



ICAO

ENVIRONMENT

NO COUNTRY LEFT BEHIND



# New ICAO Activities and State Action Plans

**Neil Dickson**

Chief, Environmental Standards, ICAO Secretariat





ICAO

ENVIRONMENT

NO COUNTRY LEFT BEHIND



## Vision

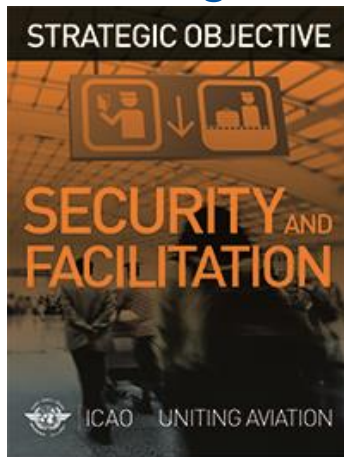
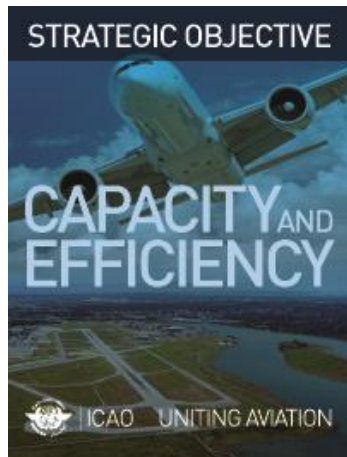
**Achieve the sustainable growth of the global civil aviation system.**



## Mission

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

## ICAO Strategic Objectives

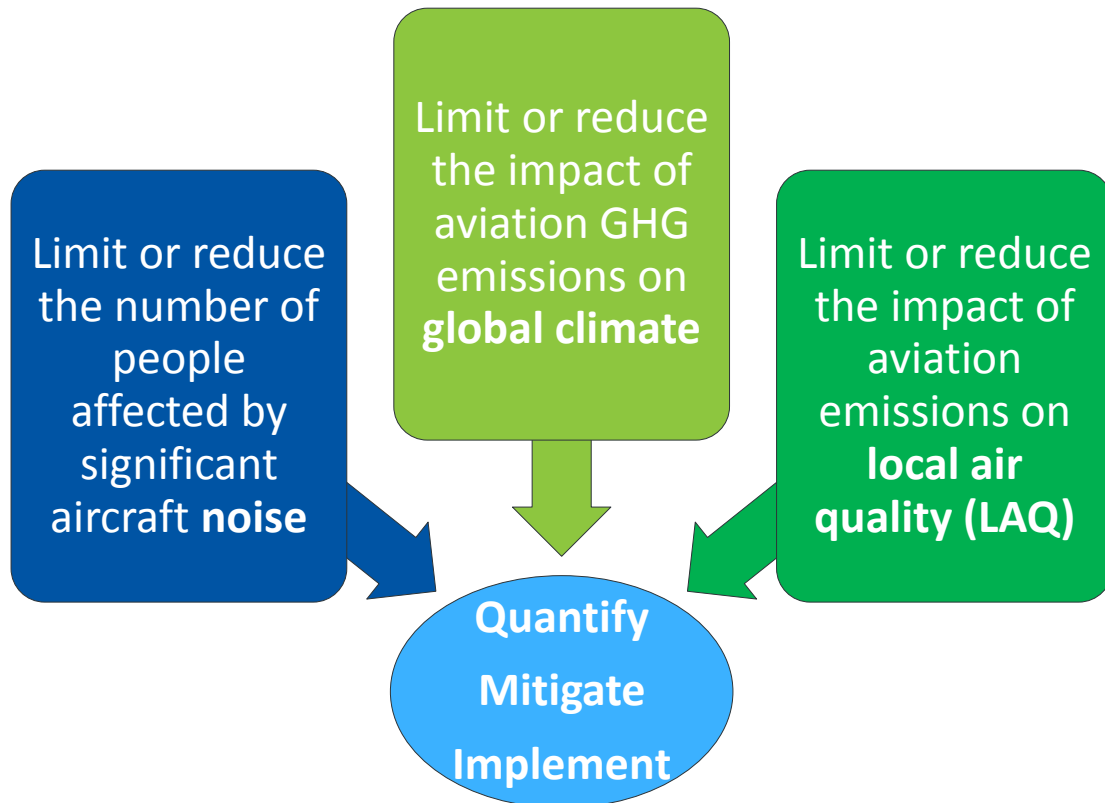




## ICAO Strategic Objective Environmental Protection:

Minimize the adverse  
effect of global civil  
aviation on the  
environment

## ICAO Environmental Goals





## ICAO Global Aspirational Goals – Relationship with State Action Plans

Selecting mitigation measures from the **basket of measures** and quantifying their expected impacts (expected results) are required elements of a State Action Plan

