International passenger aviation scenarios
Introduction

- Add passenger air to the transport modes of the ITF Outlook
- Analyse policies on a global scale
- Build in-house modelling capabilities for more detailed scenario analysis
Modelling approach

Air transport demand
- Income
- Trade
- Cultural proximity
- Supply

Route choice

Air passenger volumes
- Between 310 world regions
- Scenarios for air liberalisation
Air liberalisation

- Decrease in price
  - Competition
  - Low cost carriers

Estimated average return price as a function of distance in Asia

- In monopolistic environment
  - Network carrier
- In competitive environment
  - Low cost carrier
Air liberalisation

- Decrease in price
  - Competition
  - Low cost carriers
- Better connectivity
  - Increase in frequency
- Increased demand

GDP mass necessary for link creation as a function of distance

In monopolistic environment
In competitive environment
Air liberalisation

Decay in price
  Competition
  Low cost carriers

Better connectivity
  Increase in frequency

Increased demand
Alternative scenarios

Static network
- No evolution of price
- No new link created

Dynamic network
- Competition
- Strong penetration of low-cost carriers
- Free network evolution
Overview of global results

International revenue passenger kilometres
Annual growth rate (CAGR)

Static network
Dynamic network

2010-30 2030-50 2010-30 2030-50
2.8% 2.4% 5.5% 3.9%

Industry and international organisation forecasts

Airbus
Boeing*
ICAO
IATA*
2013-2033 2013-2033 2010-2030 2012-2032
5.5% 5.0% 5.1% 4.1%

* Includes domestic RPKs
Overview of global results

Static network
Dynamic network

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<th>pax</th>
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<tr>
<td>Dynamic</td>
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<td>618</td>
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1% CO₂ efficiency improvement per year

CAEP 9
Moderate Aircraft Technology

2010-2050 evolution (2010=100)
Revenue passenger kilometres (bars) CAGR 2010-2050 (%)

* EEA + Turkey
CO\textsubscript{2} emission could be multiplied by 4 by 2050

Low cost carriers have greatest effect on demand for short haul

Continued growth relies on network being able to grow with demand

Findings

Conclusions

New network strategies

New business models

Long haul LCC

Evaluation of mitigation strategies

Emerging issues
Thank you for your attention