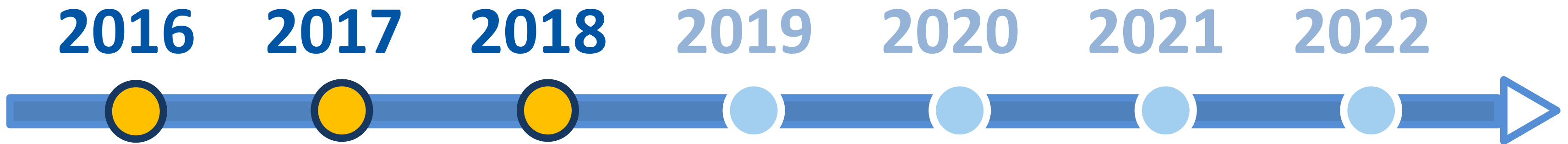
Adoption of two Global Aspirational Goals

- 2% annual fuel efficiency improvement
- Carbon neutral growth from 2020



**Action Plan
on Emissions
Reduction**

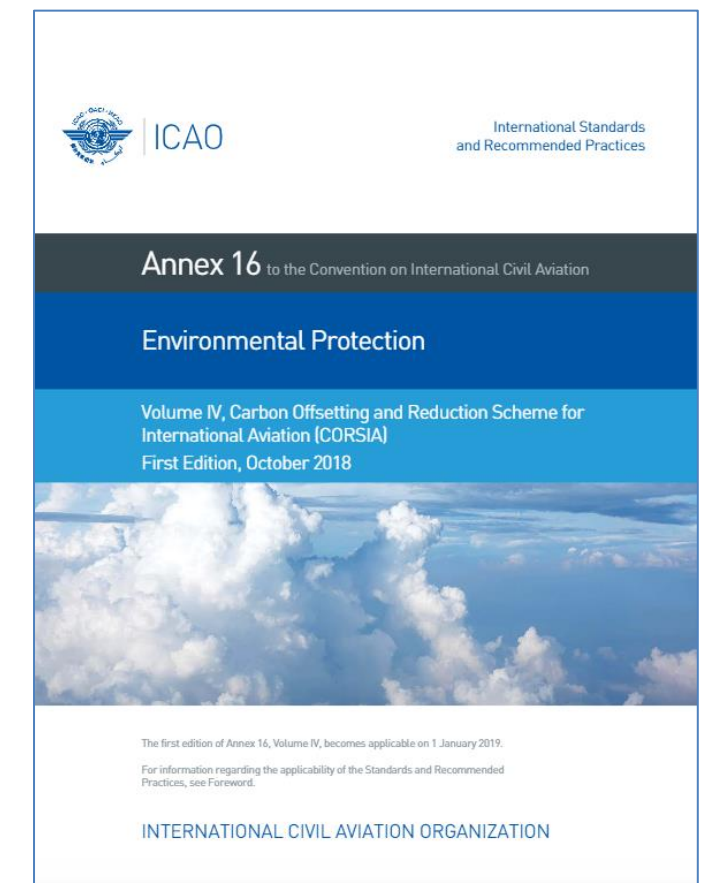




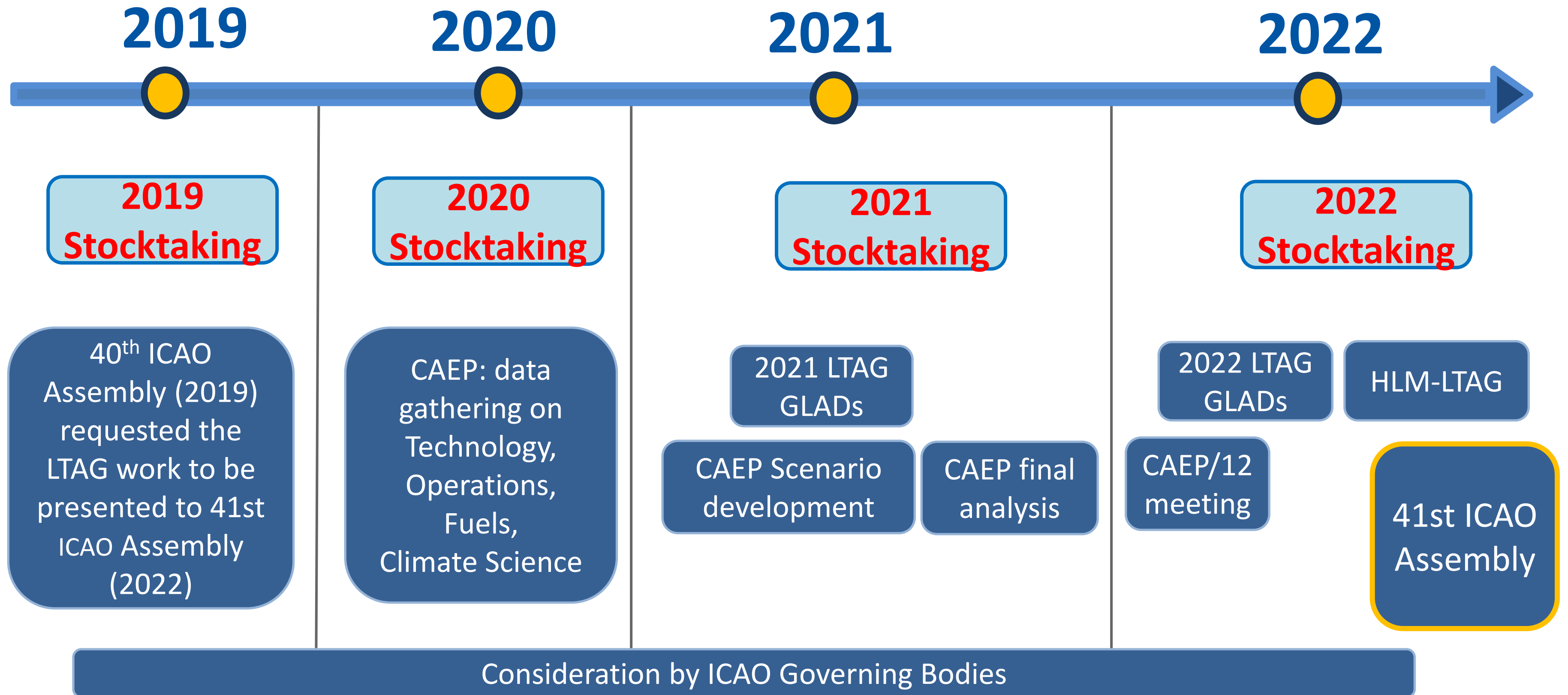
2010 ICAO agreement on global aspirational goals led to several initiatives and triggered major progress.

- **2016 (39th ICAO Assembly): historic agreement on a global market-based measure – CORSIA**
- **2017: CAAF/2 agreed on 2050 ICAO Vision for SAF, with progress to be monitored through “Stocktaking” and convene CAAF/3 to quantify the ICAO Vision**
- **2018 (ICAO Council): adoption of new Annex 16, Volume IV for CORSIA implementation**