2% fuel improvement per year

Carbon neutral growth from 2020



**BASKET OF  
MEASURES**

Complemented by

**CORSIA**

- ICAO utilizes the information submitted in all States' Action Plans to assess global progress towards the ICAO **global aspirational goals**
- Results are presented in an aggregated manner

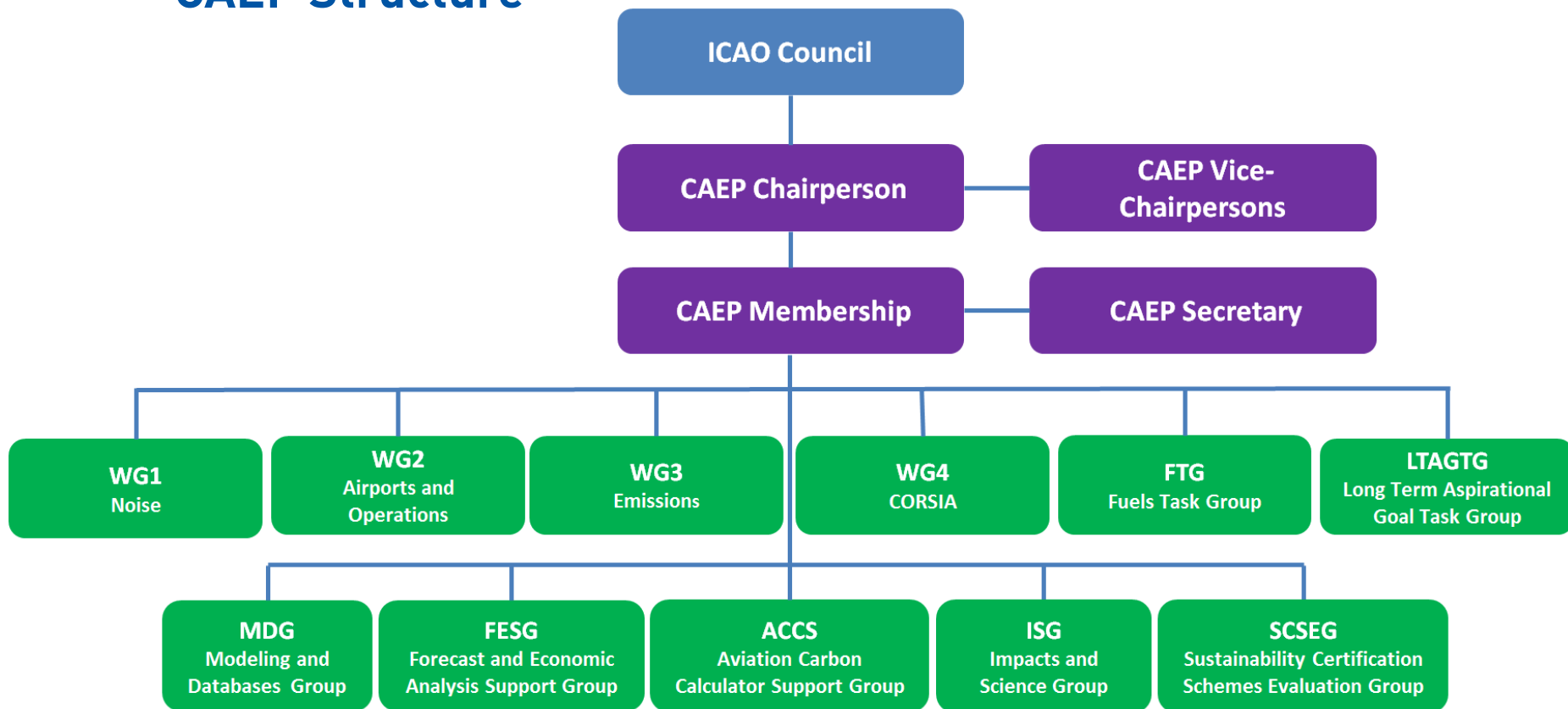


## Basket of CO<sub>2</sub> mitigation measures

Aircraft technology	First-ever <b>global CO<sub>2</sub> certification Standard</b> for new types and in-production aeroplanes. <b>Fast-paced innovation</b> (new designs, composite materials, hybrid-electric aircraft, renewable energy sources, etc.).	
Operational improvements	CO <sub>2</sub> benefits from <b>air traffic management; air navigation; green airports; etc.</b>	
Sustainable aviation fuels	<b>Around 250,000 commercial flights with drop-in aviation fuels; 8 conversion processes; 9 airports distributing drop-in aviation fuels</b>	
Market-based measures	<b>Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)</b>	



