The Role of Statistics in Aviation Environmental Protection

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ICAO Environmental Goals

- limit or reduce the number of people affected by significant aircraft **noise**
- limit or reduce the impact of aviation emissions on **local air quality**
- limit or reduce the impact of aviation **greenhouse gas emissions** on the global climate

Quantification and Mitigation

- Approach to quantification through:
  - Ensure highest quality of data on aviation noise and emissions
  - Data Collection
  - Forecasting
  - Modelling

- Approach to mitigation through:
  - Technology and Standards
  - Operational measures
  - Market based measures; and
  - Alternative Fuels

Aviation and the Environment
BY THE NUMBERS

MINIMUM
SPEED

850

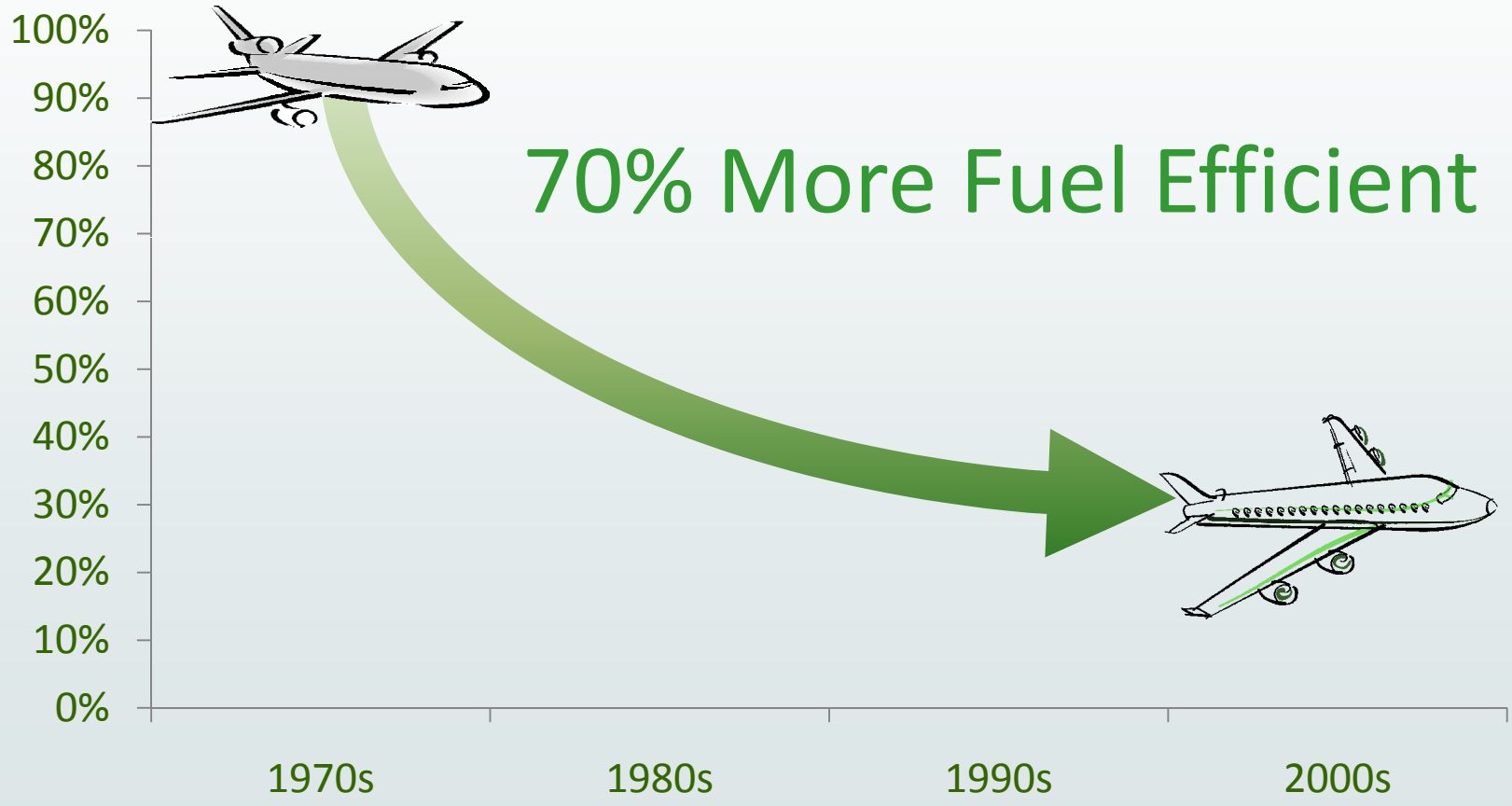
km/h

Aviation and the Environment
BY THE NUMBERS

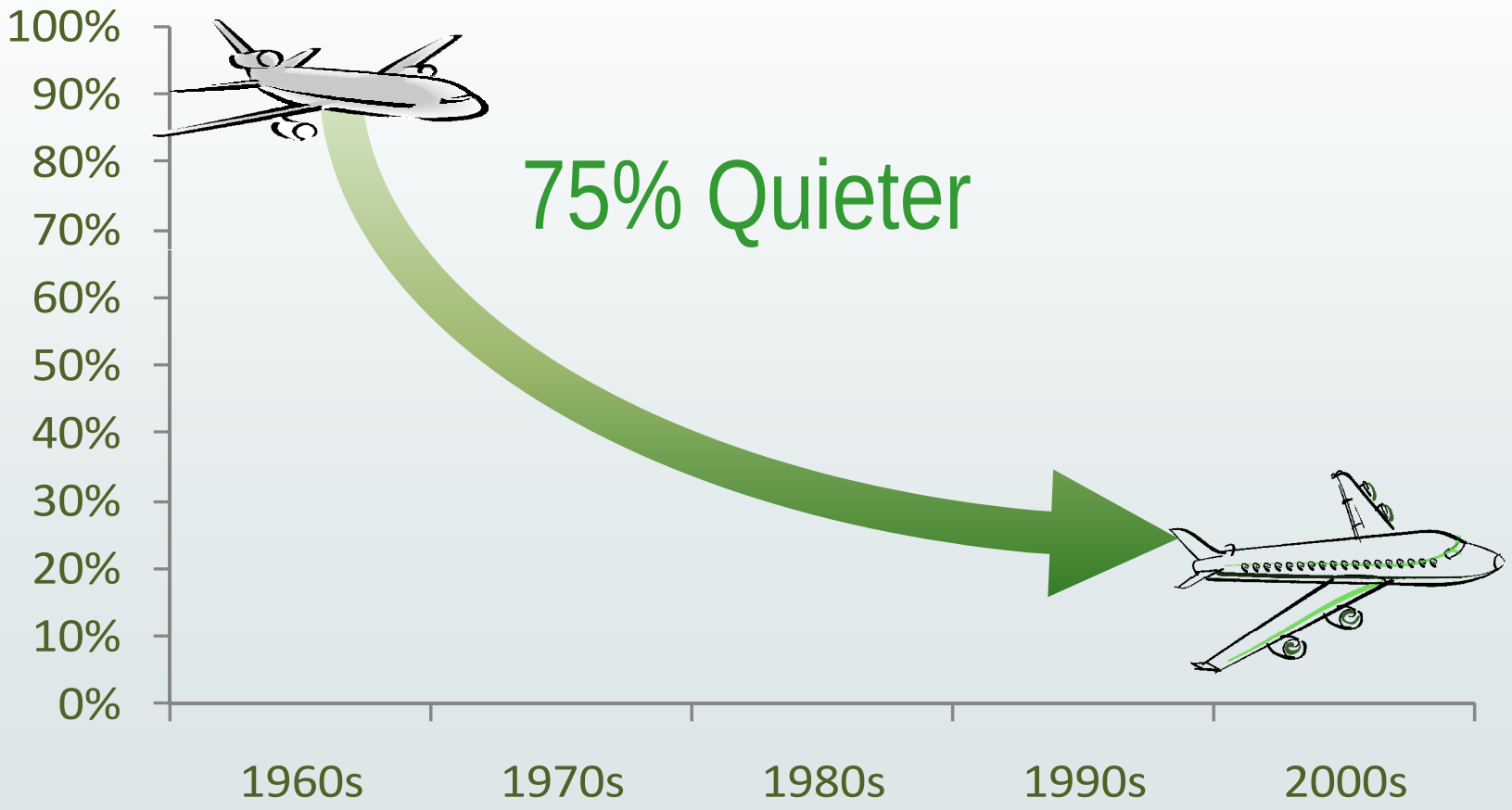
2.3 Billion passengers carried in 2009

4.7% annual growth

Aviation and the Environment
BY THE NUMBERS



Aviation and the Environment
BY THE NUMBERS



Aviation and the Environment
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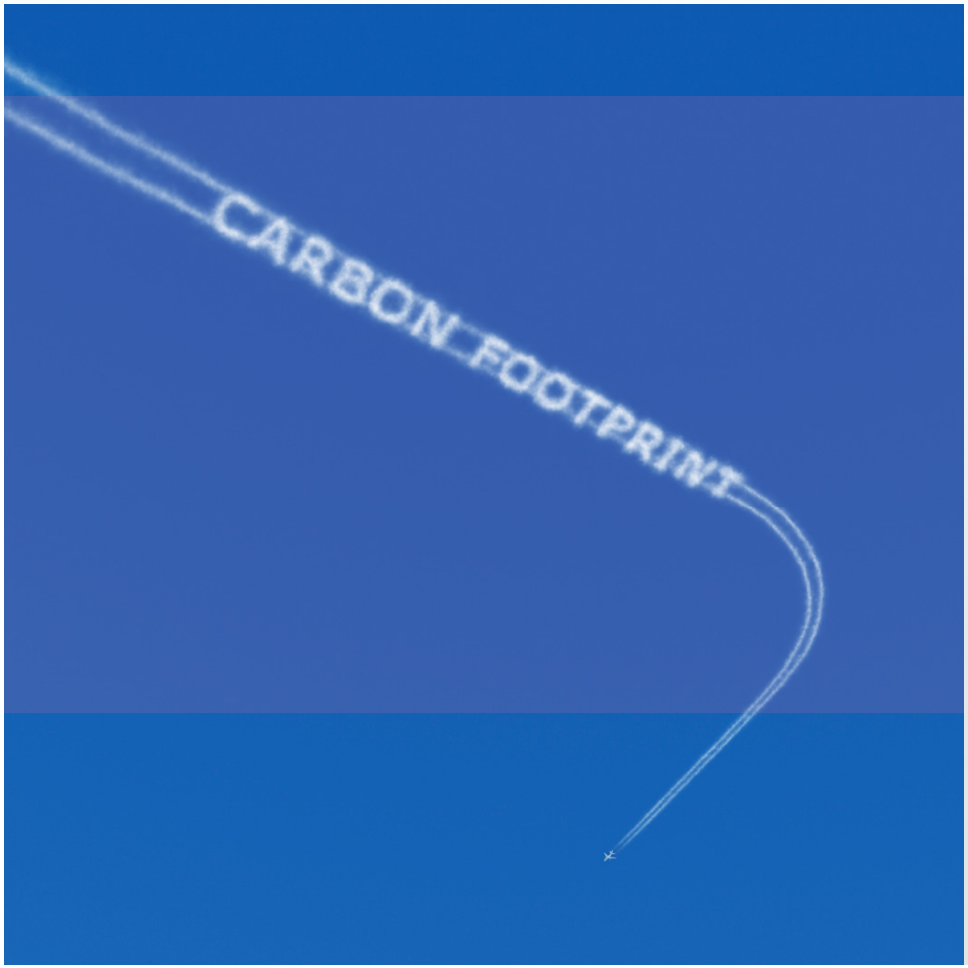
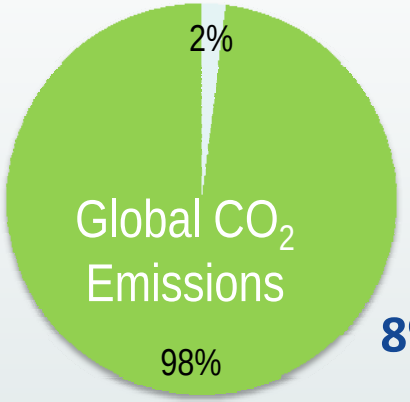


