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## Air Transport in a Carbon Constrained World

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# Over 50 Years Aviation Created the 'Modern World'

- Patterns of trade/migration/economic development
- Mobility for employment and learning
- The multi-cultural global society
- Multi-national political alliances
- Global tourism

# Aviation and Sustainable Development

- Many countries/cities/regions aviation dependent
- Particularly remote locations or tourism dependent
- Peak oil and climate change threaten growth

# Peak Oil

- Known reserves declining
- New finds environmentally & financially costly to extract & refine
- Demand growing
- Air Transport a legacy user of carbon fuels
- Can synthetic / biofuels be produced on large enough scale?
- Sustainable Aviation = carbon free flight

# Climate Change

- Dramatic CO<sub>2</sub> reductions planned
- Aviation CO<sub>2</sub> emissions likely to grow (short term)
- Climate change threat and regulatory response growing
- This could constrain air transport
- Sustainable Aviation = carbon free flight

# The Move to Carbon Free Flight

- Carbon neutral growth from 2020 – IATA
- Carbon free flight in 50 years - IATA
- Carbon Free Flight required to:
  - sustain current patterns of trade, tourism, migration, development
- Can we wait 50 years? – NO.

# Key Questions

- How long will a carbon free flight take to deliver?
- Is cost or technological development the limiting factor?
- Should we (Society) demand Carbon Free Flight?
- Who should pay ?
  - Gov r&d funds, taxes, emissions trading, personal offset.
- What role will aviation play in a low carbon economy?