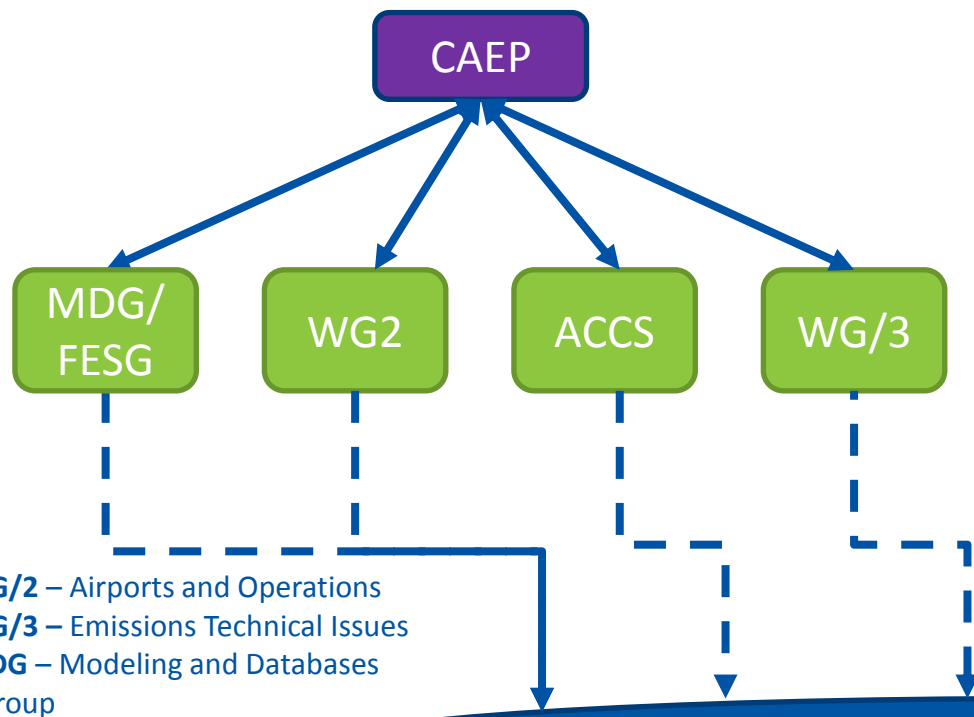
## CAEP Structure







## State Action Plan interactions with CAEP working groups, con't



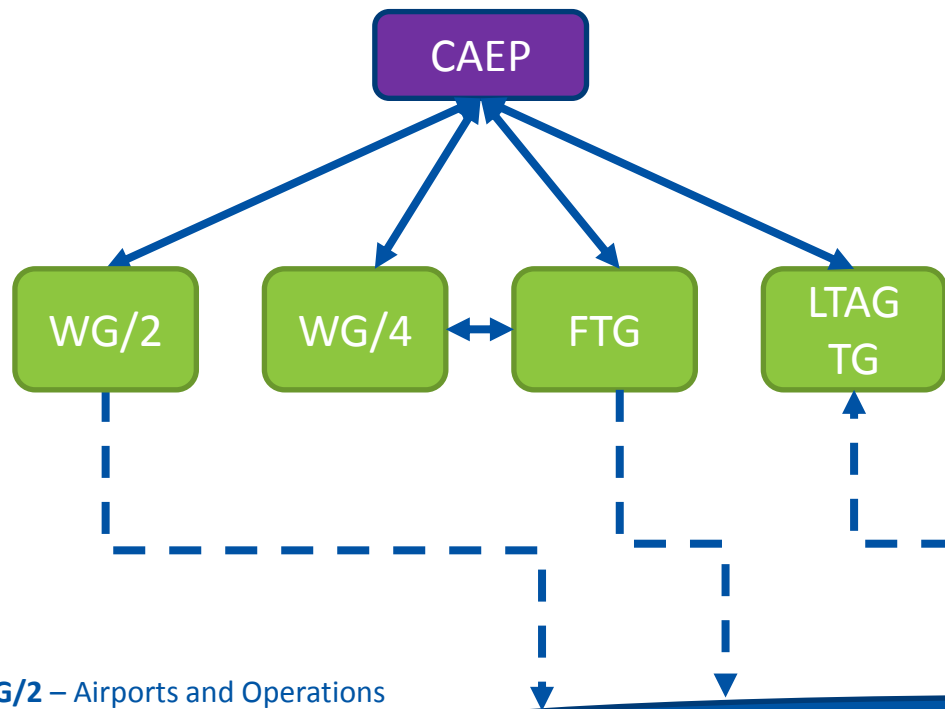
- MDG, FESG and WG2 developed the Rules of Thumb within Doc 9988
- ACCS developed the Carbon Calculator, which can be used within the SAP development process
- WG/3 developed the CO<sub>2</sub> standard, which impacts new aircraft design and production

**WG/2** – Airports and Operations  
**WG/3** – Emissions Technical Issues  
**MDG** – Modeling and Databases  
Group  
**FESG** – Forecasting and  
Economic Analysis Support Group  
**ACCS** – Aviation Carbon Calculator Support Group

