



ICAO's Aviation Sustainability Efforts

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Presentation overview

- **Aspirational goals**
- **Basket of measures**
 - Technology and operational improvements
 - CORSIA
 - Sustainable Aviation Fuels
- **Other developments**

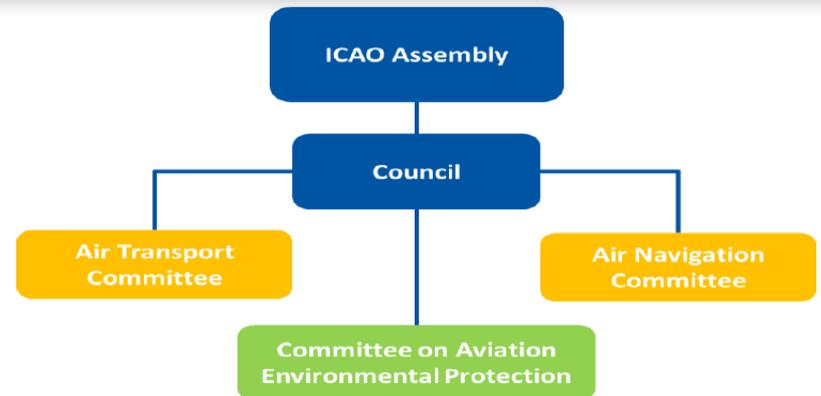
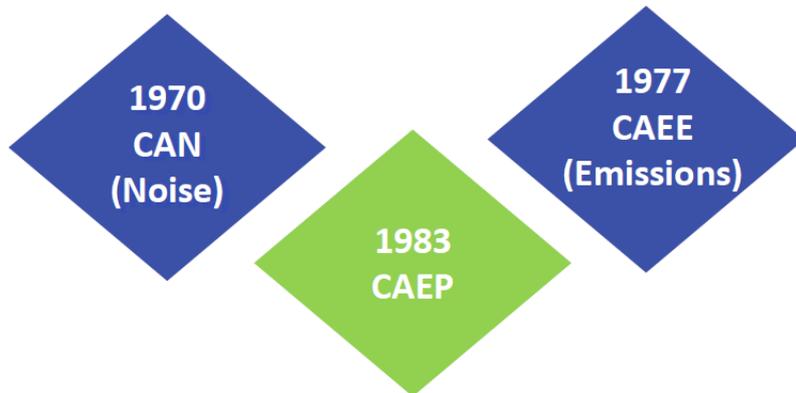


ICAO oversees sustainability efforts for international aviation

- **Environmental role of ICAO enshrined in UN Framework Convention on Climate Change (UNFCCC) and Kyoto Protocol**
 - Article 2.2 'Parties included in Annex I shall pursue limitation or reduction of emissions of greenhouse gases ... working through the **International Civil Aviation Organization** and the International Maritime Organization, respectively'
- **ICAO's Assembly Resolution on Climate Change (A40-18) sets out ICAO's role, policies and practices**
- **Technical work on environment is done by Committee on Aviation Environmental Protection (CAEP)**
 - Comprises technical experts from States and the industry
 - Reports directly to the Council
 - Covers CO₂, Noise, NvPM Standards and many other areas associated with environment protection.



