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ICAO: UNITING AVIATION ON CLIMATE CHANGE

# ICAO Colloquium on Aviation and Climate Change

## 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 CO<sub>2</sub> – suitable for use with offset programs
- Available since June 2008



www.icao.int

Address  http://www.icao.int/

ICAO - OACI - ICAO  
International Civil Aviation Organization  
Home

Carbon Emissions Calculator  
ICAO Public > Home > Carbon Emissions Calculator

Click here to read the ICAO Methodology  
FAQ  
Help us to improve the calculator

ICAO has developed a methodology to calculate the carbon dioxide emissions from air travel for use in offset programmes.

The ICAO Carbon Emissions Calculator allows passengers to estimate the emissions attributed to their air travel. It is simple to use and requires only a limited amount of information from the user.

The methodology applies the best publicly available industry data to account for various factors such as aircraft types, route specific data, passenger load factors and cargo carried.

For additional information, please see the accompanying methodology to the ICAO Carbon Emissions Calculator.

You can find your carbon footprint by entering your city of origin and destination

From: MONTREAL (YUL) To: PARIS (CDG)

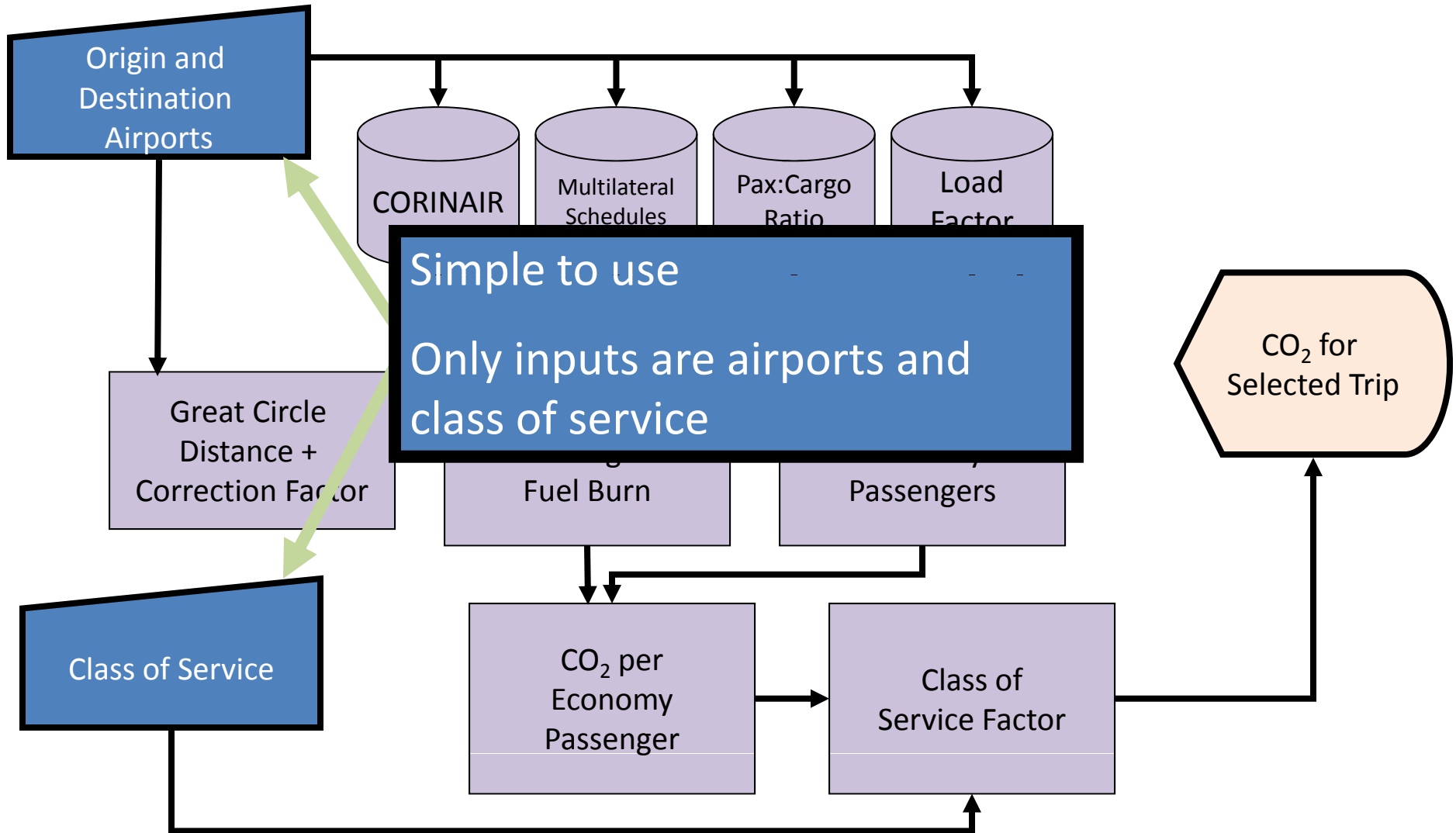
My ticket is:  Economy Class  Premium Class (Economy Premium, Business, or First)

Number of passengers: 1 One-Way  Round Trip

Restart Calculate Add a Flight

Link to Methodology

# Aviation Carbon Calculation Methodology





## 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 CO<sub>2</sub> 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 CO<sub>2</sub> 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 relating 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 CO<sub>2</sub> 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.



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**Thank you**