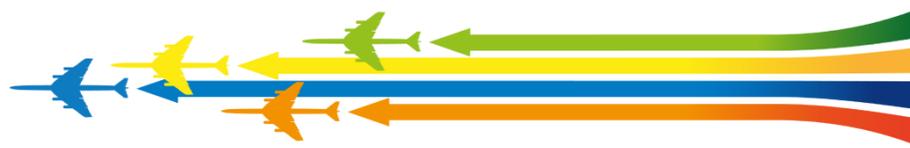




ICAO

UNITING AVIATION

E-GAP



ICAO Global Aviation Partnerships on Emissions Reductions (E-GAP)

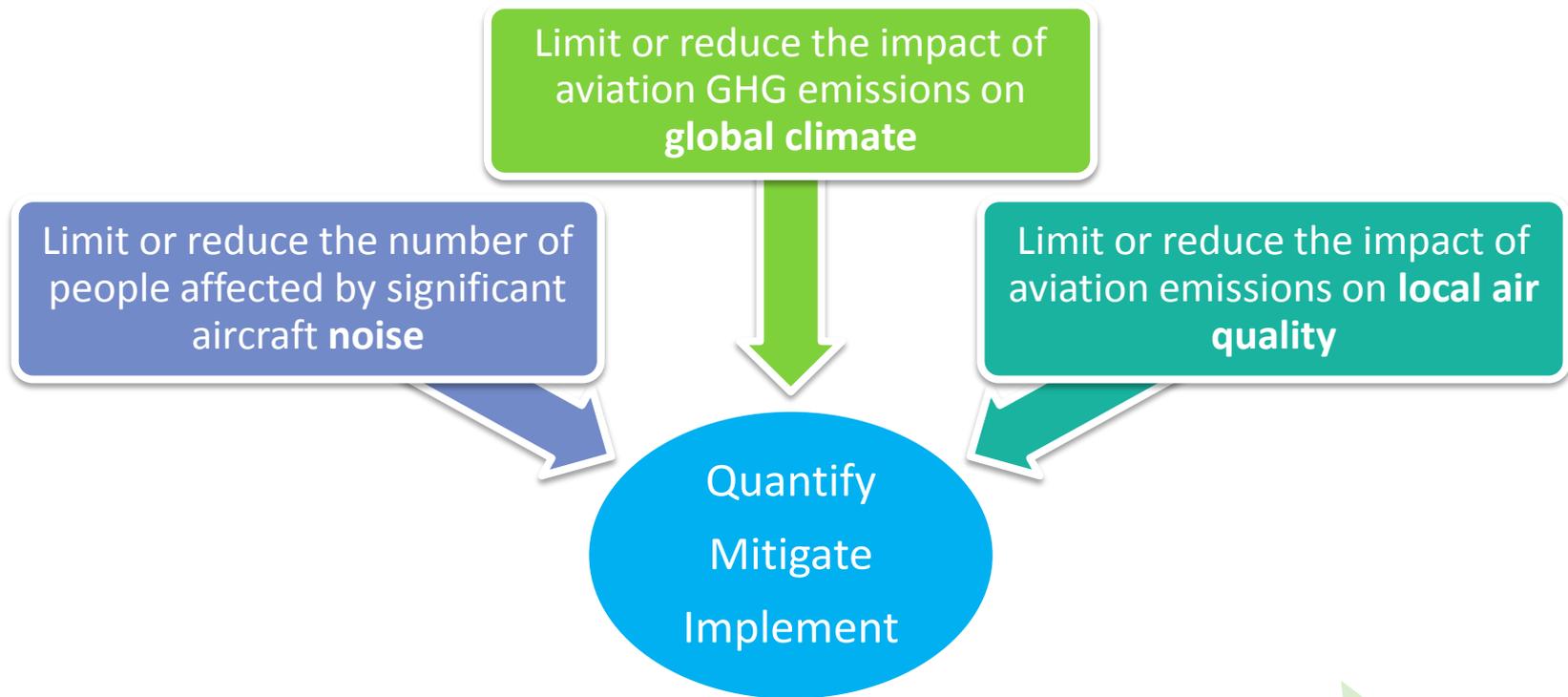
Session 1: Partnerships to advance the Scientific Understanding of Aviation and Climate Change

