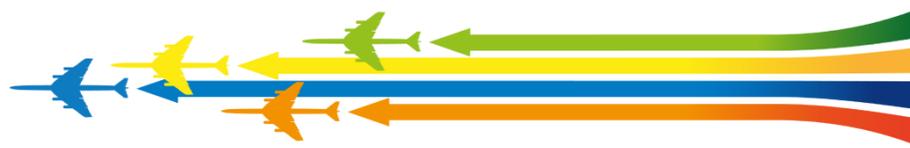




ICAO

UNITING AVIATION

E-GAP



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

Multiplying Environmental Action

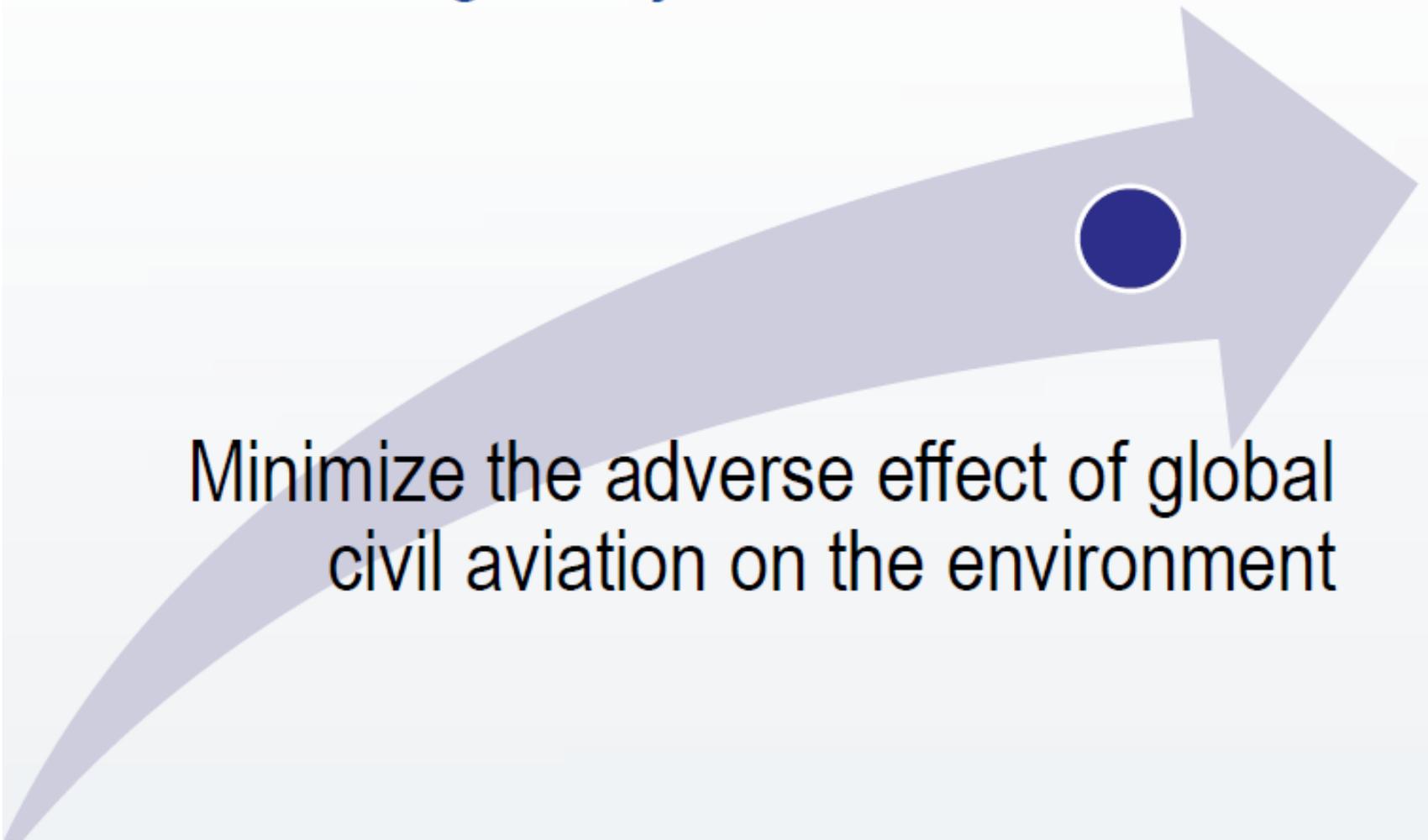
Developing the first ICAO CO₂ Standard

Neil Dickson

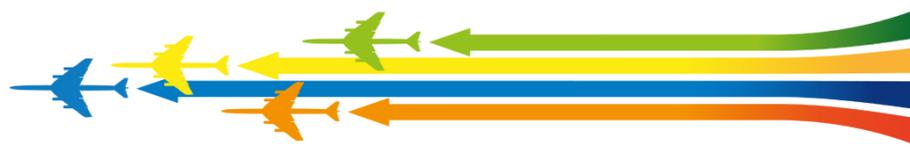
