



# Environmental Trends

Ted Thrasher  
Environment Branch,  
Environmental Modelling Unit  
ICAO Air Transport Bureau



## SOCIETY

**3 billion passengers** per year carried worldwide<sup>1</sup>

**56.6 million jobs** supported by aviation worldwide<sup>2</sup>

Scheduled worldwide passenger traffic forecast to **grow at 4.4%** per year<sup>1</sup>

## ECONOMY

**2.2 trillion USD** global economic impact<sup>2</sup>

Up to **3.5% of global GDP** supported<sup>2</sup>

**35% of world trade** by value carried<sup>2</sup>

## ENVIRONMENT

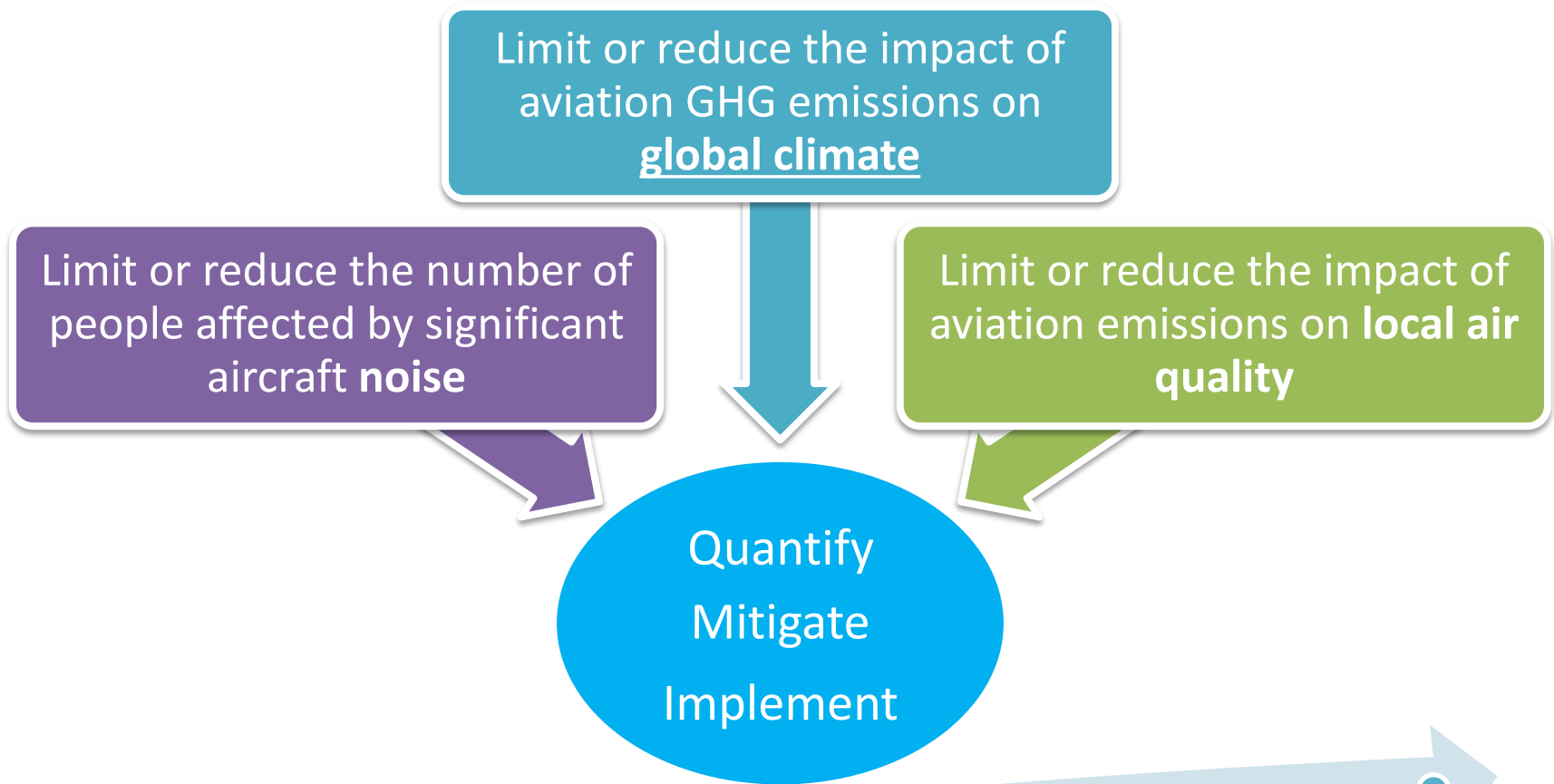
**2% of global human-made CO<sub>2</sub> emissions<sup>3</sup>**, approximately **65% of this 2% are from international aviation (≈1.3%)**