Jane Hupe

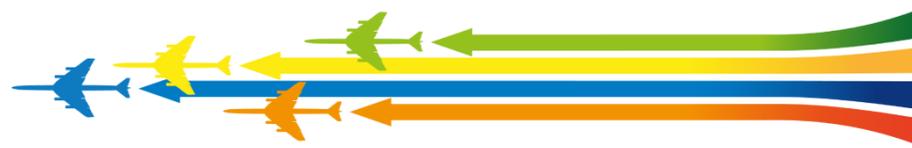
Deputy Director, Environment, ICAO



ICAO's Environmental Goals



Minimize the adverse effect of global civil aviation on the environment



ICAO's Environmental Work - 3 Pillar Approach

Approach to Quantification through:

- Data Collection and Compilation (RTK, Fuels and Emissions Reduction)
- Forecasting
- Modelling

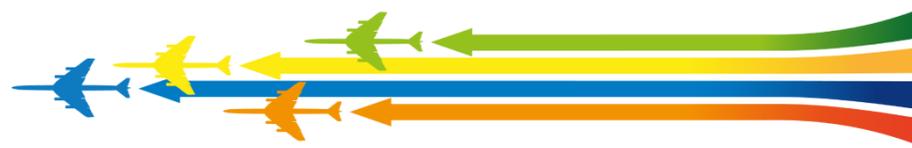
Identification of Mitigation Measures through:

- Aircraft Technology
- Operational Improvements
- Sustainable Alternative Fuels
- Market-based Measures

BASKET OF MEASURES

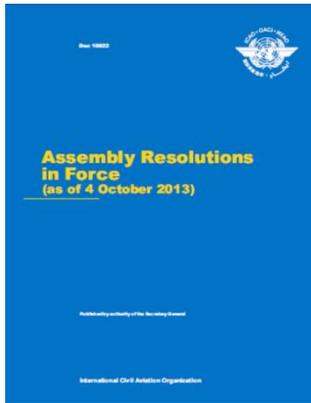
Approach to Implementation through:

- States' action plans and Assistance to States
- Global action to implement measures to reduce CO₂



ICAO Policy, SARPs and Guidance

ICAO Policy



ICAO Assembly Resolution

A38-18:

Consolidated statement of continuing ICAO policies and practices related to environmental protection - Climate change

SARPs



Annex 16 - Environmental Protection

Volume I, Aircraft Noise

Volume II, Aircraft Engine Emissions

Volume III, Aeroplane CO₂ Emissions (under development)