2% of Global CO_2

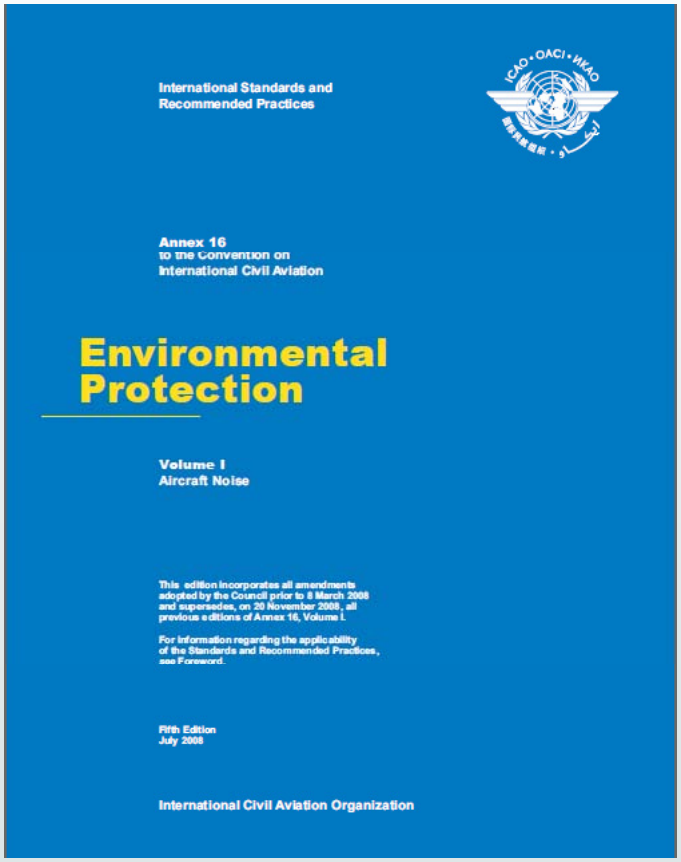


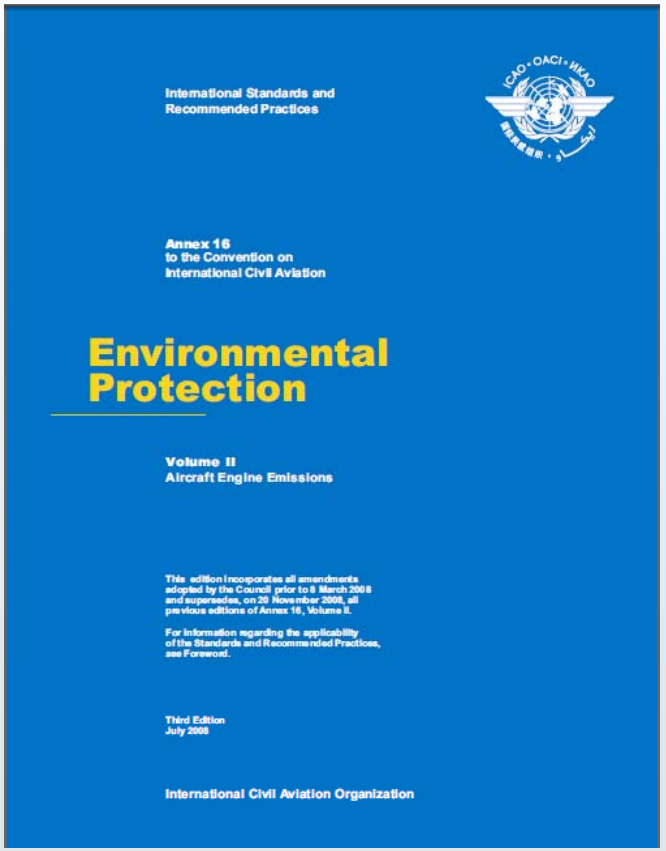
8% of Global Economy

ICAO Data and Statistics

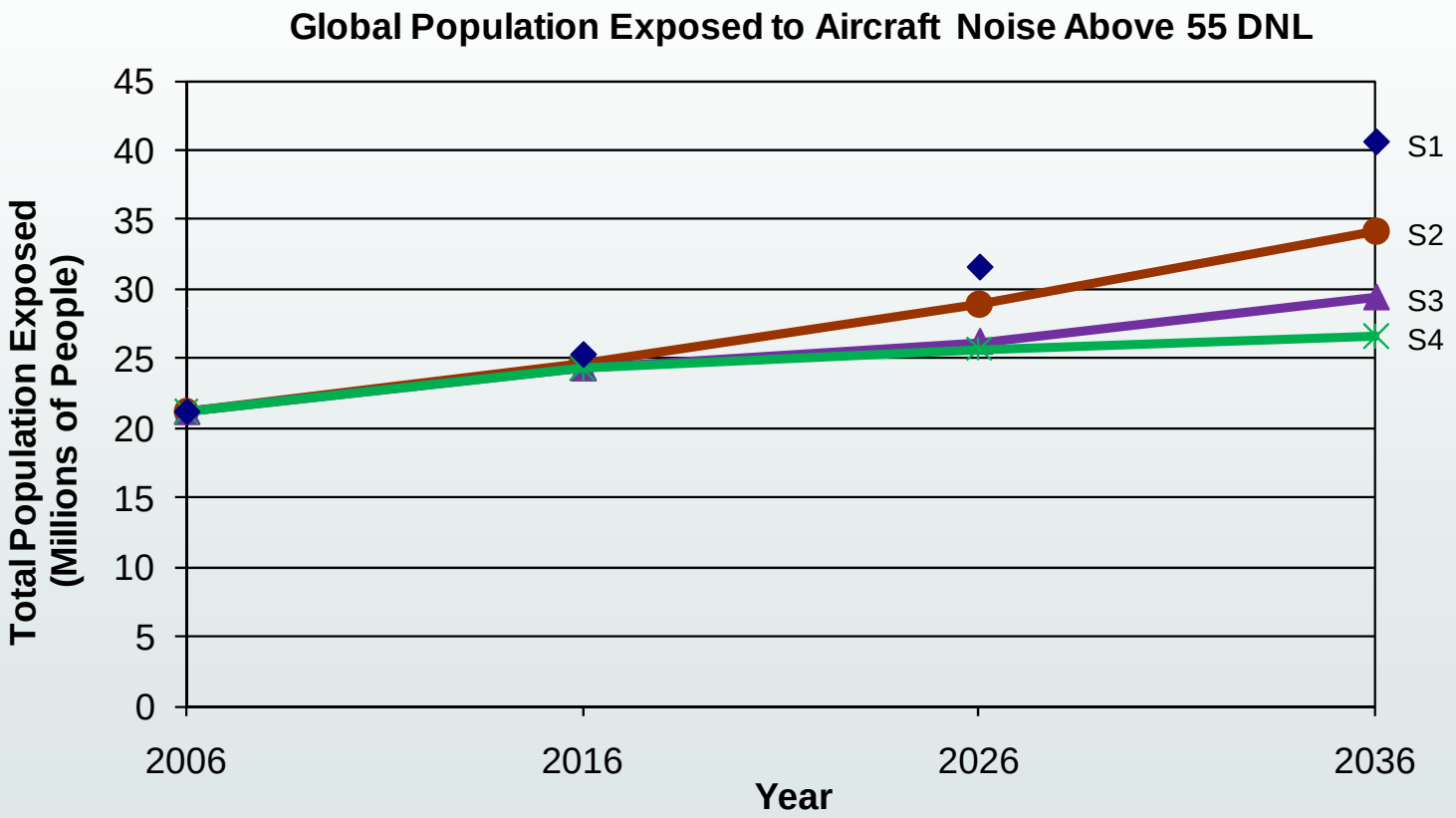
- Key global information only available from ICAO
  - Aviation traffic
  - Passenger and freight load factors
  - ICAO/CAEP Noise dB
  - ICAO/CAEP Aircraft Engine Emissions Databank