CORSIA

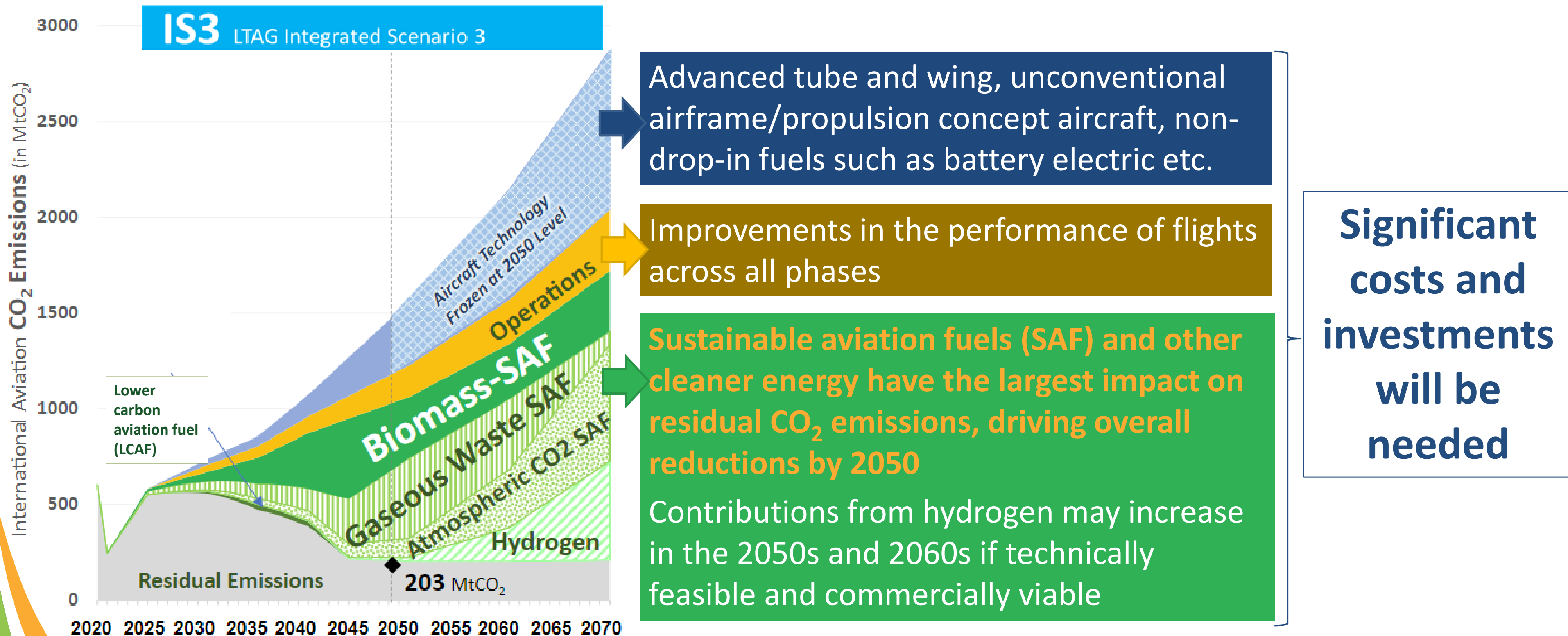


ICAO LTAG consideration timeline



LTAG work was conducted in open, transparent and inclusive manner, embracing innovations and focusing on aviation in-sector CO₂ reduction measures.

LTAG Report – Contributions from technology, operations, and fuels towards decarbonization



41st Session of ICAO Assembly (Oct 2022)

A collective long-term global aspirational goal (LTAG) of **net-zero carbon emissions from international aviation by 2050** (Resolution A41-21 Para 7)

- Need for monitoring of LTAG progress, including through the **Stocktaking, review of 2050 ICAO Vision**, etc. and the consideration of monitoring methodologies (A41-21, para 9)
- Continue to assess progress on SAF, LCAF and other cleaner energy sources for aviation as part of the **Stocktaking**, and **CAAF/3 in 2023 for reviewing the 2050 ICAO Vision**, in order to define a global framework (A41-21, para 28. f))



ICAO
LTAG
NET-ZERO 2050
Long-term global aspirational goal for international aviation



the

ICAO
LTAG

NET-ZERO



Long-term global aspirational goal for international aviation

is just

the beginning..

2023 Stocktaking & Pre-CAAF/3 Consultation – Programme

DAY 1 – 11 July

Session 1 - Opening and setting the scene

Session 2 - Aircraft technologies

Session 3 - Airports, operations, and infrastructure

Session 4 - SAF, LCAF and Cleaner Energies, Part I

Session 4 - SAF, LCAF and Cleaner Energies, Part II

DAY 2 – 12 July

Session 4 - SAF, LCAF and Cleaner Energies, Part III

Session 4 - SAF, LCAF and Cleaner Energies, Part IV

Session 5 - Policies, Part I – Recent developments

Session 5 - Policies, Part II – Roundtable

DAY 3 – 13 July

Session 6 - Financing, Part I

Session 6 - Financing, Part II

Session 6 - Financing, Part III – Roundtable

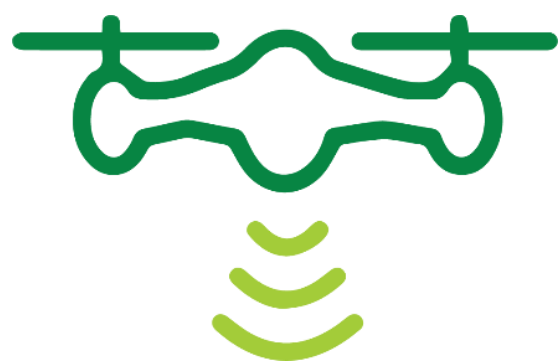
Session 6 - Financing, Part IV – Roundtable

