ICAO Workshop on State Action Plans on CO$_2$ reduction activities

Tracking of Aviation Emissions & Fuel Efficiency Improvements/
Market Based Measures

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AD Carbon Offset Business Development

IATA
Aviation is a key driver of socio-economic development

- 2.6 billion passengers
- 43 million tonnes freight
- 33 million jobs
- 3.5 trillion $$ contribution to GDP
- Major driver of trade and tourism
- ~2% of global man-made CO₂ emissions
Environmental responsibility

GROWTH LICENCE

This licence permits the growth of aviation in a responsible and sustainable manner, for the benefit of the global economy and citizens around the world.

NAME: GLOBAL AVIATION
D.O.B: 1-JAN-1914
L#: BZ975160
VALID: 31-DEC-2050
LT: 3, B, Z, 4, 9
AUTH: ICAO, YUL
SIG:

Wilbur Wright
What are we doing about it?

▸ We set targets

2010
1.5% p/a fuel efficiency
Working towards carbon-neutral growth

2020
Carbon-neutral growth
Implementation of global sectoral approach

2050
-50% CO₂
Half the net aviation CO₂ of 2005

▸ We implement solutions

Invest in new TECHNOLOGY
(including sustainable aviation biofuels)

Fly using more efficient OPERATIONS

Build and use efficient INFRASTRUCTURE

Use effective, global, MARKET-BASED MEASURES
OUR CLIMATE ACTION

1. Improve fleet fuel efficiency by 1.5% per year from now until 2020
2. Cap net emissions from 2020 through carbon neutral growth
3. By 2050, net aviation carbon emissions will be half what they were in 2005.

- Known technology, operations and infrastructure measures
- Economic measures
- Net emissions trajectory
- ‘No actions’ trajectory

CO₂ emissions indexed to 2005
689 million tonnes of CO₂ from air travel in 2012

2% of world CO₂ emissions

70%+ more efficient than first jet aircraft
How to Track Industry Efficiency Improvements?

- Reporting of fuel consumption has been made mandatory.
- Quality of data?
- Guidance?
- Common protocol that ensures fuel data monitoring and recording is harmonized across the industry?
- Current fuel information systems vary between airline operators.
- Operating differences, some airlines more sophisticated than others.
Steps to Address the Challenge

- FRED was launched in Feb 2013
- Online reporting tool
- Functionalities:
  - Efficiency performance dashboard
  - Fuel measurement protocol - step by step tutorial
  - Fuel measurement methods (addressing airline capabilities)
  - Definitions & support functions
- Strong incentive to report data due to:
  - Blind ranking efficiency benchmark report
  - CO2 emissions reports
  - Airline efficiency Ltr/100 RTK
- IATA airline participation = 90% in 2013
A Global MBM for Aviation

Industry believes that a Global MBM under ICAO is the best way to close aviation’s “emissions gap”

To be effective, the Global MBM must:

- Ensure environmental integrity
- Minimise market and competitive distortion
- Be administratively simple – especially for small operators
- Be easy to implement for all States by 2020

Industry offsets mechanisms must also be recognized to reach post-2020 targets
Carbon Offsetting: Aviation

• Passengers (individuals and corporations) offset their share of a flight’s emissions by investing in carbon reduction projects that generate carbon credits.

• Voluntary offset market is worth more than US $400 million.

• No information-sharing between airlines and offset providers, difficult to determine the “real balance” of aviation’s emissions.

• More than 30 IATA airlines have launched their own schemes using different carbon calculators and investing in emission reductions.

• Voluntary offset programs operating with varying degree of success.
IATA Carbon Offset Program: TAP Screen Shots (1)

Itinerary Review
Please review your flight details carefully. Flight details and other important information will be shown if applicable.

<table>
<thead>
<tr>
<th>Flight</th>
<th>Product</th>
<th>From</th>
<th>To</th>
<th>Departure</th>
<th>Arrival</th>
<th>Cabin</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>TP1427</td>
<td>tap classic</td>
<td>Lisbon</td>
<td>Paris (CDG)</td>
<td>10 Jun, 07h20</td>
<td>10 Jun, 10h55</td>
<td>Economy</td>
<td>450</td>
</tr>
</tbody>
</table>

Departure from Lisbon on Terminal 1, Arrival at Paris on Terminal 1.

Offset your Carbon Emissions
Please be aware that your carbon offset contribution isn’t mandatory and can not be refunded once it is paid. TAP does not benefit from this Programme.

- Total Distance for this itinerary (km): 1471
- CO2 emission for this itinerary (tonnes): 0.188
- Total offset cost 2.59 EUR per person

Which project are you helping?
- Add the contribution amount to my flights

Help the Environment and reduce the impact from your flight by offsetting your carbon emissions. Your money will be donated to U.N. certified emission reduction projects.
Aquarius Hydroelectric Project

The Aquarius Hydroelectric Project is a small-scale, renewable energy project in Brazil. The project is a grid-connected run-of-river hydropower plant (with no dam or flooding) on the Aquarius River, Mato Grosso State, Brazil and is registered under the United Nations Framework Convention on Climate Change (UNFCCC) Clean Development Mechanism (CDM). The project has an installed capacity of 4.2 MW and utilizes the water of the Correntes River. It partly replaces fossil fuel-based electricity generation and is expected to reduce greenhouse gas (GHG) emissions by approximately 15,000 tonnes CO2 equivalent per year. The independent verification report confirmed that, in the period between 15 December 2008 and 31 December 2007, the project reduced emissions by 10,624 tonnes CO2 equivalent.
70,000 Offsets
150m km
15m kg CO2 saved
IATA’s Carbon Calculator Tool

Passenger Load Factor

Number of Seats
Airline Data

Number of Passenger
Airline Data

Total Passenger Weight
Computed

Fuel Burn / Passenger
Computed

Freight Weight
Airline Data

Carbon Dioxide Emission / Passenger
Computed

Fuel Burn
Airline Data
Carbon Offset Projects/Carbon Credits

- Wide choice of offset projects available

- Criteria for Project Selection
  - Price
  - Availability
  - Robustness
  - Compatibility with carbon requirements under a future global mechanism

- Best Practices for Offset Project Selection
  - Use of high quality carbon credits
    - CERs - CDM projects under Kyoto Protocol
    - VERs - Gold Standard, VCS+
  - Non controversial renewable projects, exclusion of HFC, large dam, flaring, nuclear etc.
  - No mark-up, profits or premium on carbon credits.
ICAO Resolution 38-18, October 2013

“...voluntary carbon offsetting schemes constitute a practical way to offset CO2 emissions, and invites States to encourage their operators wishing to take early actions to use carbon offsetting, particularly through the use of credits generated from internationally recognized schemes such as the CDM.”
Thank you for your attention