State Action Plans



## State Action Plan interactions with CAEP working groups, con't



- WG/2 includes work on air traffic management and flight efficiency (“operational procedures” within the basket of measures)
  - Documents developed by WG/2 can support SAP development
- WG/4 on CORSIA and FTG on fuels. Presentation on CORSIA tomorrow.
- Information from publically-available SAPs can feed into LTAG TG work

**WG/2** – Airports and Operations

**WG/4** – CORSIA

**FTG** – Fuels Task Group

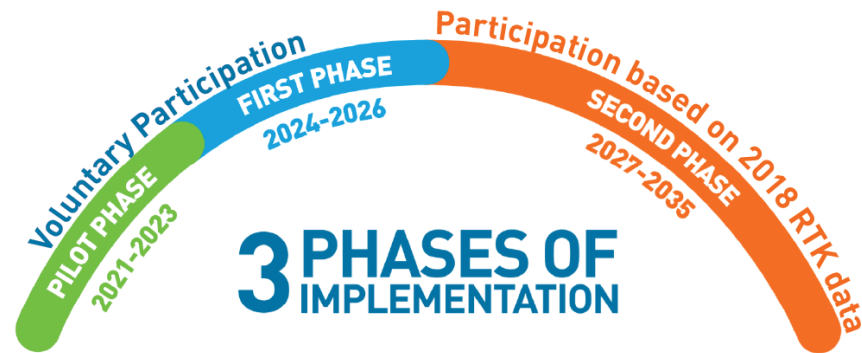
**LTAG TG** – Long Term Aspirational Goal Task Group

State Action Plans





# CORSIA

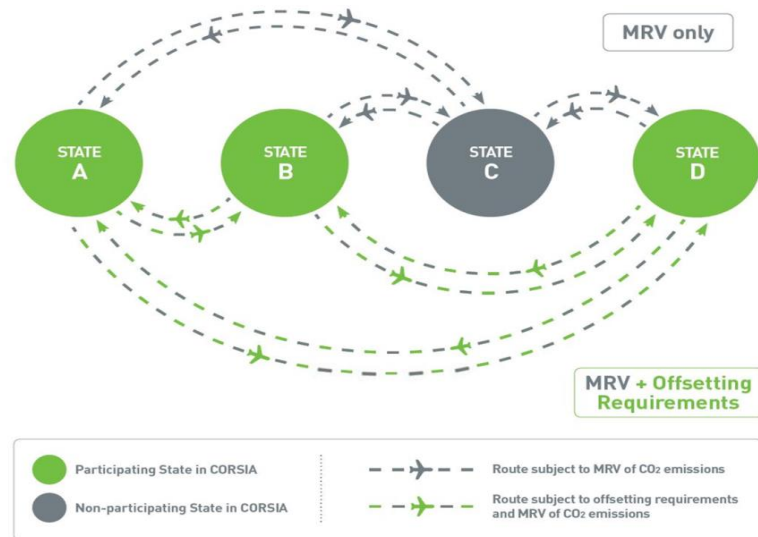


**From 1 January 2021...**

**All States** with operators performing international flights have to continue undertaking the MRV for CO<sub>2</sub> emissions

**All States** with operators performing international flights between States participating in CORSIA have to ensure that these operators comply with the CORSIA offsetting requirements

- SARPs - Annex 16 Volume IV
- ICAO CORSIA Implementation Elements
  - CORSIA States for Chapter 3 State Pairs
  - ICAO CORSIA CO<sub>2</sub> Estimation and Reporting Tool (CERT)
  - CORSIA Eligible Fuels
  - CORSIA Eligible Emissions Units
  - CORSIA Central Registry (CCR)





## CORSIA Eligible Fuels (CEF)

- A sustainability certification process should be followed to determine if the fuel meets the CORSIA requirements.



- Fuel producers** use **Sustainability Certification Scheme (SCS)** as approved by the ICAO Council
- Fuel assessed against the Council-approved CORSIA Sustainability Criteria
- Aeroplane operators** can claim CEF emissions reduction from CORSIA offsetting requirements

Emissions reduction by the CEF depends on its **life cycle emissions values (LSf)**, with **default values or calculation methodologies** provided by ICAO.

**For the purpose of the State Action Plan, States may use the CORSIA default life cycle emissions values and the methodology for calculating actual life cycle emissions values.**



## Fuel efficiency & aircraft technology

2% fuel improvement per year

ICAO develops **standards, policies and guidance** to ensure that the latest technology is incorporated to new type and in-production aircraft.