Session 7 - Closing

- ✓ Builds upon success of annual Stocktaking events, to support **monitoring of LTAG progress**, and to **prepare for CAAF/3**
- ✓ To cover **all aviation in-sector CO₂ reduction emissions**
- ✓ With a **focus on fuel related approaches and solutions**
- ✓ **SAF-LAB exhibition** will illustrate the various steps involved **on SAF supply chains**



Session 2 (Technology) Session 3 (Operations)



Session 4 (SAF, LCAF and Cleaner Energy): Significant progress has been made since the last ICAO Stocktaking

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11

Approved conversion
processes (+8 under
evaluation)

40+

Billion liters of
SAF under offtake
agreements

40+

Feedstocks
recognized under
ICAO **CORSIA**

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**SAF POWERED**

CORSIA

Carbon Offsetting and Reduction Scheme for International Aviation



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INTERNATIONAL CIVIL AVIATION ORGANIZATION

ICAO document

CORSIA Sustainability Criteria for
CORSIA Eligible Fuels



November 2022

CORSIA

Carbon Offsetting and Reduction Scheme for International Aviation

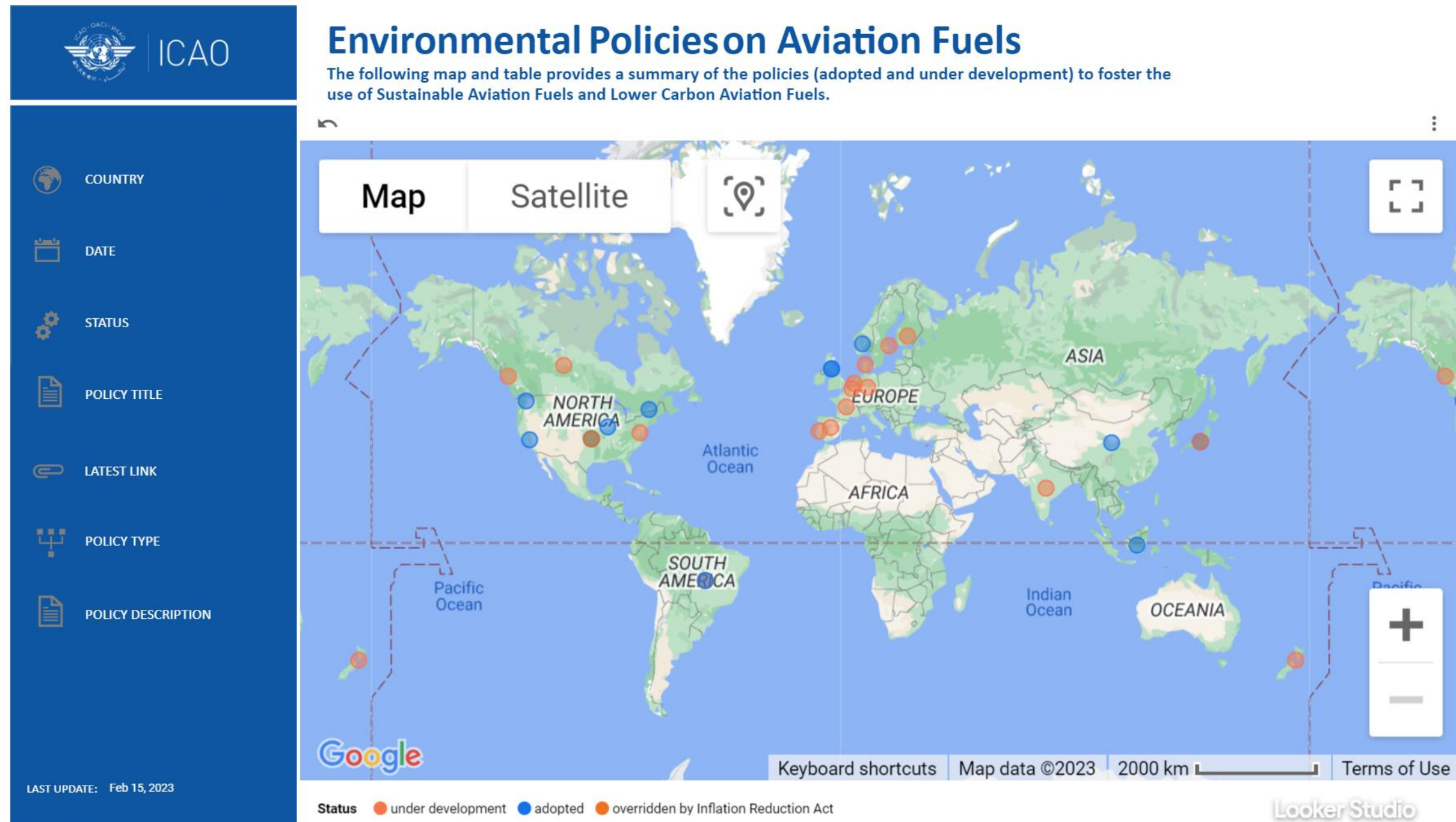
**For the first time,
sustainable aviation
fuels (SAF) have been
certified under the
CORSIA**