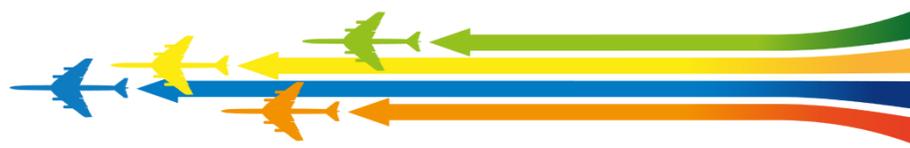
Guidance



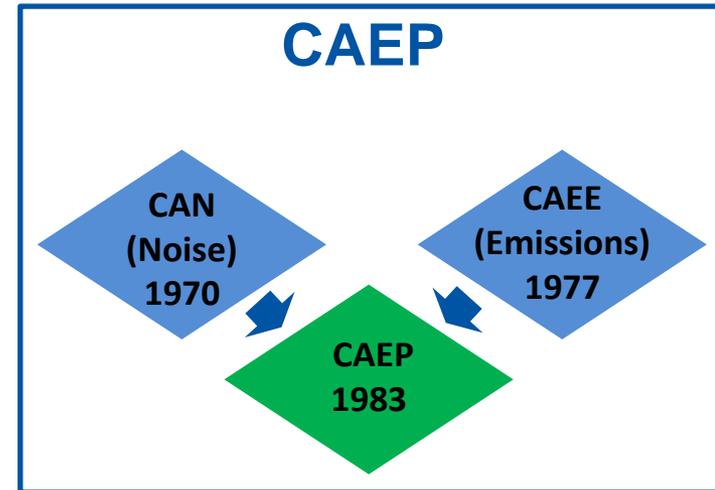
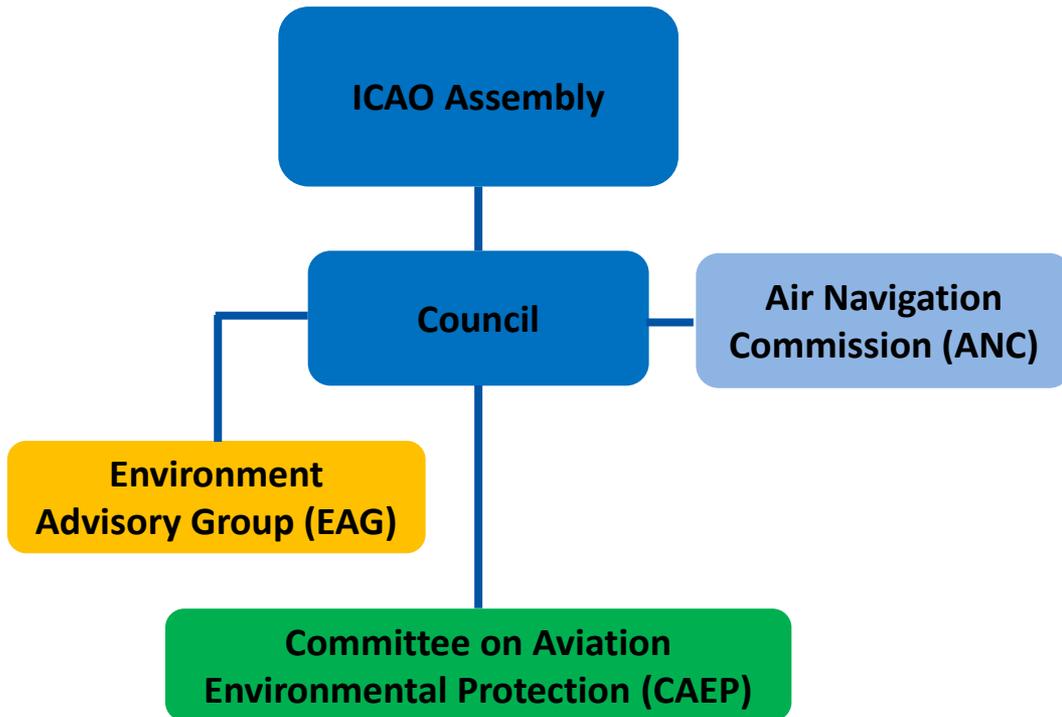
Various guidance on noise, LAQ and climate change, e.g.

Airport Air Quality Manual (Doc 9889)

Environmental Assessment of Proposed ATM Operational Changes (Doc 10031)



ICAO's Environment Governance





Committee on Aviation Environmental Protection (CAEP)

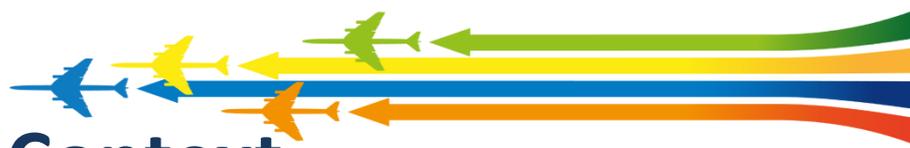
- **22** members and **16** observers.
- **600** international experts involved.

Members (23 States)