### Annex 16 Vol III - ICAO Aeroplane CO<sub>2</sub> Emissions Standard (2016)

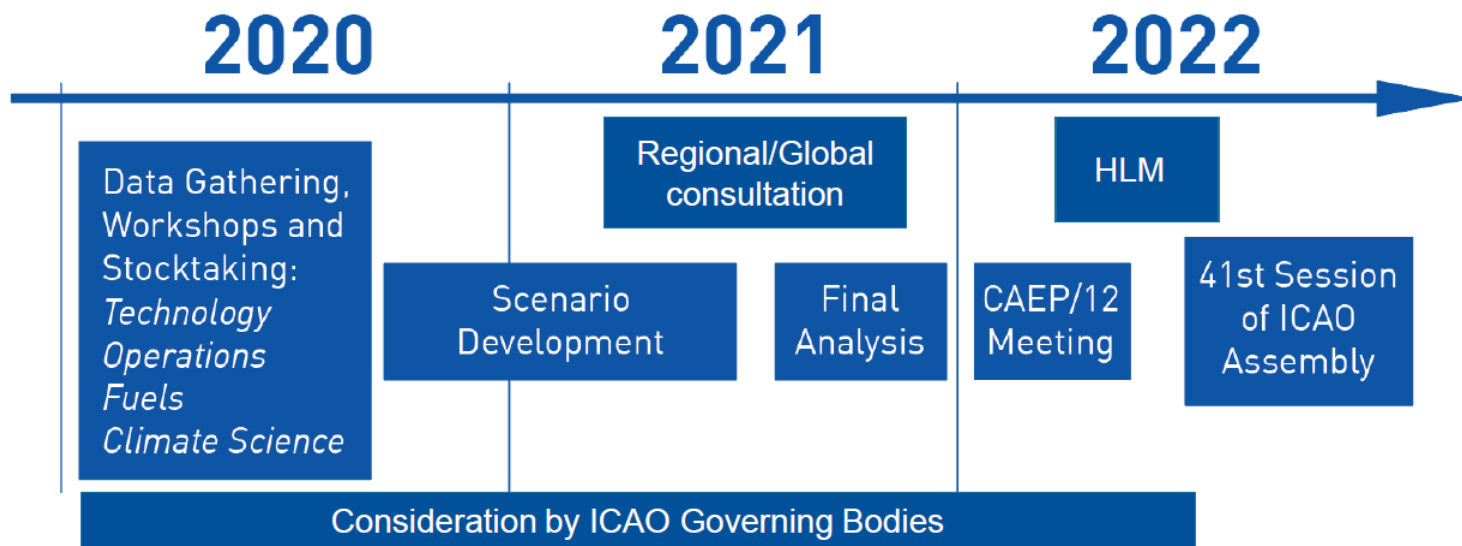
- New aircraft type designs from 2020
- Aircraft that are already in production as of 2023

States may be interested in highlighting their compliance with this standard within their State Action Plan  
(Mitigation Measure: Technology)



**Exploration of the feasibility of a Long-Term Global Aspirational Goal (LTAG) for international aviation: open & inclusive. Existing, foreseen and innovative measures.**