**Fast, reliable, and safe mode of transport**

**No comparative alternatives for long haul passenger transport**

Source: 1. ICAO Facts and Figures retrieved 27 March 2014, 2. ATAG "Aviation Benefits Beyond Borders,"2010, 3. IPCC 4th Assessment Report, 2007.

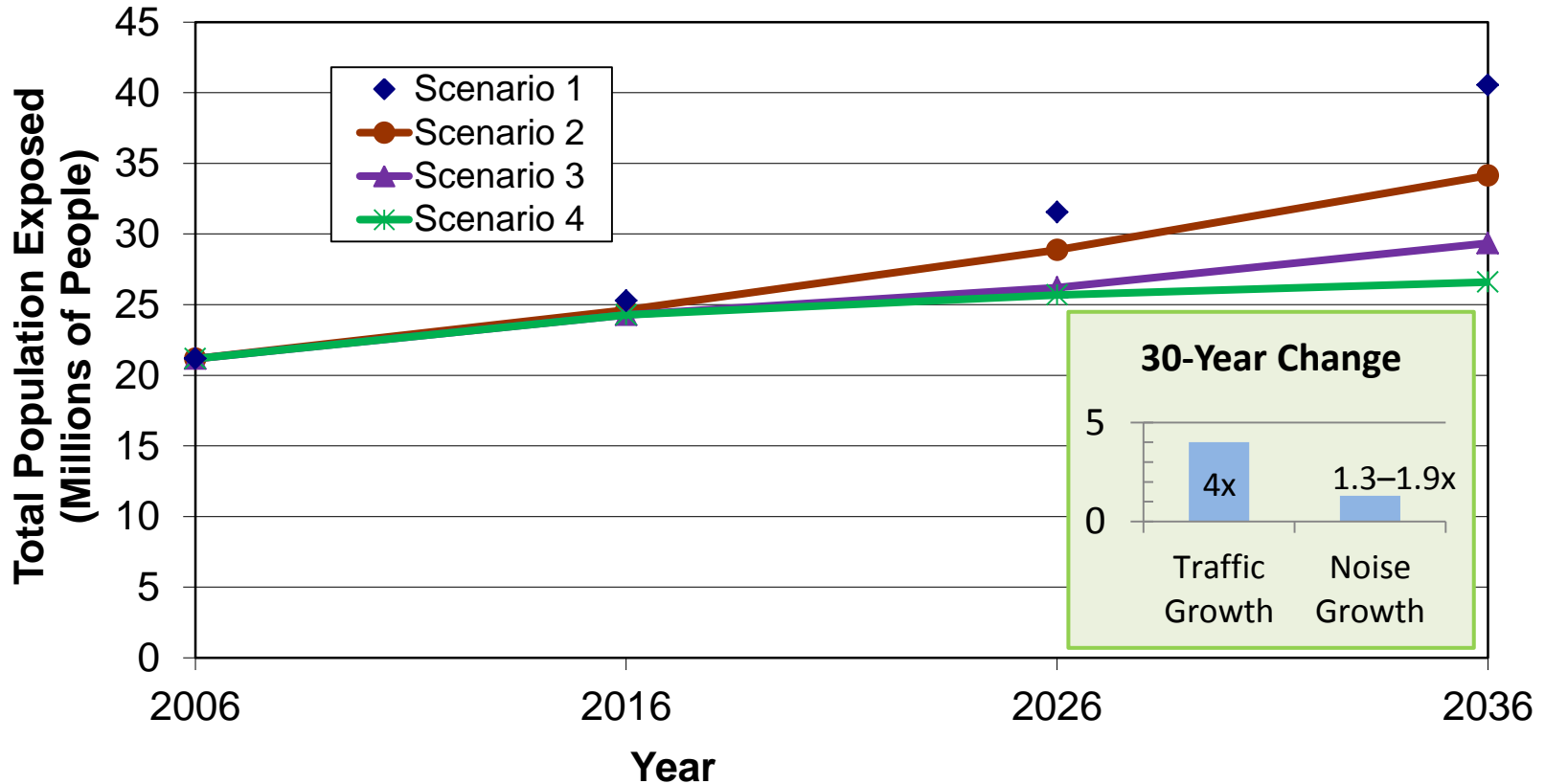




**Minimize the adverse effect of global civil aviation on the environment**



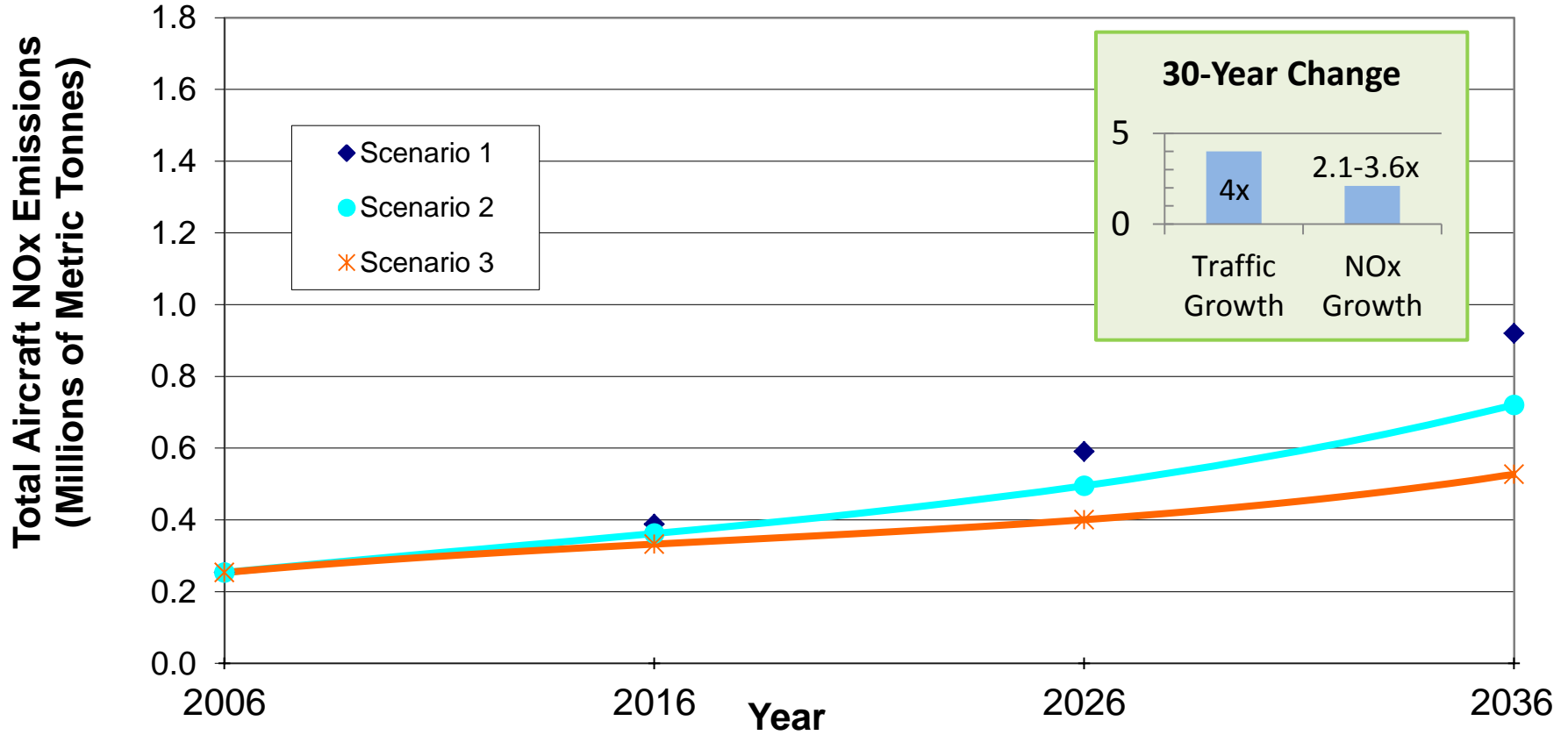
## Population Exposed to Aircraft Noise Above 55 dB DNL