Robust Data and Statistics Enable



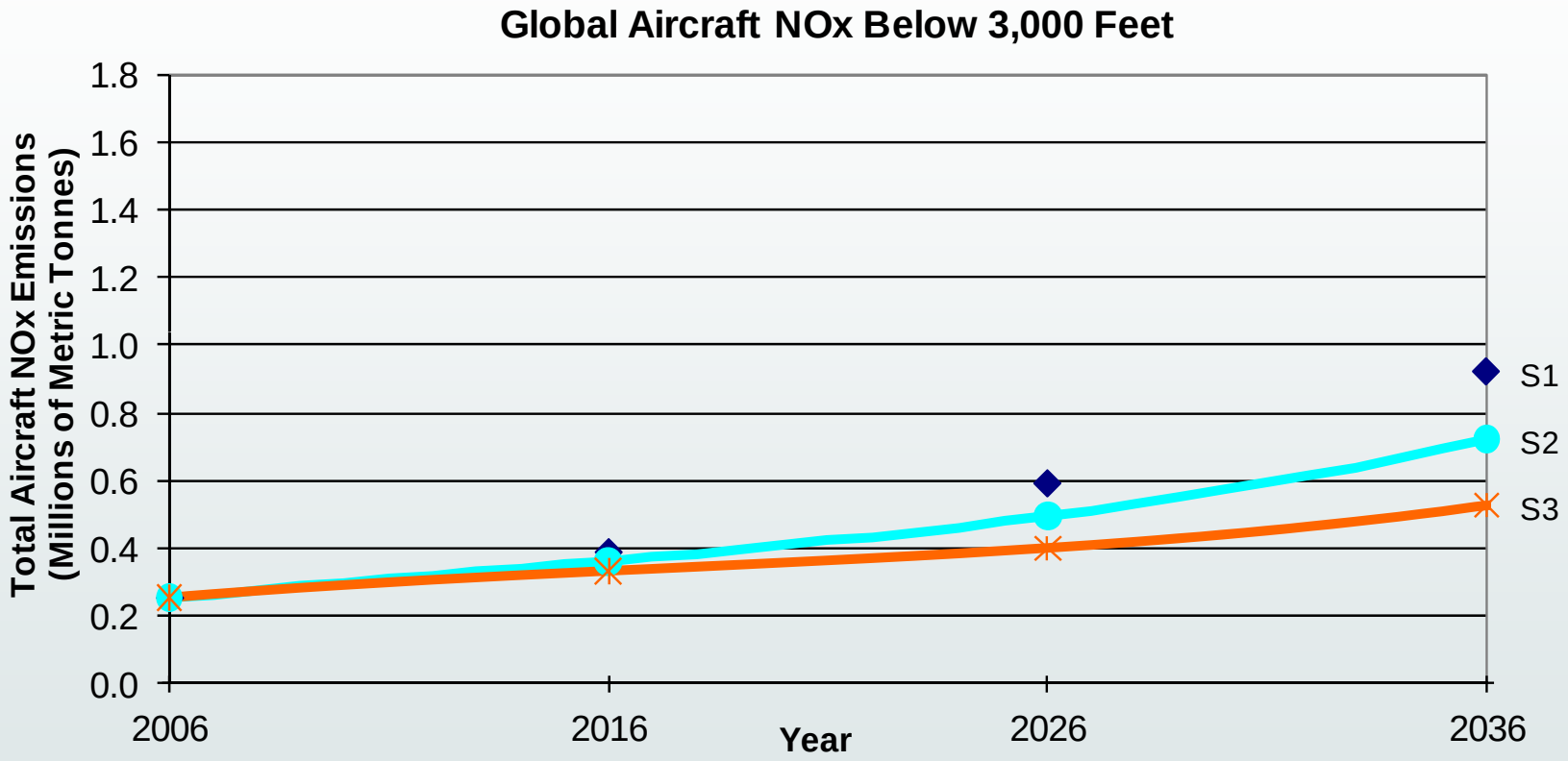


Robust Data and Statistics Enable



Note: Population exposed relative to 2006 baseline.