Environment Officer, ICAO



ICAO Strategic Objective for Environment

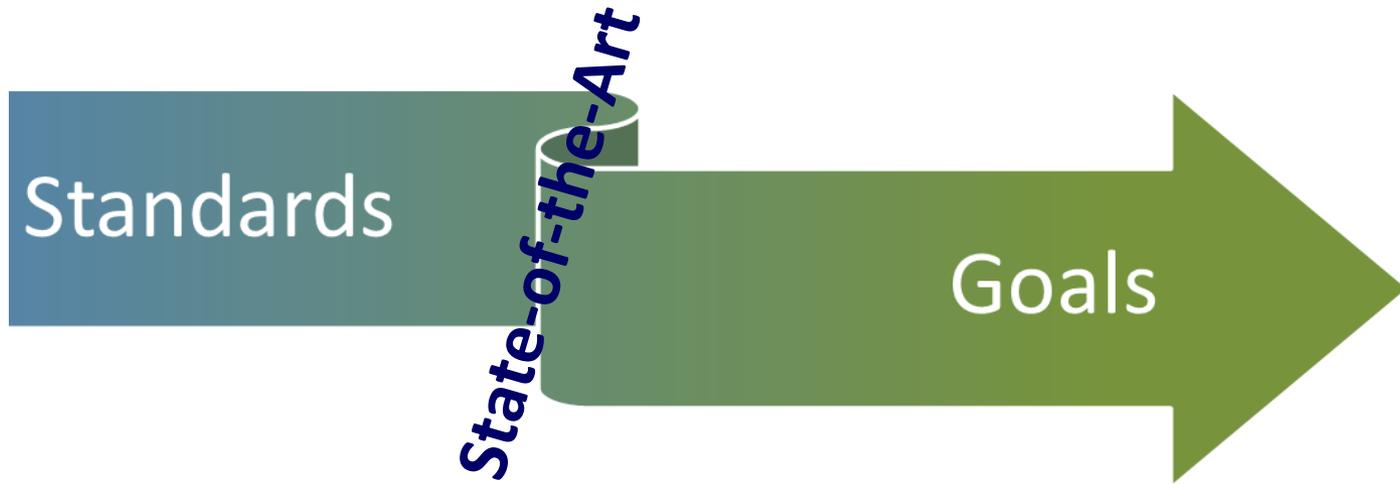
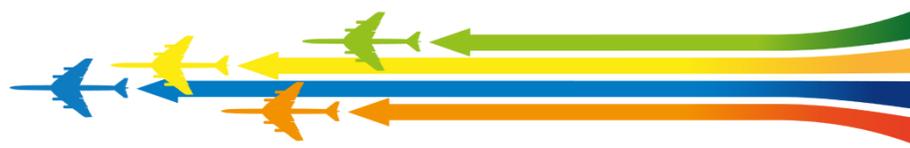
A large, light grey arrow pointing to the right, with a dark blue circle in the center of its shaft, serving as a background for the text.