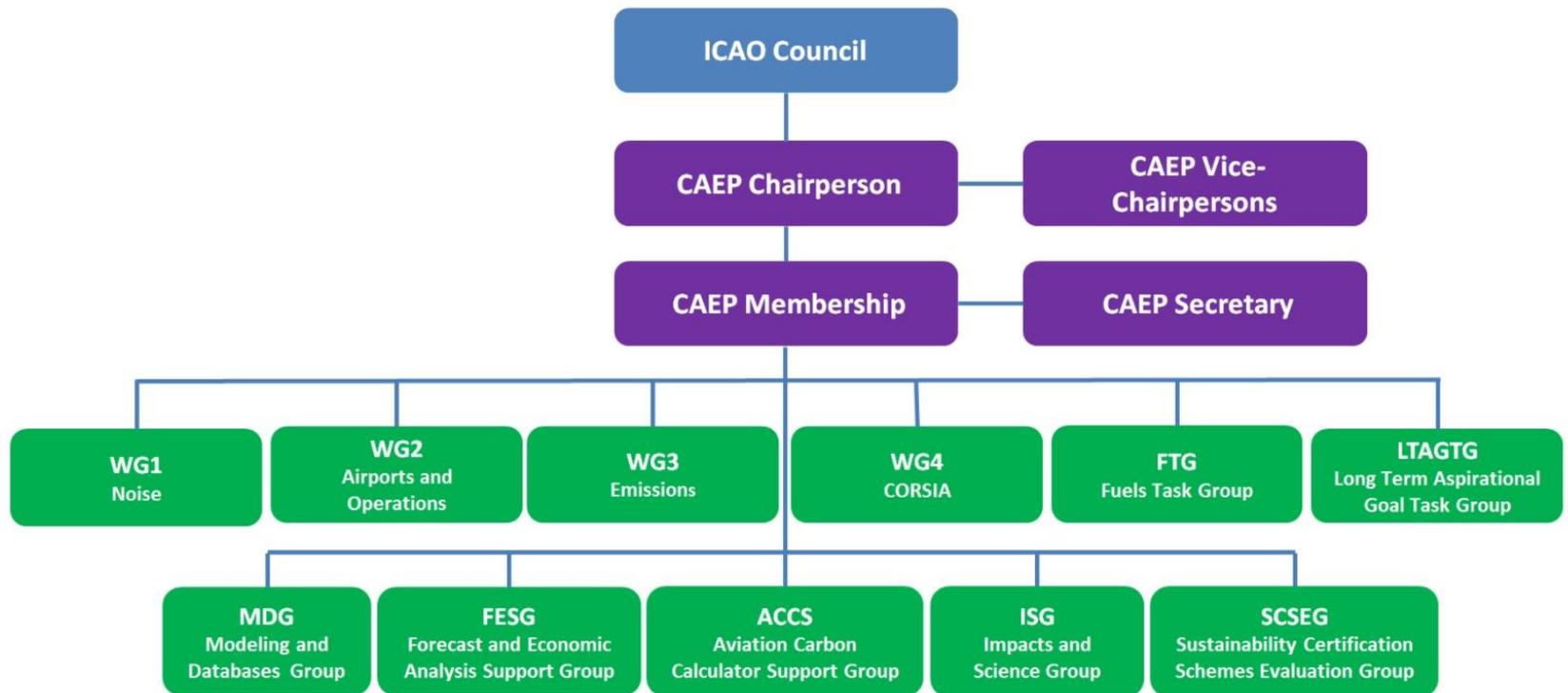
Committee on Aviation Environment Protection (CAEP)



- Established by the ICAO Council in 1983, supersedes CAN and CAEE
- A long history of assisting the ICAO Council in formulating new policies and adopting new SARPs for aircraft noise and aircraft engine emissions
- It is a technical committee and reports to the ICAO Council

CAEP structure and working groups

CAEP Structure (Leading up to CAEP/12)