Population levels are assumed constant from 2006 to 2036.

Robust Data and Statistics Enable



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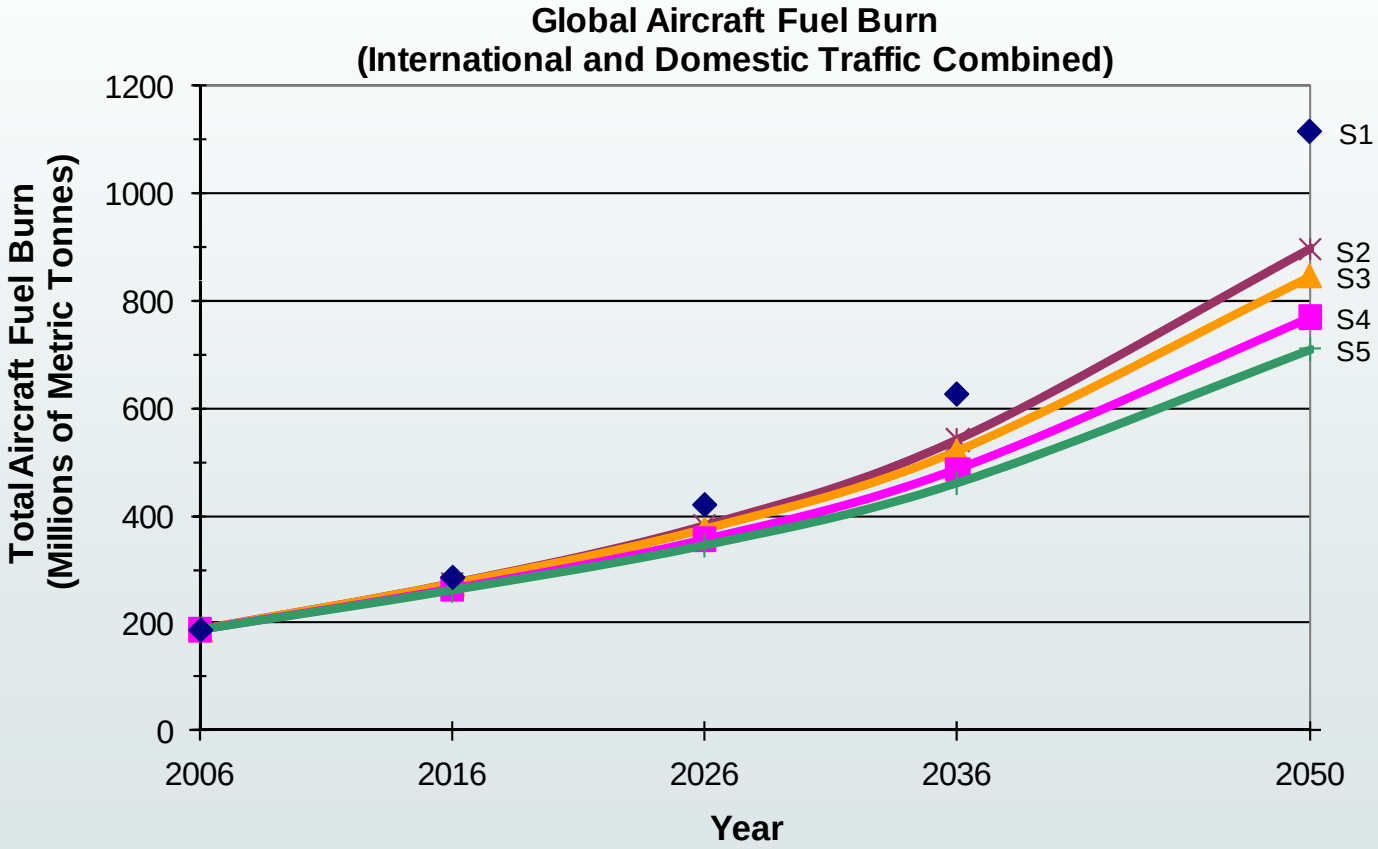