## General LTAG Work Timeline



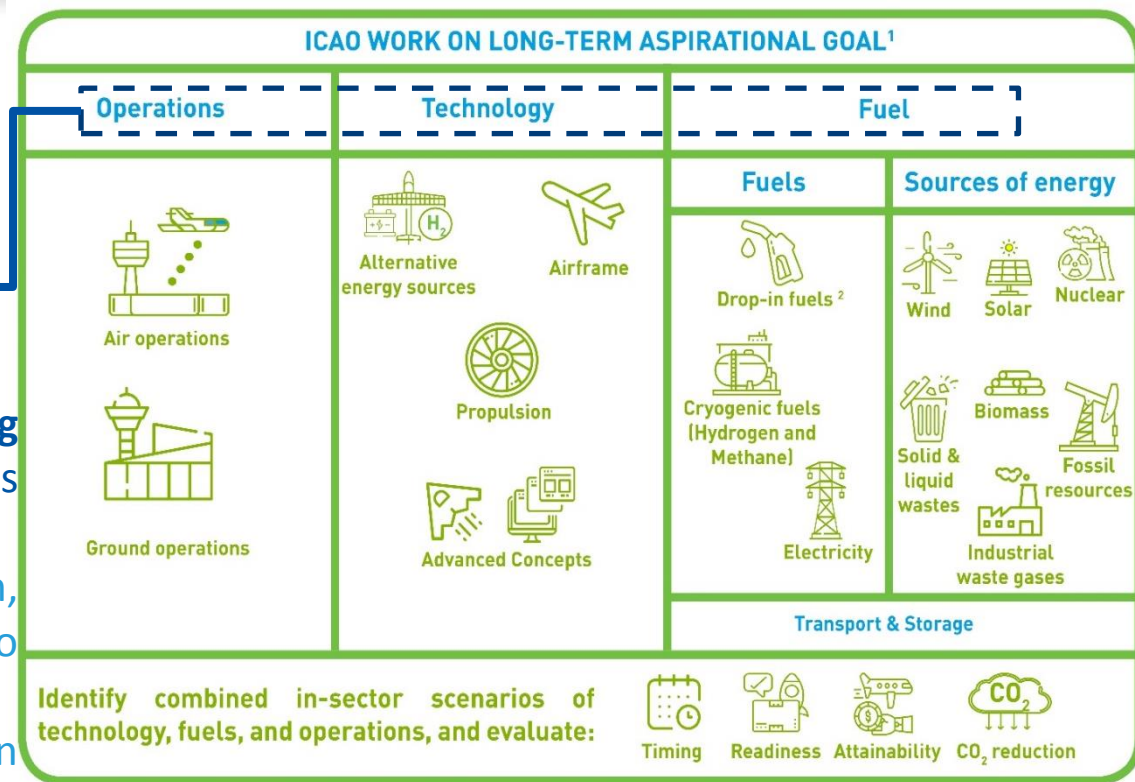


## Interactions between Long-Term Aspirational Goal (LTAG)

### & State Action Plan (SAP)

“In-sector” measures from the  
basket of measures

- LTAG work is assessing both **existing** and **innovative in-sector** emissions reductions measures.
- **SAP → LTAG**: source of information, experiences and good practices to be shared (bottom up)
- **LTAG → SAP**: source of inspiration for you to build **your next State Action Plan** (top down)



<sup>1</sup> This work should identify and evaluate existing, foreseen, and innovative in-sector measures in technology, fuels and operations, and their enablers, including information of probable costs. This will assist in identifying gaps, and information and expertise needed, in order to complete a thorough assessment of all in sector CO<sub>2</sub> reductions for international aviation. This should include timing, readiness, attainability and the quantity of CO<sub>2</sub> reduction possible, based on a feasible roll out into the aviation sector.

<sup>2</sup> Sustainable Aviation Fuels (SAF), Low Carbon Aviation Fuels (LCAF), E-Fuels. Icons made by Freepik from [www.flaticon.com](http://www.flaticon.com)



# ICAO Stocktaking Seminar

- ICAO Stocktaking Seminar on aviation in-sector CO<sub>2</sub> emissions reductions

- 8-11 September 2010
- **More than 1000 participants**
- Over 100 questionnaire
- Feed LTAG process
- “Take stock” of Member States’

and stakeholders’ progress on aviation in-sector CO<sub>2</sub> emissions reductions

- Collecting data on technology, operations and fuels
- Solutions, innovations, visions, roadmaps
- Questionnaires – Support the ICAO work on the feasibility of a long-term global aspirational goal for international aviation



CO <sub>2</sub> reductions per flight	80%
Level of finance required	75%
Timeframe	2025
Main challenges	<ul style="list-style-type: none"> <li>Scaling-up</li> <li>Financing</li> </ul>





## Stocktaking Process



- **Questionnaires**
- Open and inclusive

- All ICAO Member States and relevant stakeholders are invited to submit a Stocktaking Questionnaire to share information on measures they implement or plan to implement



## LTAG work



- **1 - Data Gathering**

- All publically-available SAPs will be considered within the context of the LTAG work

**BOTTOM UP APPROACH**

State Action Plans



## Stocktaking Process



- Questionnaires
- Open invitation



## LTAG work



- 1 - Data Gathering

TOP DOWN APPROACH

- Work on LTAG and Stocktaking: great source of inspiration for you to **build your next State Action Plan**
- Submitted questionnaires from stakeholders in your State may also provide new or updated quantified information that may be relevant for the State Action Plan
  - important role of the SAP Focal Point in coordinating with national Stakeholders

State Action Plans



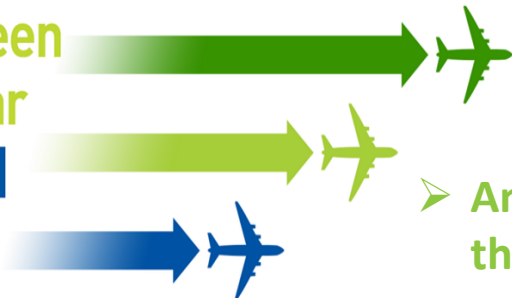
# ICAO Aviation Green Recovery Seminar (23 to 24 November 2020)

## ICAO Aviation Green Recovery Seminar

TIME TO BUILD BACK BETTER

Virtual event | 23 - 24 NOVEMBER 2020

#GreenRecovery



- Answering the call for aviation green recovery in the context of COVID 19 and climate change
- Forum of discussion, with aviation and climate leaders and experts
- Beyond aviation in-sector CO2 reduction measures

Seminar programme – 4 sessions:

1. Climate Crisis and Aviation
2. Deep Decarbonisation Pathways
3. Supporting Green Recovery Beyond Aviation
4. Aviation Global Green Recovery, What's the Plan?



# Three “in-sector” measures aligned with the Global Coalition for Sustainable Aviation

In-sector aviation CO<sub>2</sub> emissions reduction initiatives - Tracker tool

Updates on recent **in-sector** aviation CO<sub>2</sub> emissions reduction initiatives is continuously monitored through the Tracker tool



The main objective of the ICAO Global Coalition for Sustainable Aviation is to promote the sustainable growth of international aviation.