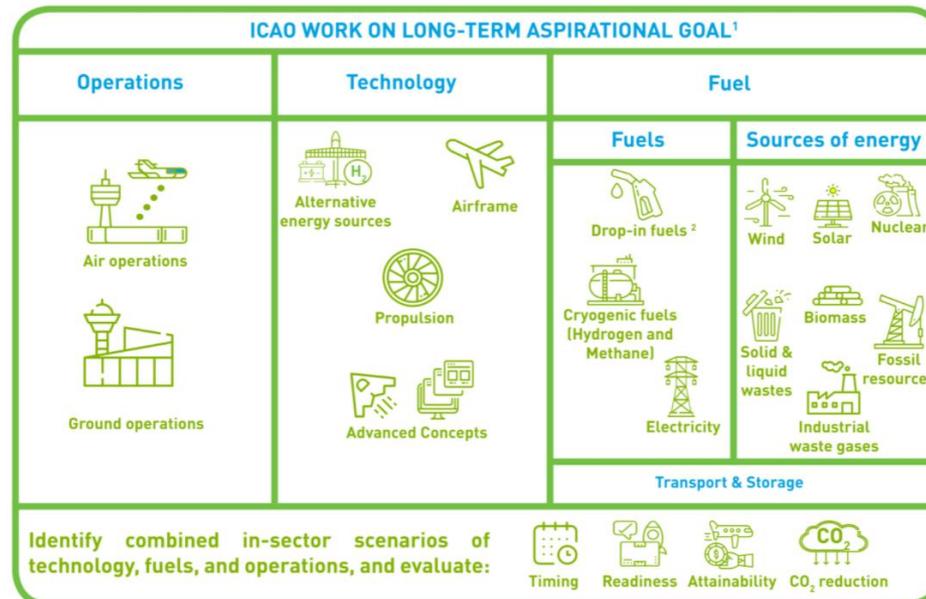
ICAO's global aspirational goals

Existing

- Established at 37th ICAO Assembly in 2010:
 - 1) 2% annual fuel efficiency improvement through 2050
 - 2) Carbon neutral growth from 2020 (CNG2020)

Under development

- A long-term aspirational goal (LTAG) is being developed, and its progress will be presented at the 41st Assembly in 2022
 - Bottom-up approach driven by CAEP
 - Engagement of States through Global Aviation Dialogues



A 'Basket of Measures' approach has been developed by ICAO to achieve its environmental goals

