The ICAO Carbon Emissions Calculator

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ICAO Carbon Calculator (Public Interface)

- Transparent, fully documented methodology
- Easy-to-use
- Best publicly available data
- Delivers consistent estimates of CO₂ – suitable for use with offset programs
- Available since June 2008
Aviation Carbon Calculation Methodology

- Origin and Destination Airports
- Great Circle Distance + Correction Factor
- Class of Service

Simple to use
Only inputs are airports and class of service

- CORINAIR
- Multilateral Schedules
- Pax:Cargo Ratio
- Load Factor

- Fuel Burn
- Passengers

- CO₂ per Economy Passenger
- Class of Service Factor

CO₂ for Selected Trip
UN Adoption

• The UN Environment Management Group adopted the ICAO Carbon Emissions Calculator as the official tool for all UN bodies to quantify their air travel CO₂ footprint - April 2009

• All 2008 UN air travel GHG inventories are being prepared using the ICAO Calculator

• Some UN travel offices are integrating the ICAO Calculator directly into their reservation systems
  – Guarantees CO₂ inventory completeness
Other initiatives

• ICAO has signed an agreement with Amadeus (a global technology solutions provider for the travel and tourism industry) to supply data from the Calculator
Improvements to date

• A *Frequently Asked Questions* section has been added to the website addressing why the Calculator does not calculate non-CO2 effects at present, nor provide any direct means of offsetting.

• Review of public feedback elating to the clarity/accuracy of the definitions in the methodology.

• The Secretariat has improved the user interface by allowing the user to enter either airport codes or city names, compute return trips and multi-city flights.
Next steps (1)

Refine the methodology and database associated with the **passenger Calculator** by:

(a) updating the current database

- some aircraft types are not in the database and have either no substitute available or use data from a previous generation;
- refine premium/economy multiplier (space v weight);
- obtain air carrier level seating configuration data, and city pair level load factor data from ICAO and industry)
Next steps (2)

(b) updating the methodology and underlying data sources using flight level global emissions inventories generated by the models used in CAEP assessments and merged to produce a single ICAO database of modelled fuel consumption.

(c) transiting from modelled to measured values using measured fuel consumption data at the city pair level from industry bodies (subject to agreement on disclosure).
Next steps (3)

• In response to public support to understand the carbon footprint of air freight, develop text for the Frequently Asked Questions section accompanying the Calculator, on the difficulties of accurately estimating the CO2 emissions attributable to air freight at this time.

• As a next step, develop a set of non-binding guidelines to enable interested parties to develop a carbon calculator methodology for belly freight.
Thank you