As part of the Coalition, the ICAO in-sector aviation CO<sub>2</sub> emissions reduction initiatives tracker tool provides a variety of information related to initiatives to reduce the environmental footprint of aviation, including details on past and ongoing measures and initiatives.

The tracker tool has **three main streams: Technology, Operations and Sustainable Aviation Fuels.**



Technology



Operations



Sustainable Aviation Fuels

[www.icao.int/ENV](http://www.icao.int/ENV)



## Including New Activities in a State Action Plan

- The adoption of new measures or technologies may require coordination with new stakeholders
  - Research organizations and academia
  - Start-up companies
  - Energy suppliers
  - Battery producers
  - New fuel suppliers
  - Waste management companies
  - NGOs and local communities

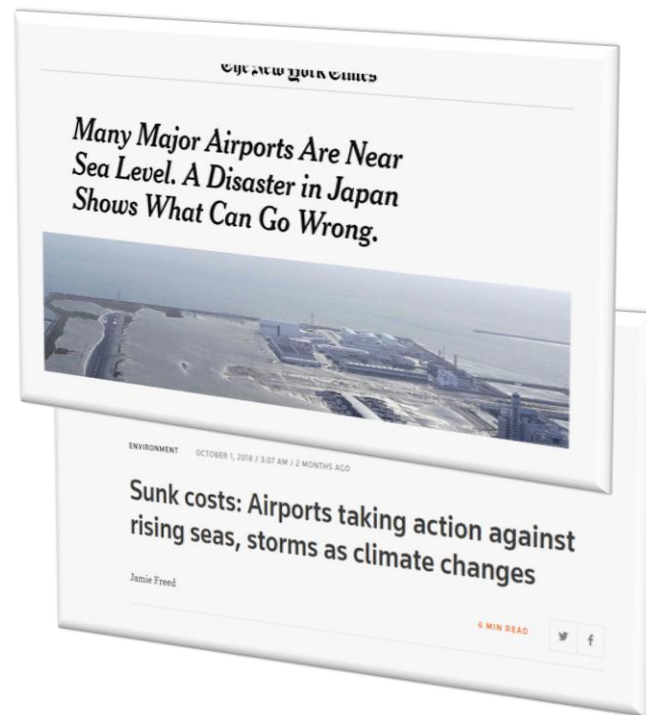
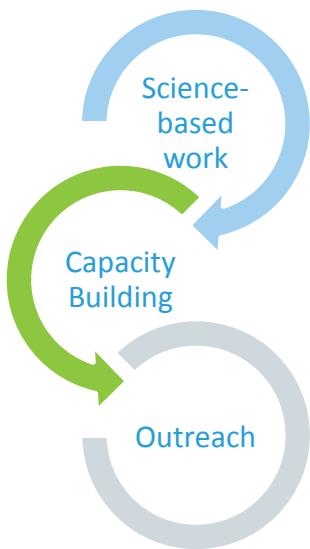




# Airport development, adaptation and resilience to climate change

## ICAO's work:

- Report on the possible effects of climate change on air navigation services over the North Atlantic
- Airport Planning Manual, Part 2 (Doc 9184)
- Climate Adaptation Synthesis (2019)
- Development of a climate change risk assessment methodology
- Cooperation with other UN Bodies
- Build partnerships to implement resilience programs at airports
- Raise awareness, key to enhancing preparedness: ICAO Environmental reports, Green Airport Seminar
- Eco-Airport Toolkit e-collection