Basket of measures



Aircraft technology



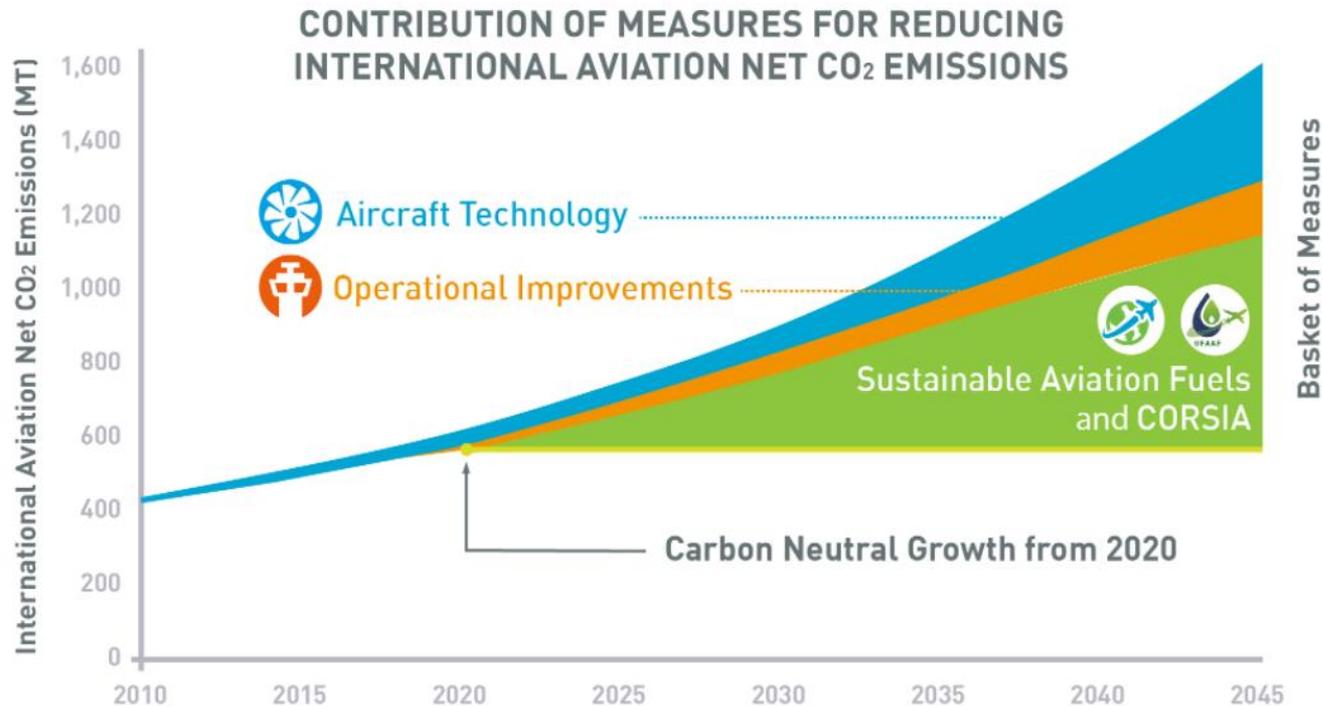
Operational improvements



Market-based measures



Sustainable aviation fuels



Source: ICAO

Basket of Measures: Technology and Operational improvements

Technology

- **Improvements to aircraft technologies increase fuel efficiencies and reduce fuel burn and CO2 emissions**
- **The ICAO Aeroplane CO2 Emissions Standard**, adopted in 2017, ensures that the latest fuel efficiency technologies are implemented into new aircraft

Operations

- **Efficient and optimised air traffic management (ATM) procedures reduce fuel burn and CO2 emissions**
- ICAO's **Global Air Navigation Plan (GANP)** and **Aviation System Block Upgrades (ASBUs)** are major initiatives developed by ICAO to improve operational efficiencies

Basket of Measures: Carbon Offsetting and Reduction Scheme for International Aviation (CORSA)

- **First global MBM scheme for any industry sector**
- Scheme works by having airlines **offset annual increases in total carbon emissions from international aviation above 2019* levels**, via reduction through **carbon offsets** and/or **sustainable aviation fuels**
 - CORSIA a key enabler of ICAO's CNG2020 target
- **Adopted in 2016. Came into effect this year, taking on a phased implementation approach.**
 - 88 voluntary States in 2021, to increase to 106 in 2022



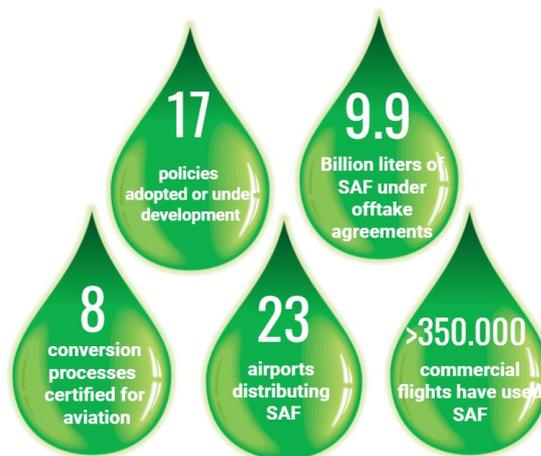
Basket of Measures: Sustainable Aviation Fuels (SAF)

- **SAF offers significantly lower lifecycle CO2 emissions and reduced non-CO2 emissions compared to conventional fossil jet fuel**
 - Up to 80% depending on conversion technology and supply chain setup.
- **SAF certified to same ASTM standards as conventional fossil jet fuel**
 - No need for additional infrastructure, suitable for all aircraft with no change in turnaround times
- **Rapid developments in past decade**



Basket of Measures: Sustainable Aviation Fuels (SAF)

- **ICAO has established sustainability criteria for SAF use under CORSIA**
 - To ensure life cycle emissions reductions and for feedstock not to be obtained from land with high carbon stock
 - Additional criteria being developed to address other aspects of sustainability (e.g. impacts to water, soil, and air)
- **ICAO's Second Conference on Aviation and Alternative Fuels (2017) endorsed the 2050 ICAO Vision for SAF, calling for a significant proportion of SAF use by 2050**
- **ICAO tracks developments on SAF and publishes facts and figures on its website**



Other developments at ICAO

- **ICAO Global Coalition for Sustainable Aviation**
 - Comprises industry and research partners working towards innovative climate solutions for aviation
- **ICAO Stocktaking Seminar on Aviation CO2 Emissions**
 - A platform for industry, States, technology providers and researchers to discuss and share plans for decarbonising international aviation
 - Upcoming seminar to be held on 31 Aug – 3 Sep
- **ICAO State Action Plan initiative**
 - Encourages ICAO Member States to establish long-term strategies for climate change, updated every three years
 - Guidance documents, tools, and capacity building support provided