Note: Results were modelled for 2006, 2016, 2026, and 2036, then extrapolated to 2050.

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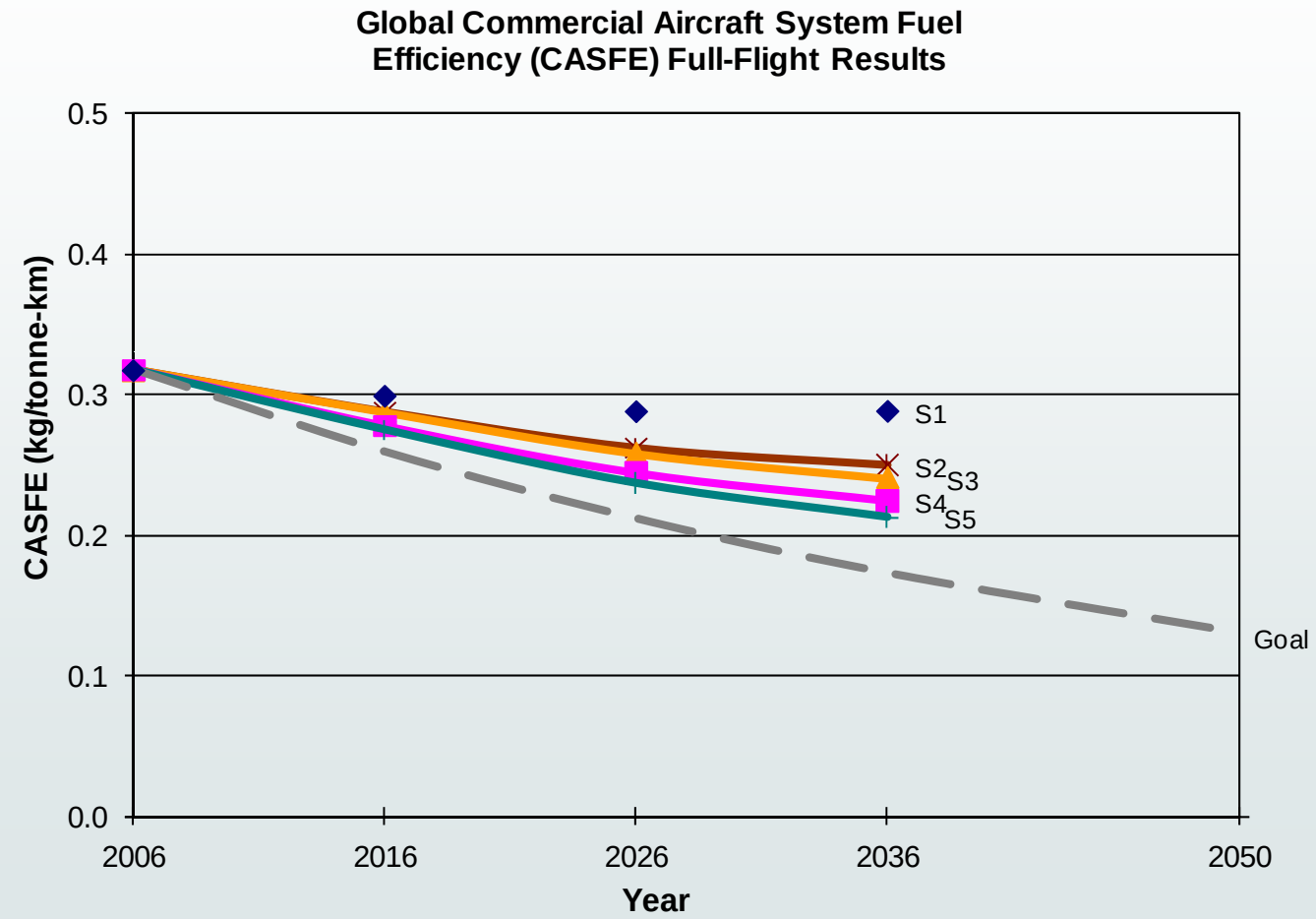