RECOGNITION
OF ACCOMPLISHMENT





Session 5 (Policies):



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Session 6 (Financing):

LTAG Report - **Financing costs and investments** across stakeholders

Projected cumulative (2020-2050) costs and investments associated with highest-ambition LTAG scenario, across each stakeholder group:

Stakeholders	Integrated Scenario 3
States	\$160b
Air Navigation Service Providers	\$20b
Aircraft manufacturers	\$350b
Fuel suppliers	\$3,200b
Airports	\$125b

Note: Some investments from upstream stakeholders are passed on downstream (e.g. airline operators) in the form of incremental price of products

Promoting the achievement of the LTAG through **Financing**

- ✓ Since 2022, ICAO has been reaching out around 50 public/private financial institutions (e.g. regional workshops, individual discussions, support for Council informal meetings in March/June 2023)
- ✓ Financing is one of **key pillars for possible CAAF/3 outcomes**, and one **full-day is dedicated for financing** (13 July 2023)
- ✓ **ICAO Climate Finance Initiative** – concept is under consideration to address **A41-21 Resolution**.





ACT>>SAF

83

States

Name of State

Albania
Argentina
Australia
Bahamas
Barbados
Belize

42

Organizations

Name of Organization

WORLD TRAVEL &
TOURISM COUNCIL
World Bank
WEF - World Economic
Forum
Verifavia
T'way Airways
Sustainable Aviation

