

ICAO Environmental Tools

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- Quantifying fuel consumption from current and future aviation activities can be challenging
- So can quantifying the benefits from measures
- ICAO has developed tools to help
- These tools can do much more than help with an action plan





ICAO Carbon Emissions Calculator

Allows passengers to estimate CO₂ emissions from their air travel



ICAO Fuel Savings Estimation Tool (IFSET)

To assist States in estimating fuel savings from operational improvements



ICAO Green Meetings Calculator

To support decision making in minimizing CO₂ emissions from air travel to attend meetings



Estimating aircraft fuel burn and CO₂ emissions:

ICAO Carbon Emissions Calculator



- Proliferation of tools for calculating “carbon footprint” from aviation
 - Results differ by factor of 4 or more!
 - Unknown data sources and methodologies (black box)
 - Inconsistent basis for offsetting



- **Objectives**
 - User-friendly, unbiased, tool to compute carbon emissions from air travel
 - Suitable for use with offset programmes
 - Best publicly available data
(transparency)
 - Fully documented
- Methodology developed through CAEP
- Special interface developed to support Action Plans





- **Methodology Developed through CAEP**
 - **23 Member States** , global representation
 - **15 Observers**, primary aviation stakeholder representation
- **Expert input provided from**
 - ICAO Secretariat
 - ICAO Member States
 - Universities
 - NGOs
 - International Air Transport Association – IATA (Airlines)
 - International Coordinating Council of Aerospace Industries Associations – ICCAIA (Manufacturers)
- **Methodology is internationally recognized and accepted**
- **All UN air travel GHG inventories are prepared using the ICAO Calculator**



- ICAO is committed to continuous improvement of the Calculator
- Current work involves:
 - Updated passenger emissions methodology and data sources
 - Development of methodology for air cargo



Estimating Fuel Savings from Operational Changes:

ICAO Fuel Savings Estimation Tool



- Allows those States without modelling and/or measurement capabilities to estimate fuel savings from operational improvements
- Consistent with CAEP-approved GHG models
- Consistent with Global Air Navigation Plan
- Easy-to-use / minimal data requirements
- Better than using a rule of thumb



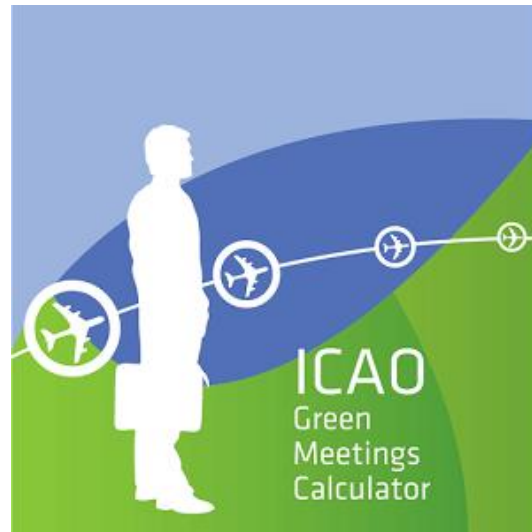
- The tool can estimate:
 - Effects of shortening / eliminating level segments on departure and arrival
 - Effects of shorter routes (either in time or distance)
 - Effects of cruising at different altitudes
 - Effects of reduced taxi times



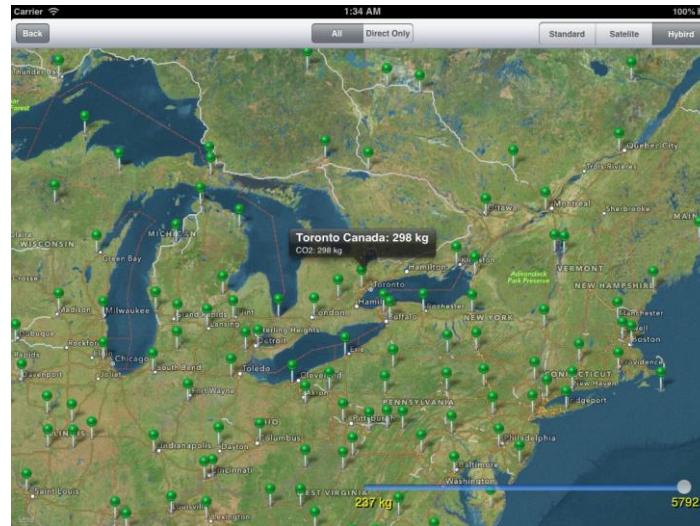
- **The tool does not:**
 - Replace detailed modelling or measurement of fuel consumption
 - Estimate fuel consumption from airborne holding
 - Compute emissions other than fuel consumption



Planning Meeting Locations: ICAO Green Meetings Calculator

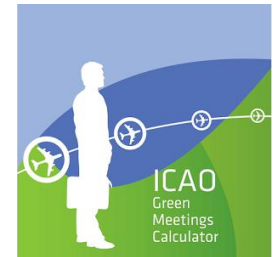


- Developed in response to request from UN Travel Offices
- Supports decision-making by selecting meeting location with minimum CO₂ footprint from air travel



All of ICAO's environmental tools are available free of charge from:

<http://www.icao.int/env>



**The special interface to the ICAO Carbon Emissions Calculator is available through the APER portal.*