Minimize the adverse effect of global
civil aviation on the environment

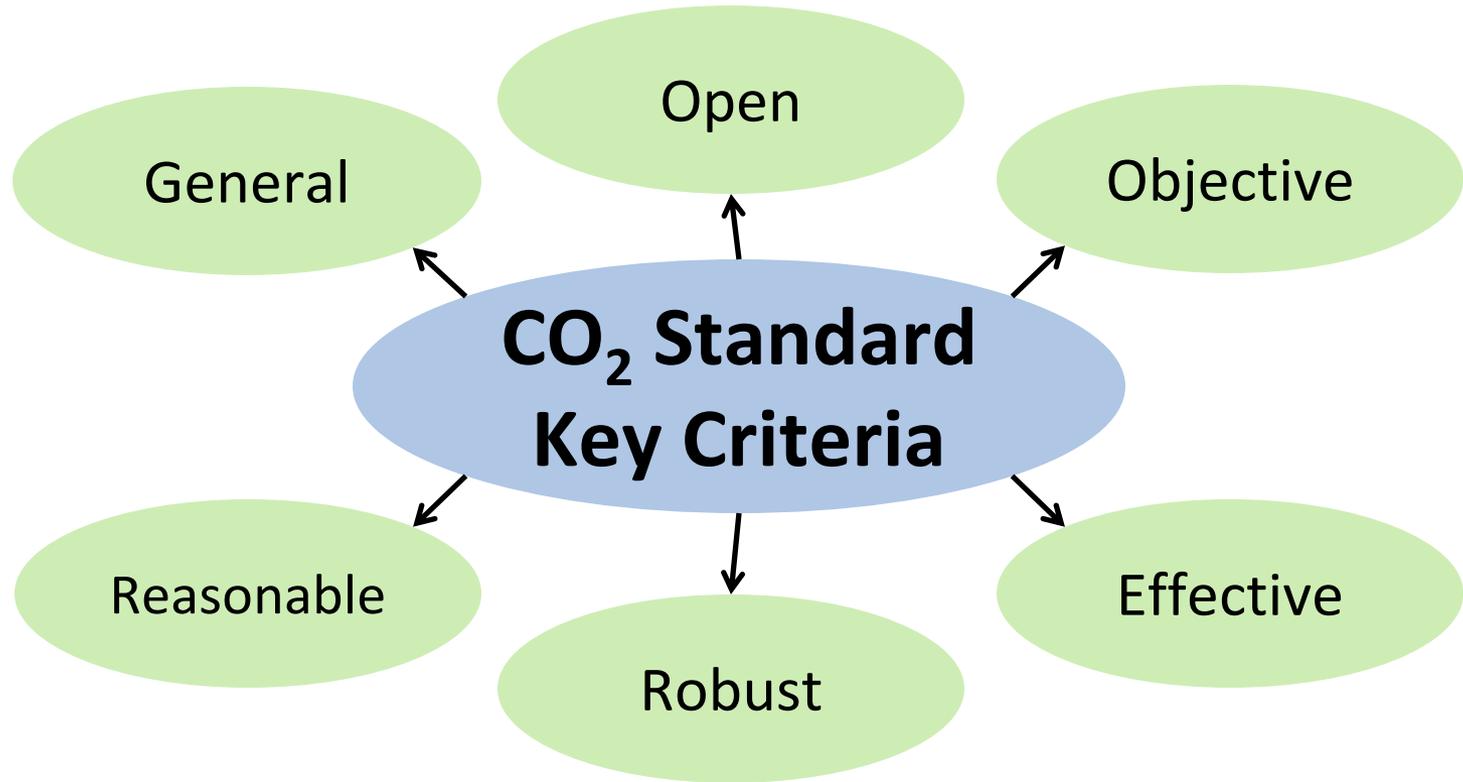
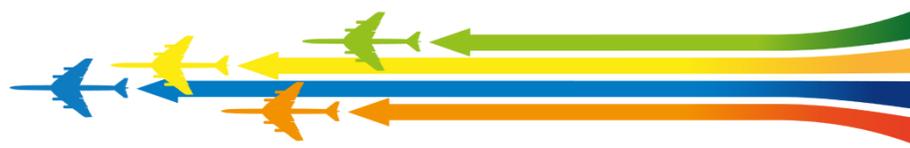


- Aircraft are required to meet the environmental certification standards adopted by ICAO.
- These are contained in Annex 16 to the *Convention on International Civil Aviation*:
 - **Volume I: Aircraft Noise**
 - **Volume II: Aircraft Engine Emissions.**
- ICAO set its first noise Standard in 1971 and for engine emissions in 1981.