States

Acceptance to ... Pending Yes



International Organizations

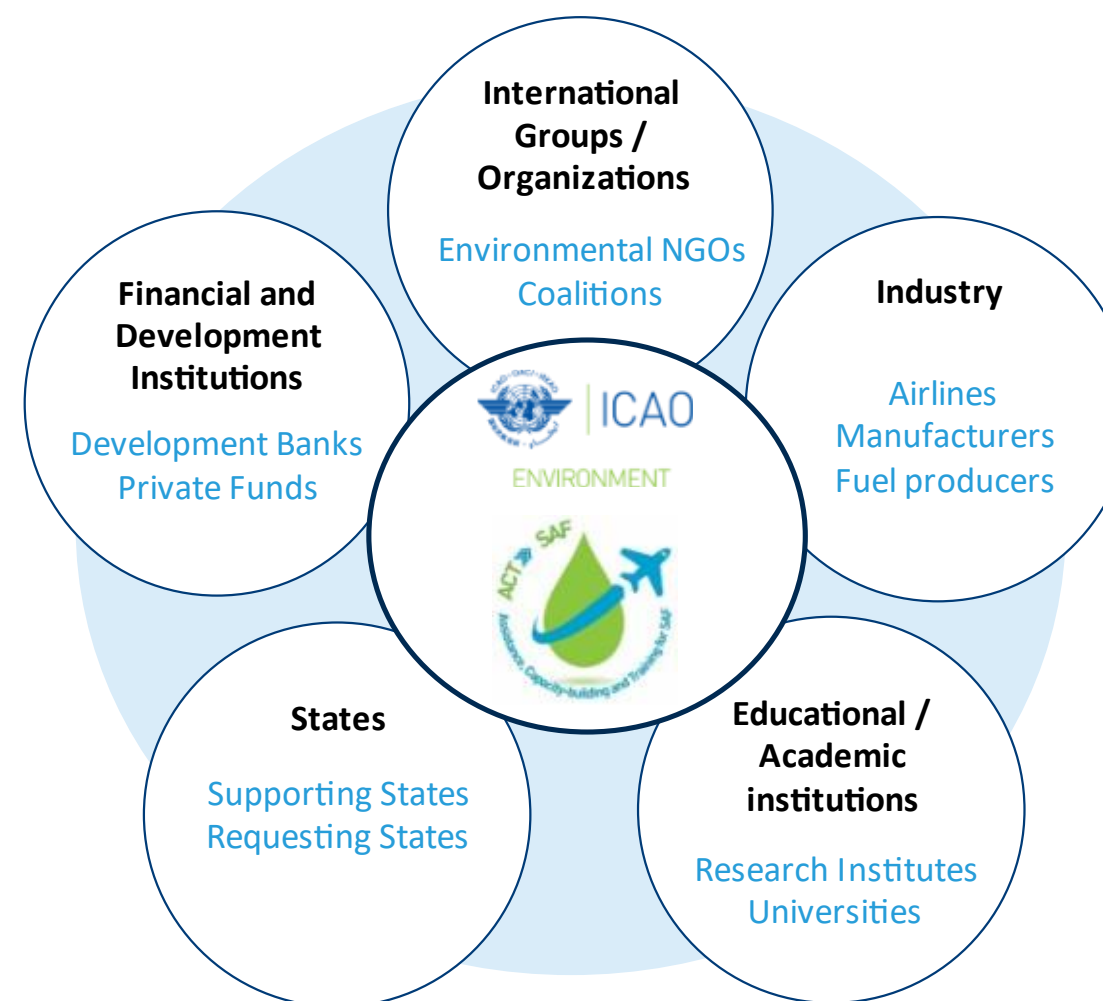
Acceptance T&C (Em branco) Pending Yes



ACT-SAF website provides the details on
ACT-SAF participation and initiatives

Latest news on ACT-SAF

Date	Latest news	Link
01/06/2023	4 States join ACT-SAF (Ghana, Greece, Mali, Zambia)	
24/05/2023	European Commission announces 4 million euros to support SAF development under ACT-SAF	Link
23/05/2023	Inter-American Development Bank joins ACT-SAF	
29/03/2023	IBAC joins ACT-SAF	Link



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ACT-SAF Training Series

ACT-SAF Series

Coordination with ACT-SAF partners identified that many States need conceptual training on SAF.

To address that, ICAO is developing the **ACT-SAF Series of training sessions**, to be held on a monthly basis. This will allow delivering comprehensive training to ACT-SAF Partners on an array of important SAF-related topics, ranging from sustainability, to policy, economics/finance certification and logistics.

The ACT-SAF Series will empower the ACT-SAF Partners with training material designed with the support of Supporting States and Organisations from the air transport, fuels and finance sectors, as well as academics and actors with niche expertise such as SAF reporting under CORSIA.

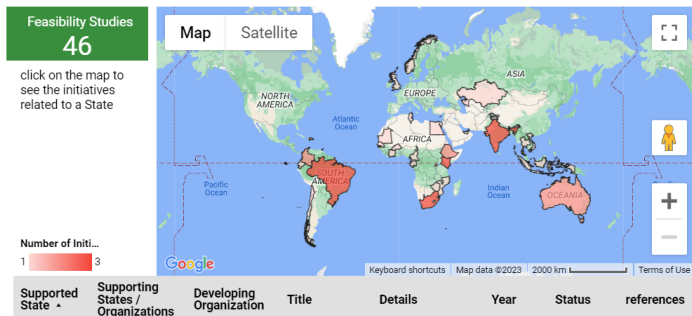
Want to participate on the ACT-SAF Series? Join ACT-SAF now ([click here to access the ACT-SAF Terms and Conditions](#)). Participation is open to all States and Organizations interested in further action on SAF.