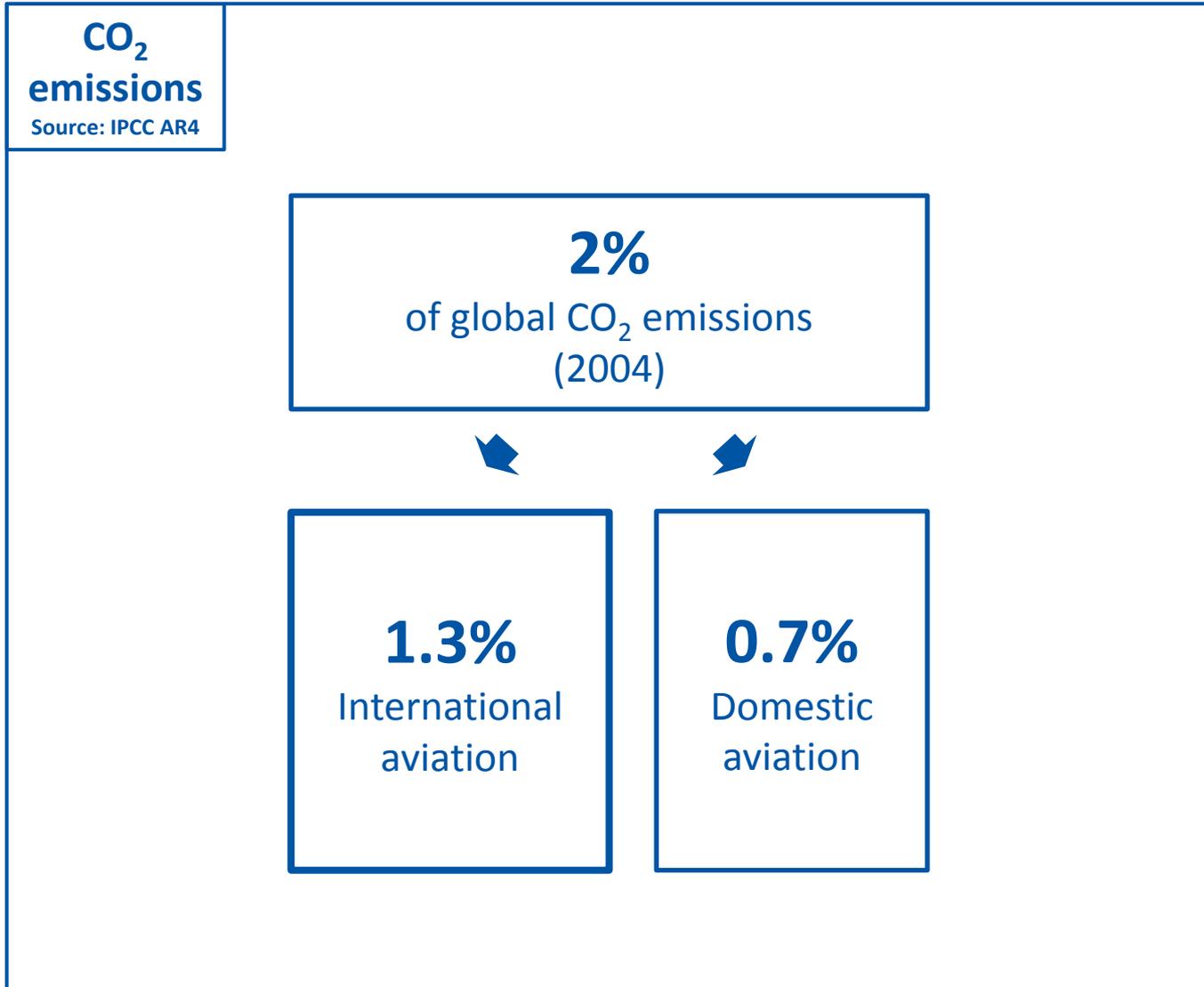
Argentina	Australia	Brazil
Canada	China	Egypt
France	Germany	India
Italy	Japan	Netherlands
Poland	Russian Federation	Singapore
South Africa	Spain	Sweden
Switzerland	United Kingdom	Ukraine
United States		

Observers (6 States and 10 Organisations)

Greece	Indonesia	Norway
Saudi Arabia	Turkey	United Arab Emirates
ACAC	ACI	CANSO
EU	IATA	IBAC
ICCAIA	ICSA	IFALPA
UNFCCC		