In October 2010 the 37th Assembly requested the development of an ICAO CO₂ Emissions Standard.

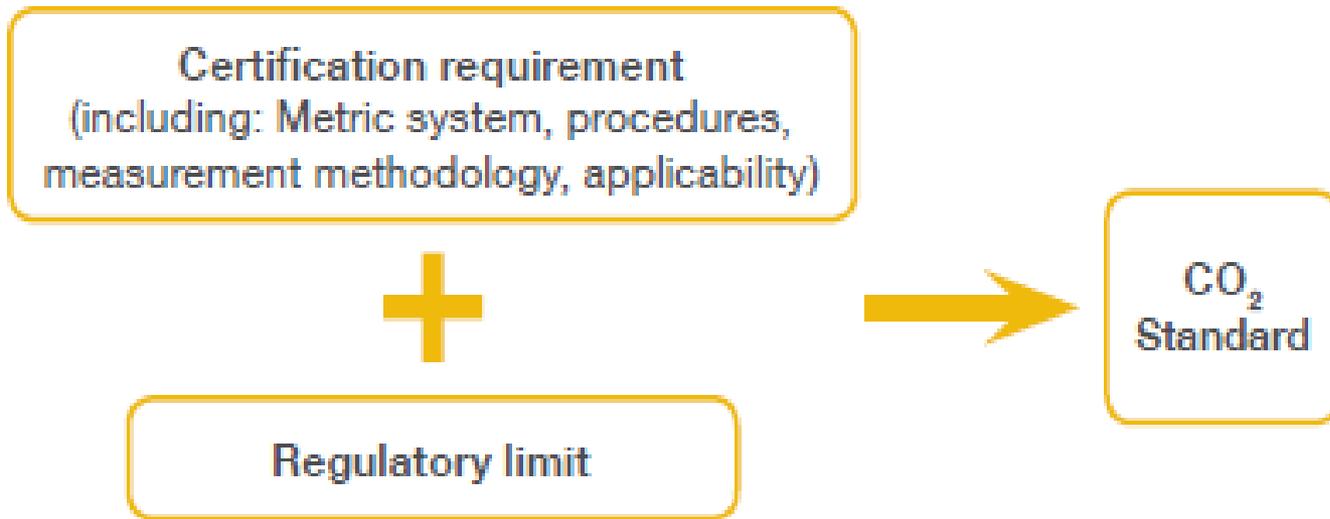


Establishing Technology Standards

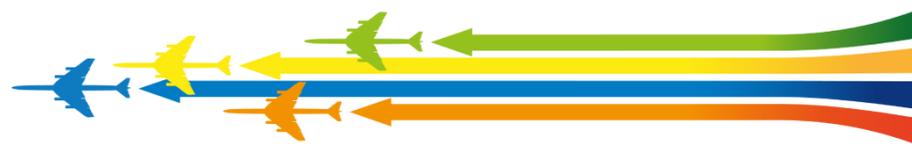




Aeroplane CO₂ Standard Framework



- Technology Standard similar to current Noise and Engine Emissions Standards.
- Aeroplane level Standard similar to Noise Standard.



- The metric system is focused on reducing CO₂ emissions through integration of fuel efficiency technologies into aeroplane type designs:
 - **equitably reward fuel efficiency improvement technologies in an aircraft type design;**
 - **be transport capability neutral.**

The Metric

Cruise point fuel
burn performance

Aeroplane
size

VS.**The Correlating Parameter**

Aeroplane Maximum
Take-Off Mass
(MTOM)



- Using the Metric System as a basis, CAEP developed a mature CO₂ Standard certification requirement.
- Importance of balancing a timely delivery and robust technical product that will meet the needs of ICAO.
- CAEP is currently conducting a significant cost benefits analysis.
- CAEP has agreed to a future work schedule with a deliverable by 2016 for the full CO₂ Standard.