ACT-SAF Series	Date	Topics	Contributor(s)	Abstract	Video and Presentation
#1	25 November 2022	An introduction to SAF	ICAO	- Introduction to ACT-SAF - Basics of SAF	 Download Presentation
#2	25 January 2023	SAF sustainability and reporting under CORSIA	ISCC RSB Verifavia	- process for sustainability certification of SAF - Reporting and verification of SAF Claims under CORSIA	 Download Presentation
#3	23 February 2023	SAF technology and certification	Airbus US FAA Safran	- specifications for aviation turbine fuels - process for approval for new production pathways	 Download Presentation
#4	23 March 2023	SAF policies	Brazil, European Commission, France, Japan, Singapore, United Arab Emirates, United States	- Practical experiences from States that are developing a policy for SAF - Sharing of knowledge in the policy development	 Download Presentation

ICAO ACT-SAF Platform

ICAO ACT-SAF platform of implementation support initiatives

Many ACT-SAF partners and aviation stakeholders are supporting implementation energies for aviation, including Sustainable Aviation Fuels. The dashboards below provides a summary of these initiatives ([click on the drops for details](#))



Supported State	Supporting States / Organizations	Developing Organization	Title	Details	Year	Status	references
Ecuador	United States	Washington State University	ASCENT project	The project will identify waste and biomass feedstock availability, analyze new pathways to optimize SAF production, and assess infrastructure needs and logistical requirements for a holistic approach to SAF supply chain development for each region. It will also identify existing industries and barriers.	2023	under development	https://www.icao.int/Meetings/SAFE/Docs/SAFE%20WP1%20United%20States%20SAF%20Development%20and%20Priorities.pdf

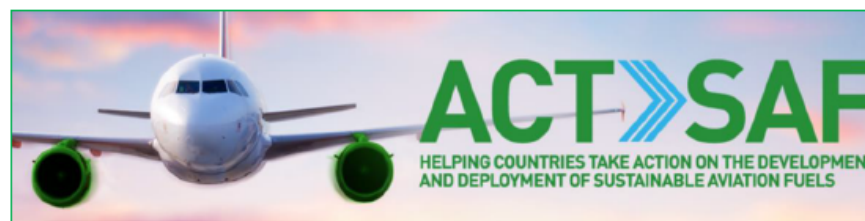


4 Upcoming Events

Dates	Event	Venue	Reference
11-13 July 2023	ICAO Stocktaking 2023	Montréal, Canada	https://www.icao.int/Meetings/stocktaking/Pages/stocktaking.aspx
3-5 July 2023	First AFCAC Workshop on Acceleration of Development and Deployment of Sustainable Aviation Fuels (SAFs)	Addis Ababa, Ethiopia	N.A.
2-4 October 2023	Sustainable Aviation Futures North America	Houston, USA	https://www.safcongress.org/
21-24 November 2023	Third ICAO Conference on Aviation and Alternative Fuels (CAAF-3)		https://www.icao.int/Meetings/CAAF3/Pages/default.aspx

ACT-SAF Feasibility Studies Template and Guide

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TEMPLATE FOR FEASIBILITY STUDIES ON SUSTAINABLE AVIATION FUELS

The ICAO Assistance, Capacity-building and Training for Sustainable Aviation Fuels (ACT-SAF) Programme was launched in June 2022. Its objective is to enable States to develop their full potential in SAF development and deployment, in line with the ICAO's *No Country Left Behind* initiative, the 2050 ICAO Vision for SAF, and the three main pillars of sustainable development recognized by the United Nations.

This template has been developed in the context of the ICAO ACT-SAF Programme to facilitate the preparation of standardized feasibility studies on SAF. The template can be used to assess the feasibility of SAF development and deployment both at the State and Regional level. ICAO has developed an interactive guide to assist in the preparation of feasibility studies following the structure defined in this template

The information to be included in a feasibility study will be determined by the preparer to demonstrate the potential for the SAF development and deployment in the State under consideration. To ensure the consistency of information across different feasibility studies, it is recommended that all sections of the template be elaborated in a clear and concise manner. In parts where this may not be applicable, an appropriate explanation should be provided. It should also be noted that this template is by no means exhaustive, and a feasibility study may incorporate additional elements as appropriate.'