Note: Lower CASFE values = more efficient operations

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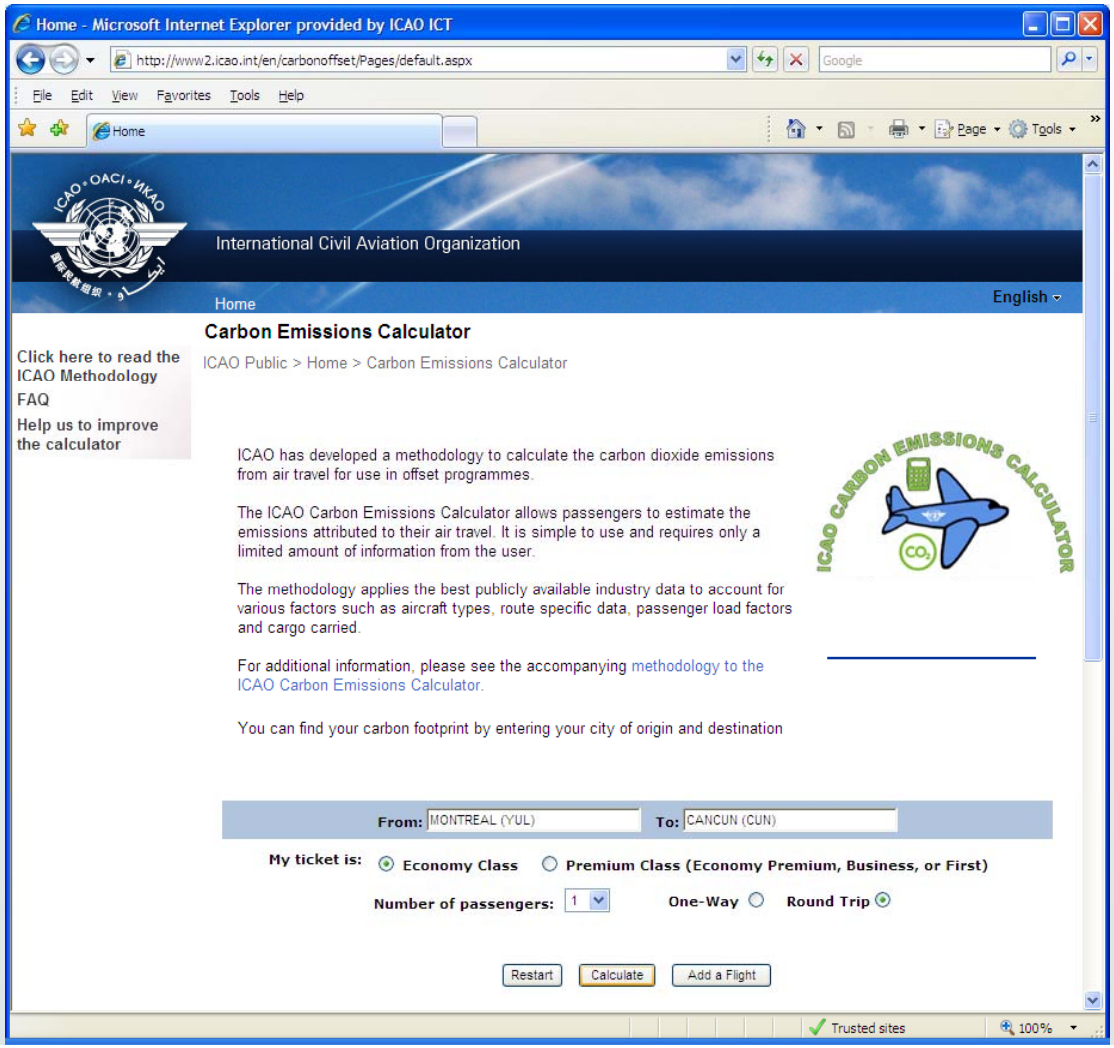