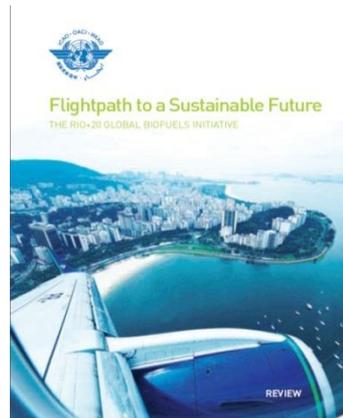
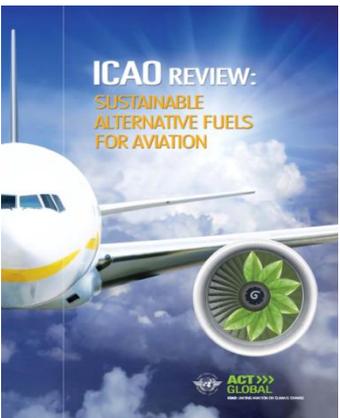
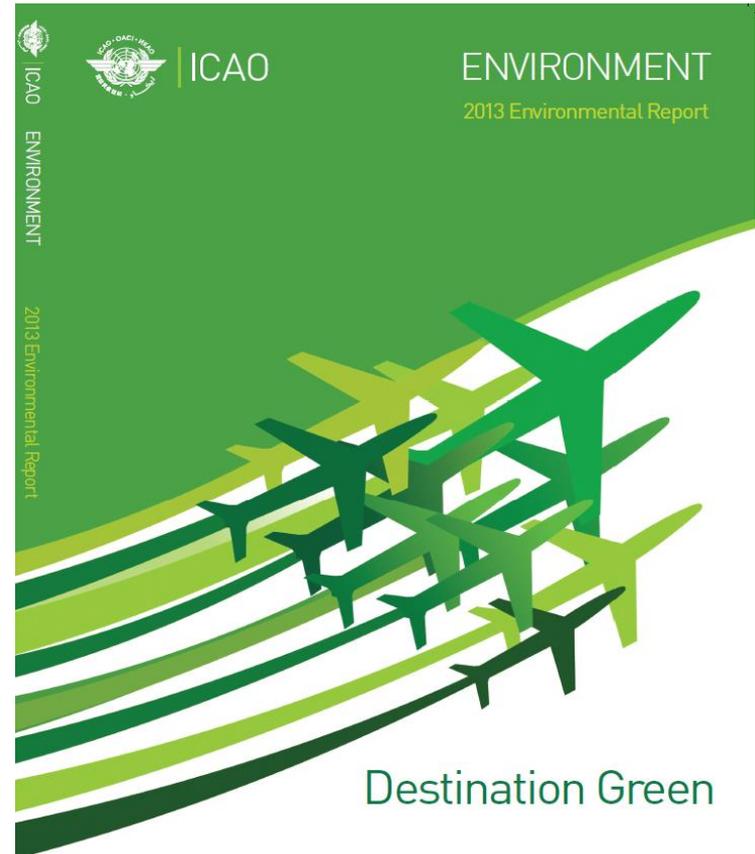
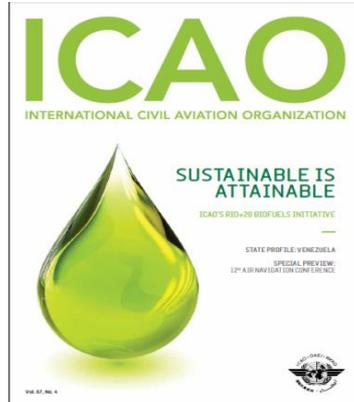
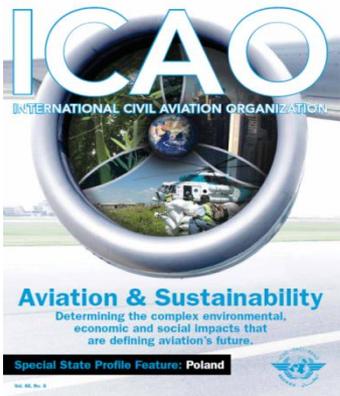


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Additional information



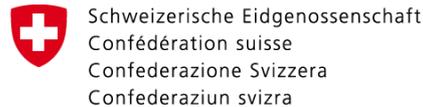
For more information on our activities, please visit: <http://www.icao.int/env>