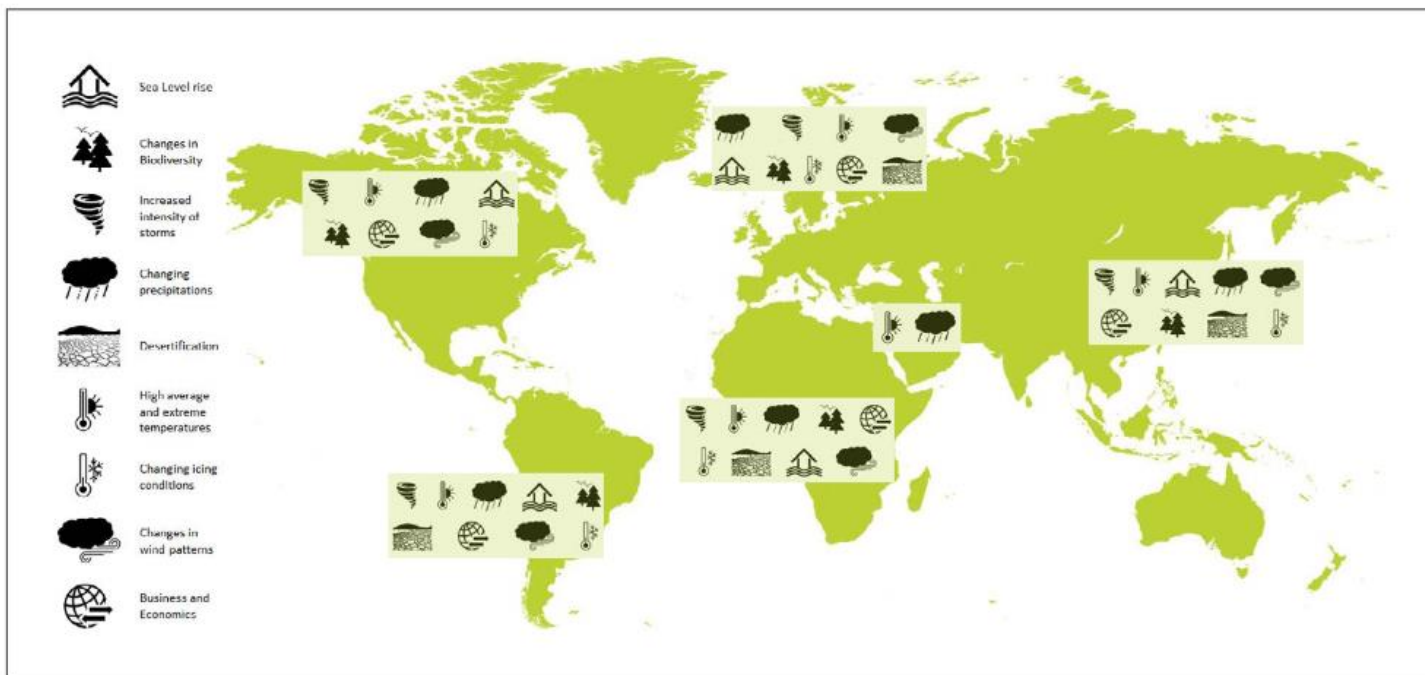






## Climate Adaptation Synthesis (2019)

**FIGURE 1:** Based on replies from ICAO Member States, the ICAO Global Climate Adaptation Risk Map (ICAO, 2019) shows the nature of the climate change impacts on international aviation.



- Not a traditional element of a State Action Plan
- Could be a useful element to consider within the context of your State Action Plan



## Quantification within State Action Plans

- Including quantified information within State Action Plans ensures that:
  - Your State develops a **clear understanding** of the share and projections of international aviation CO<sub>2</sub> emissions
  - ICAO can **assess progress towards the global aspirational goals**
- ICAO has developed a range of tools to support the quantification of the State Action Plans

**A40-18, para 11** – ... **the action plans should include** information on the basket of measures considered by States, reflecting respective national capacities and circumstances, **quantified information** on the expected environmental benefits from the implementation of the measures chosen from the basket, and information on any specific assistance needs;



## Publicly-available State Action Plans

- States that have granted ICAO permission to make their State Action Plan publicly-available are posted on:
  - [https://www.icao.int/environmental-protection/Pages/ClimateChange\\_ActionPlan.aspx](https://www.icao.int/environmental-protection/Pages/ClimateChange_ActionPlan.aspx)
- States are encouraged to make their SAP publicly available
  - Showcases your State's commitment to environmental actions
  - Provides an example for States that have not yet developed a SAP
  - Ensures that your State's information will be considered within:
    - ICAO Work on the Feasibility of a Long-Term Aspirational Goal (LTAG) for International Aviation



## Conclusions

- Think about highlighting your State's compliance with ICAO **standards** within your State Action Plan
- **ICAO Stocktaking and LTAG** work focussed on in-sector reductions:
  - SAPs are a great source of information, experiences and **good practices to be shared** with Stocktaking and LTAG. (Submit a Questionnaire)
  - Stocktaking & LTAG, Green Recovery and the Innovation Symposium are a great source of **inspiration** for you to build your next State Action Plan (ICAO TV)
- In order to include new activities within a State Action Plan, coordination with **new stakeholders** may be needed
- Think about **adaptation and resilience** for your next State Action Plan
- Interdependencies with other sectors require **strong coordination** and long term sustainable solutions should include **holistic approaches**



ICAO

ENVIRONMENT

NO COUNTRY LEFT BEHIND



ICAO

North American  
Central American  
and Caribbean  
(NACC) Office  
Mexico City

South American  
(SAM) Office  
Lima

ICAO  
Headquarters  
Montréal

Western and  
Central African  
(WACAF) Office  
Dakar

European and  
North Atlantic  
(EUR/NAT) Office  
Paris

Middle East  
(MID) Office  
Cairo

Eastern and  
Southern African  
(ESAF) Office  
Nairobi

Asia and Pacific  
(APAC) Sub-office  
Beijing

Asia and Pacific  
(APAC) Office  
Bangkok



THANK YOU