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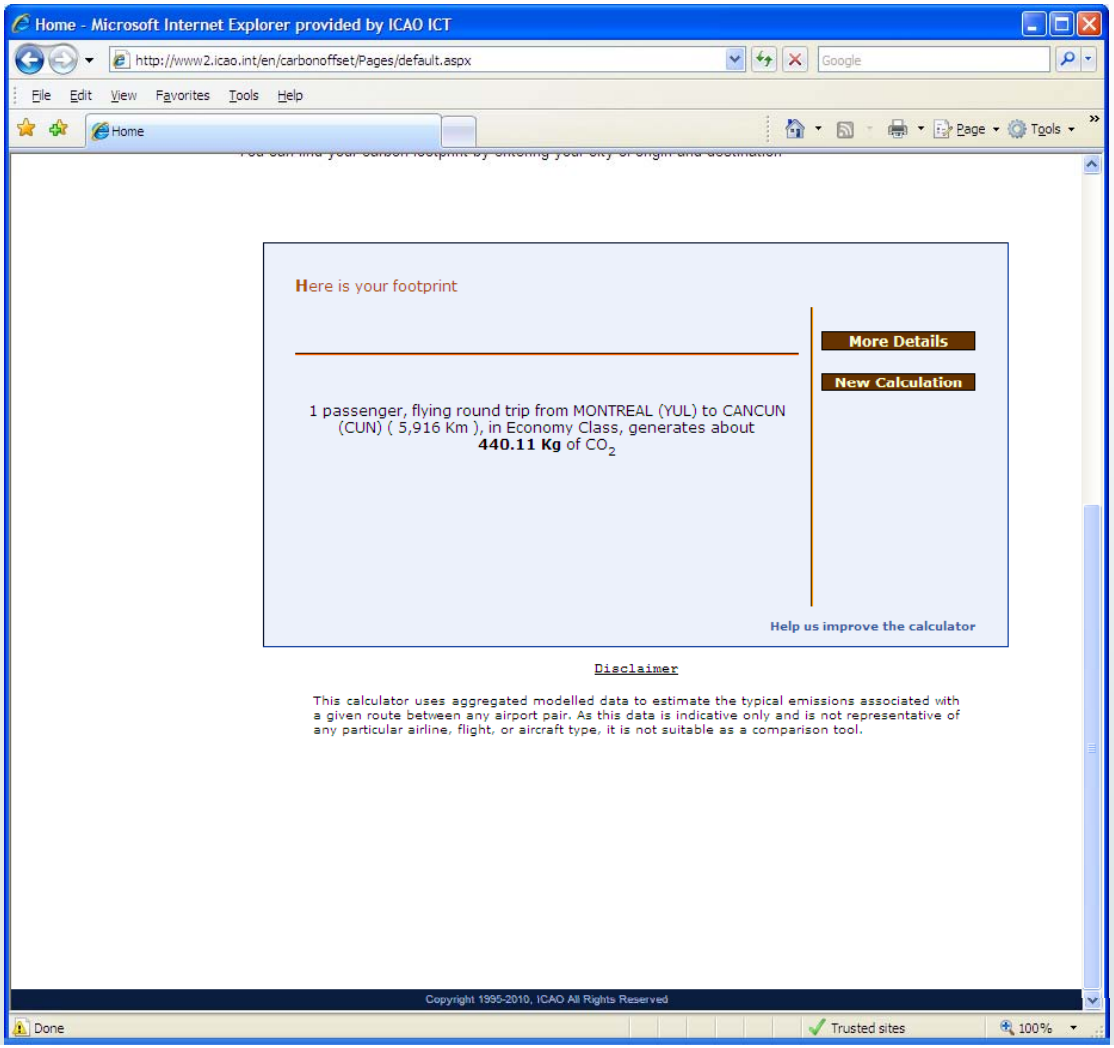
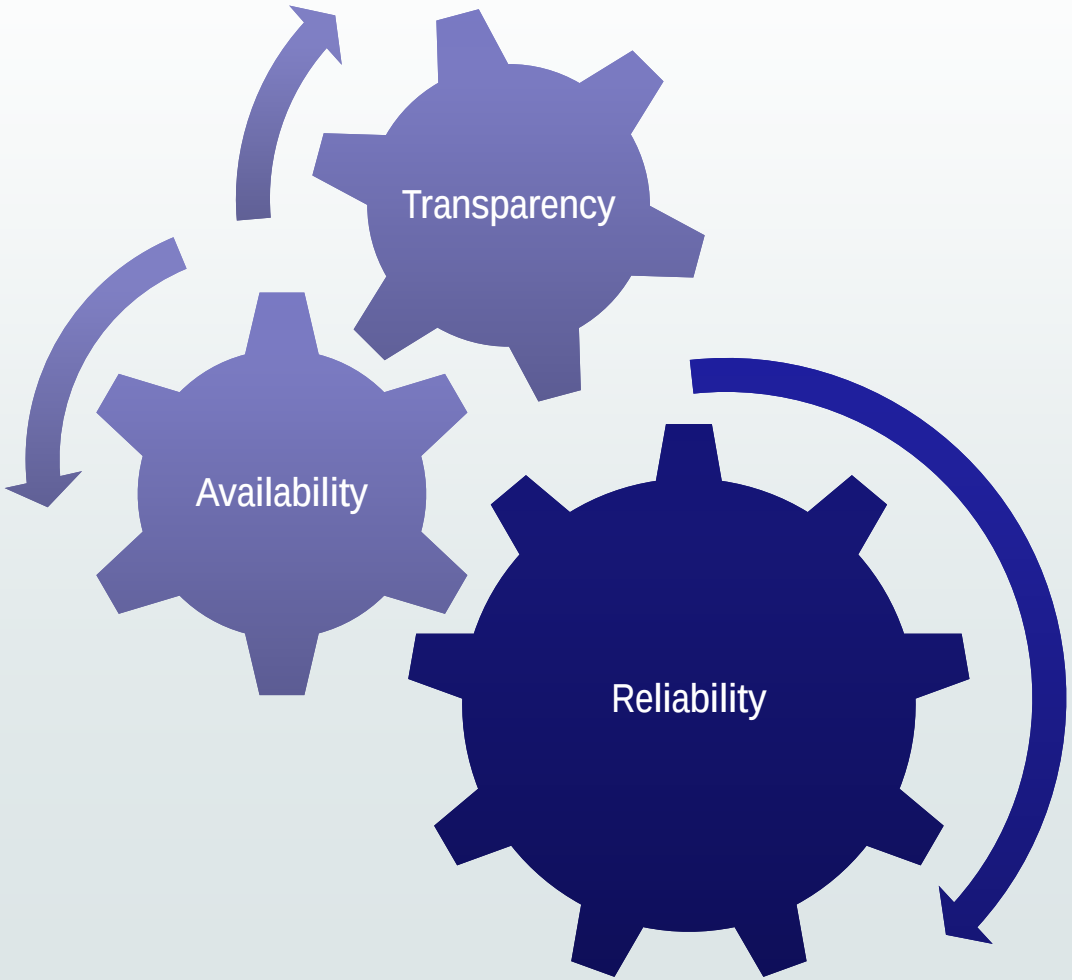


Robust Data … also



Assembly Resolution A37-19

ASSEMBLY - 37TH SESSION

28 SEPTEMBER - 8 OCTOBER 2010
ICAO HEADQUARTERS, MONTRÉAL

- States requested data from ICAO throughout discussions
- Sound policies based on sound data

Elements of A37-19 Requiring Data and Statistics

- CO_2 Standard for aircraft
- MRV - global international aviation GHG emissions
- Compile information in relation to achieving global goals (2%, carbon neutral growth, etc.)
- and others

Final Thoughts

ICAO's work on environmental protection: Sound policies based on sound data… for more than 40 years

The result:

ICAO is the first United Nations Agency to lead a sector in the establishment of a globally harmonized agreement for addressing its CO_2 emissions

For more information

www.icao.int