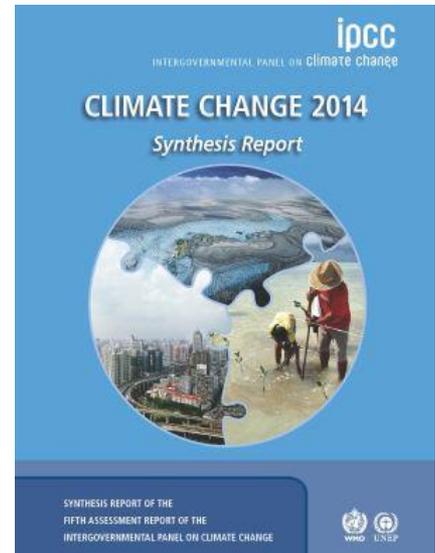
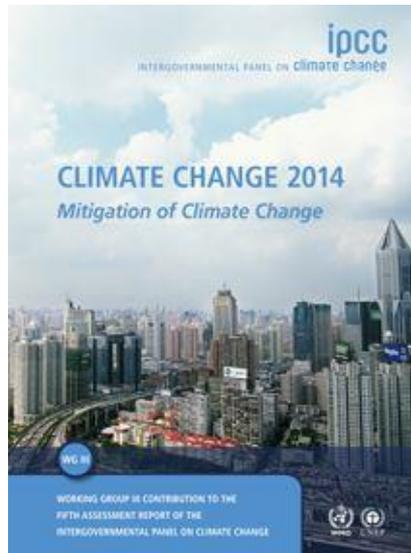
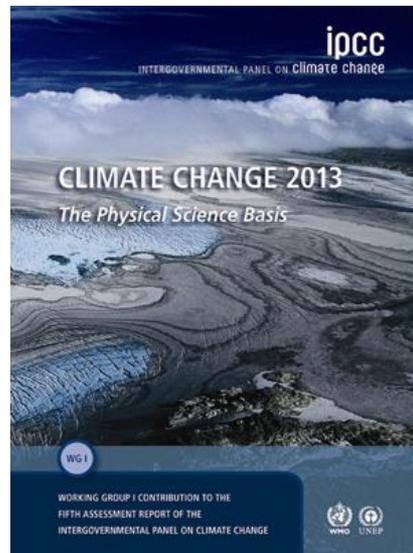
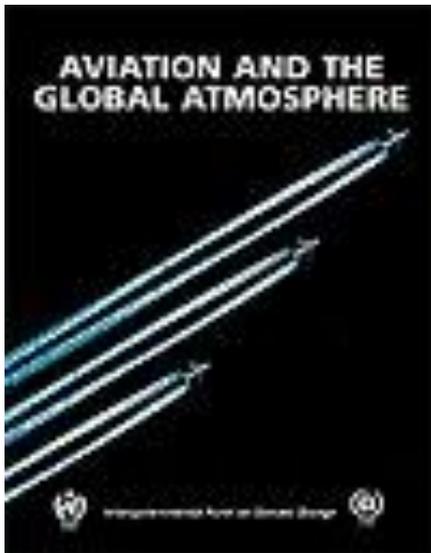
Aviation in Context





Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5), 2013-2014

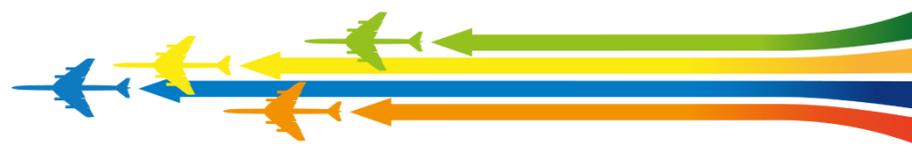
- “Warming of the climate system is unequivocal”
- “Human influence on the climate system is clear”
- “It is *extremely likely* that human influence has been the dominant cause of the observed warming since the mid-20th century”