The structure of the template is summarized as follows

- Executive Summary
- Section 1: State-specific Information
- Section 2: Evaluation of Feedstocks and Pathways for SAF Production
- Section 3: Implementation Support and Financing
- Section 4: Action Plan

For any questions or assistance, please contact the ICAO Secretariat by email (officeenv@icao.int) indicating "ACT-SAF FS template" in the subject of the email message.

Feasibility Studies and other projects and activities under development



Financial contributions to support ACT-SAF activities

3 new SAF feasibility studies under the existing ICAO-EU project Phase II (**Côte d'Ivoire, Rwanda, Zimbabwe**)

10 additional SAF feasibility studies under ACT-SAF following European Commission's announced 1.6 million euros support.

Significant progress has been made since 2022 ICAO Stocktaking

2022 Stocktaking

➤ Airports delivering SAF



➤ Announced SAF facilities



184

Announced Facilities

➤ ACT-SAF partners

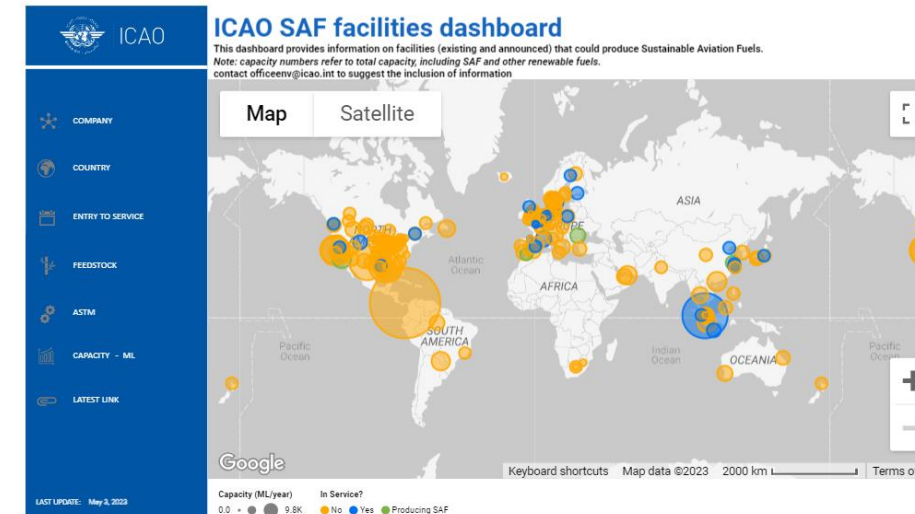


2023 Stocktaking



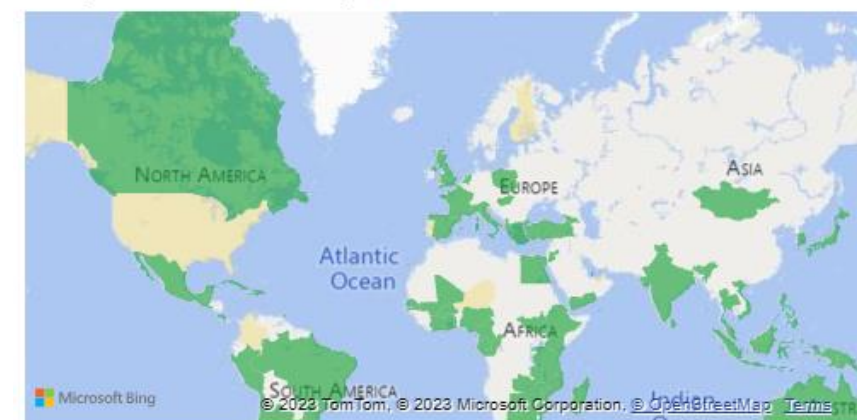
206

Announced Facilities



States

Acceptance to ... Pending Yes



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2023 Stocktaking & Pre-CAAF/3 Moderators Lineup





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How best to cooperate for
the facilitation and
acceleration of aviation
cleaner energy transition?



Together, let us shape
an extraordinary
sustainable aviation
narrative that inspires
generations to come.



Thank You



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