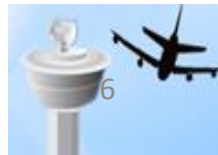
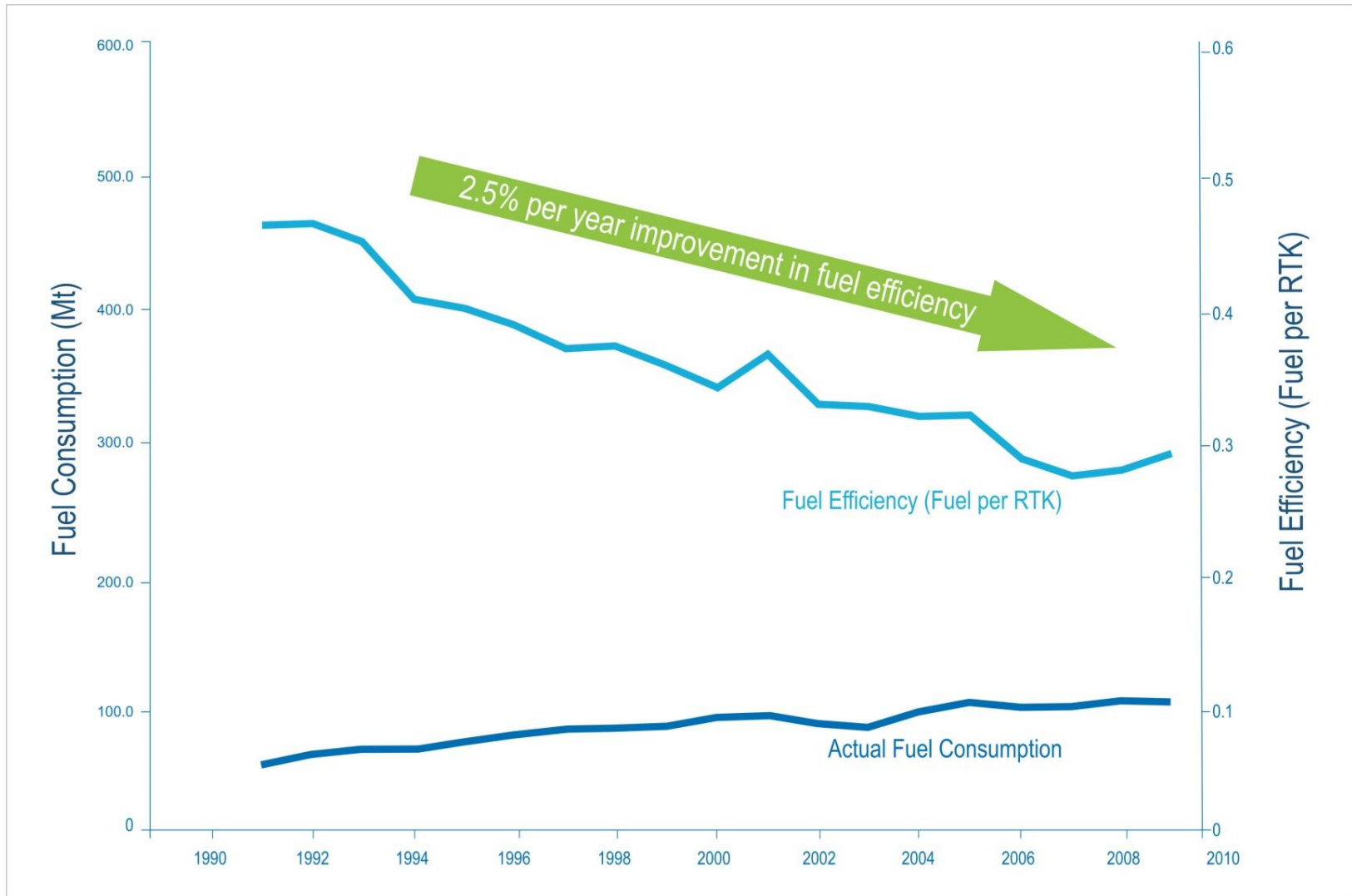


Note: Population exposed relative to 2006 baseline.  
Population levels are assumed constant from 2006 to 2036.