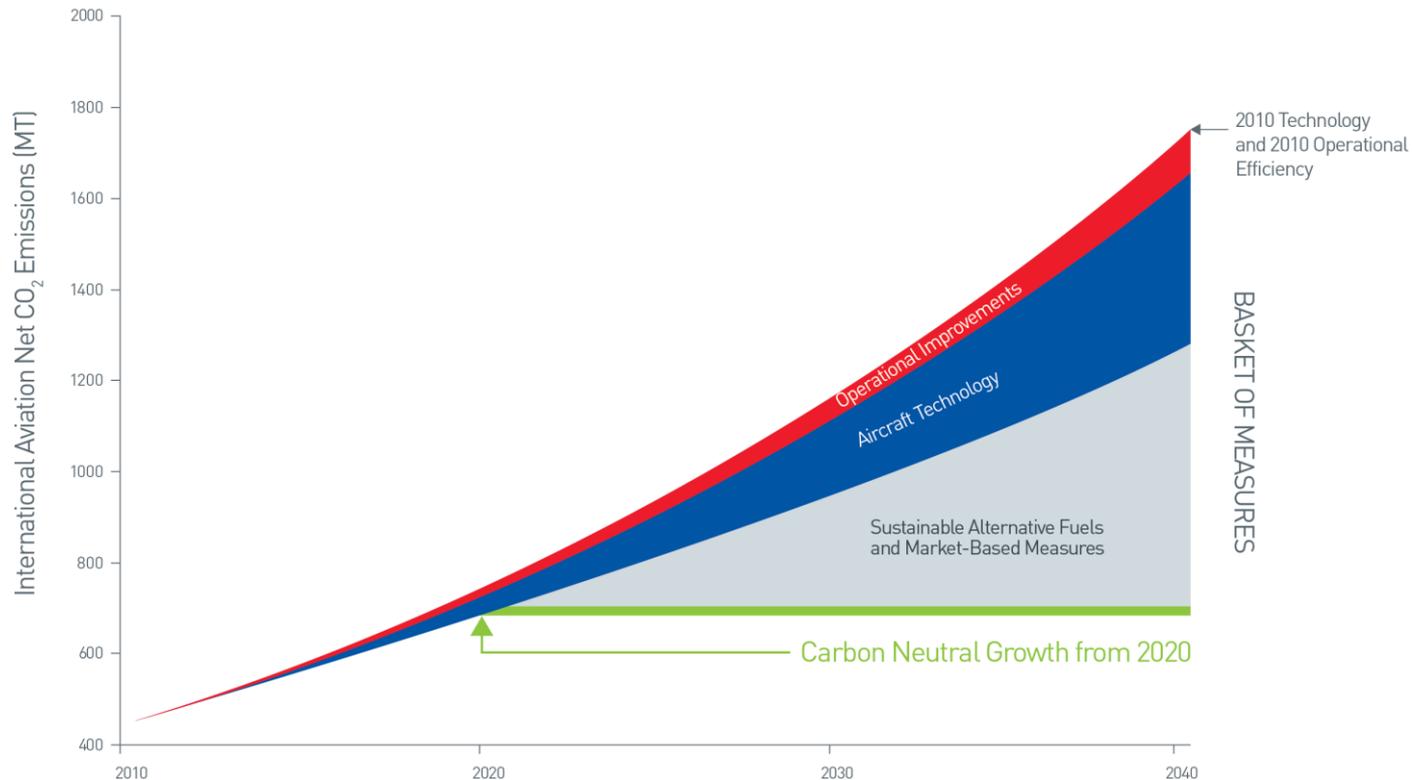
CAEP Impacts and Science Group (ISG)

- CAEP Aviation Environmental Impacts Seminar in Feb 2015
- 4 White Papers under development by CAEP/10 in Feb 2016
 - Aviation and Climate
 - Climate Impacts on Aviation (Adaptation)
 - Aviation Impacts on Air Quality
 - Aviation Noise Impacts



CAEP Modelling and Databases Group (MDG)

Contribution of Measures for Reducing
International Aviation Net CO₂ Emissions



- Global aspirational goal: carbon neutral growth from 2020
- To be achieved through a basket of measures