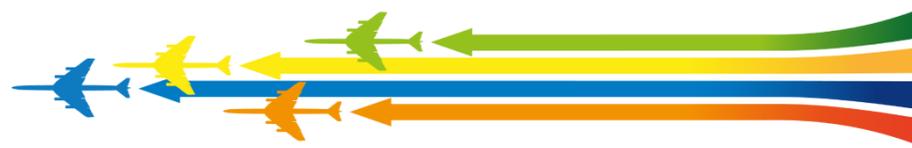
ICAO Global Aviation Partnerships on Emissions Reductions (E-GAP) Seminar
ICAO Headquarters, Montréal, 16 to 17 September 2015

ENV2015

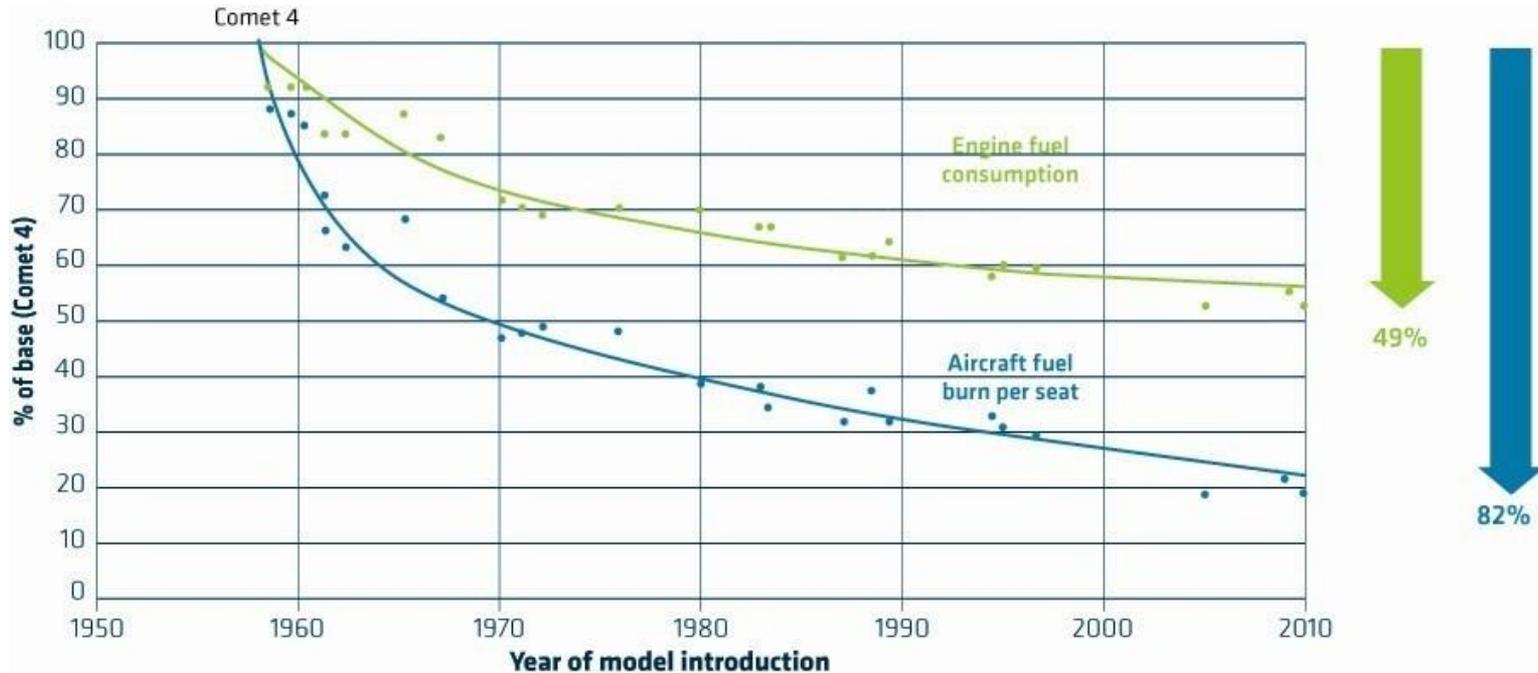


ICAO Partnerships in design and technology throughout the aircraft Life-cycle





- The aerospace industry is a dynamic and advanced-technology sector.
- Historic trends show that aircraft entering today's fleet are ~80% more fuel efficient than in the 1960s.



Source: ICCAIA