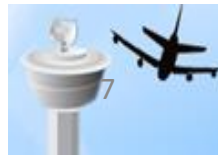


## Aircraft NOx Emissions Below 3,000 feet / 914 metres Above Ground Level



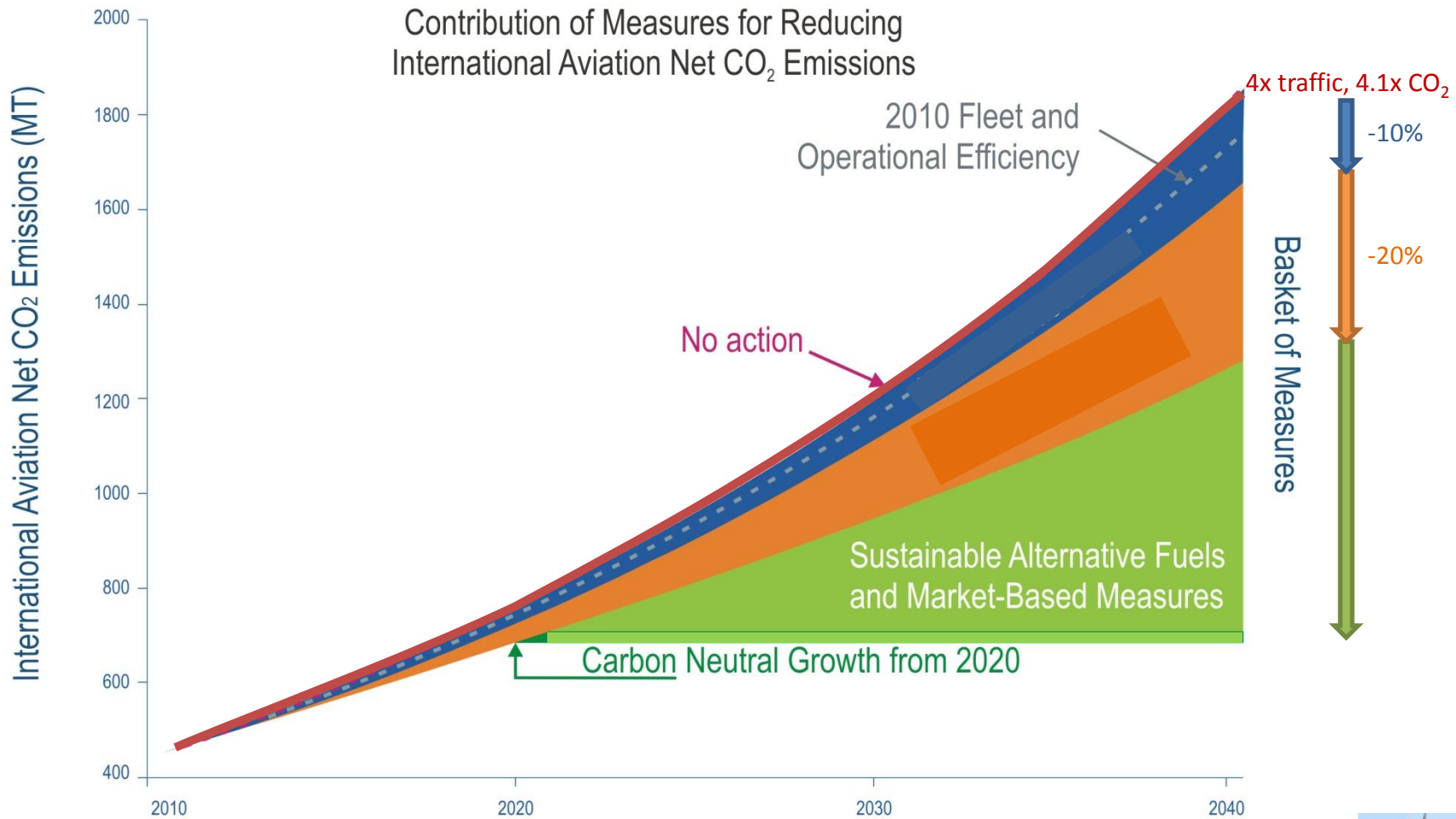


- ICAO CO<sub>2</sub> Reporting and Analysis System (ICORAS)
  - Integrates and verifies measured fuel consumption and RTK data from States with modelled results
  - Enables measurement of progress toward goals
  - Facilitates reporting to UNFCCC
  - Aids in interpreting Action Plans