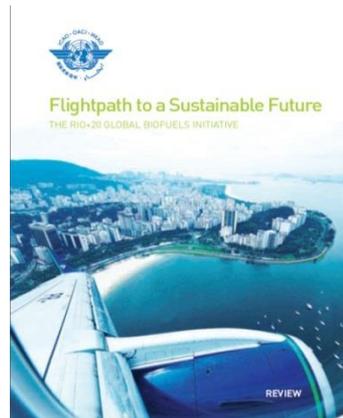
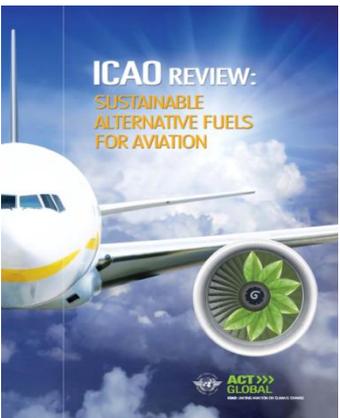
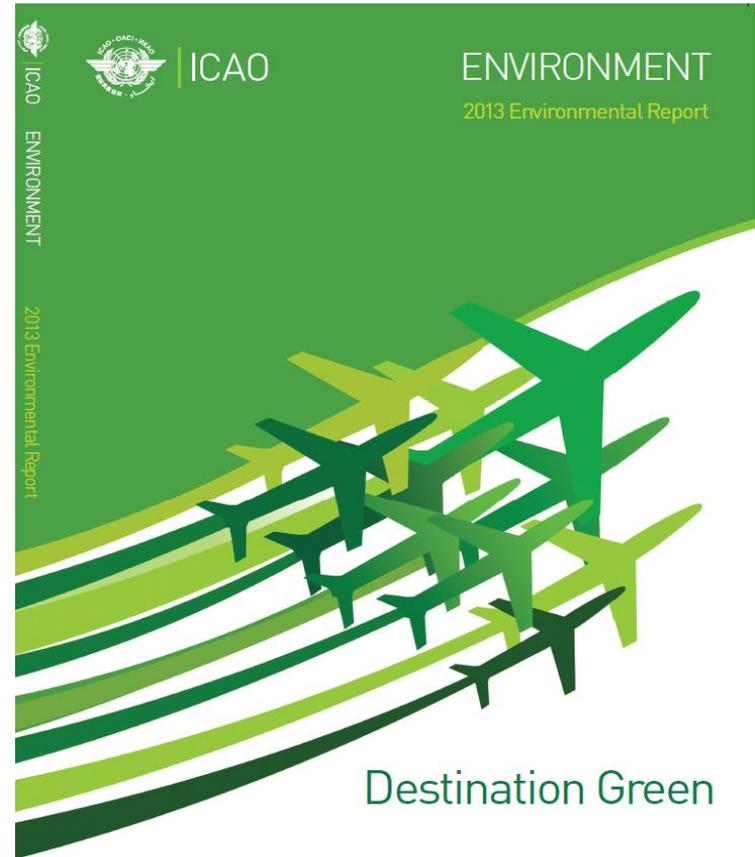
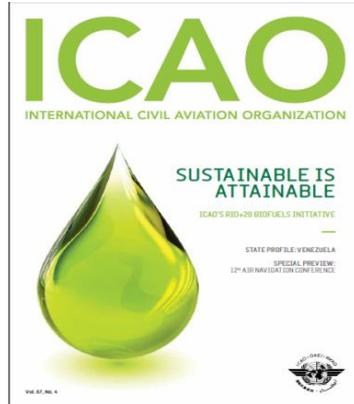
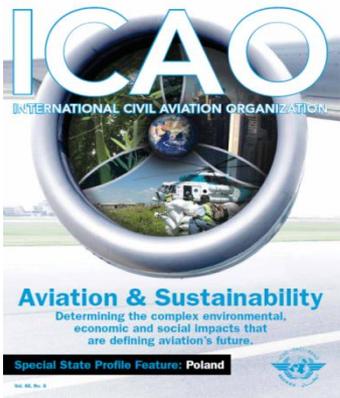


ICAO UNITING AVIATION

E-GAP



Additional information



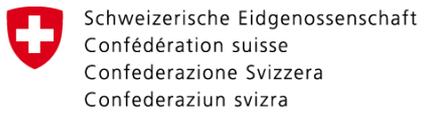
For more information on our activities, please visit: <http://www.icao.int/env>

ICAO Global Aviation Partnerships on Emissions Reductions (E-GAP) Seminar
ICAO Headquarters, Montréal, 16 to 17 September 2015

ENV2015



ICAO Partnerships to advance the Scientific Understanding of Aviation and Climate Change



Ministry of Infrastructure and the Environment