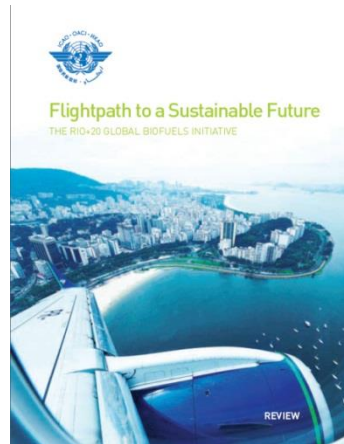
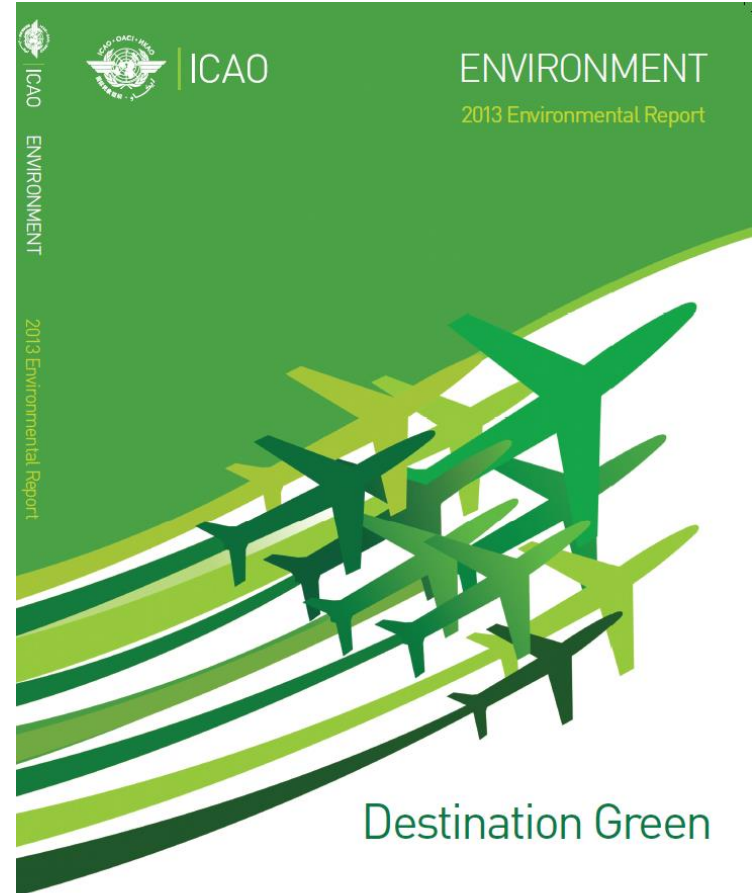
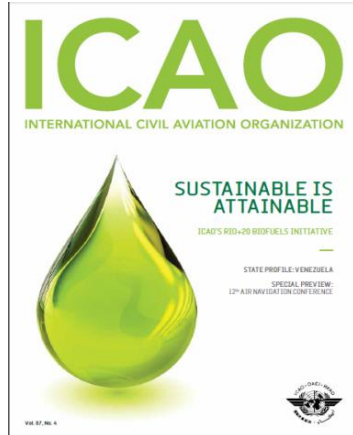
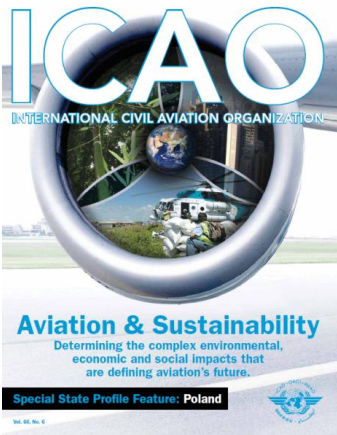
# CAEP International Aviation Net CO<sub>2</sub> Emissions Trends





- Noise, LAQ, CO<sub>2</sub> emissions expected to grow slower than demand
- Achievement of goals requires action beyond that evaluated
- This is challenging, but not impossible
- Important to find solution that will allow aviation to grow sustainably and continue delivering benefits





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

