



# Assistance for Action

## Aviation and Climate Change Seminar

23 - 24 October 2012

ICAO Headquarters, Montréal, Canada



# ICAO Website Overview

Ted Thrasher



# www.icao.int

The screenshot shows the ICAO website homepage. At the top left is the ICAO logo. The main header includes the text 'INTERNATIONAL CIVIL AVIATION ORGANIZATION' and 'A United Nations Specialized Agency'. A search bar is located on the right. Below the header is a navigation menu with links: 'About ICAO', 'Strategic Objectives', 'Meetings & Events', 'Publications', 'Online Store', and 'Employment'. The main content area features a large image of two hands holding a globe, with the text 'Assistance for Action – Aviation and Climate Change Seminar (ACLI)'. Below this image is a table of upcoming conferences: 12th Air Navigation Conference, Aviation and Climate Change, ESAF Runway Safety, EUR/NAT Runway Safety, Air Services Negotiation Conference, and 6th Air Transport Conference. To the right of the main content are sections for 'Latest News' and 'Upcoming Meetings & Events'. At the bottom, there are sections for 'Governing Bodies', 'Highlights', and 'Services & Resources'. The 'Highlights' section mentions a visit to Montreal by the Secretary General.

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**Assistance for Action – Aviation and Climate Change Seminar (ACLI)**  
To be held at ICAO's Headquarters, in Montréal, Canada from 23 to 24 October 2012 - read more...

|                                |                             |                    |                       |                                     |                              |
|--------------------------------|-----------------------------|--------------------|-----------------------|-------------------------------------|------------------------------|
| 12th Air Navigation Conference | Aviation and Climate Change | ESAF Runway Safety | EUR/NAT Runway Safety | Air Services Negotiation Conference | 6th Air Transport Conference |
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**About ICAO**  
Constantly seeking to foster and support the sustainable growth of air transport, the International Civil Aviation Organization serves as the global forum for its 191 Member States. Amongst its many other functions covering all aspects of civil aviation activity, ICAO cooperates with its Member States and key industry organizations to develop policies and standards, provide strategic guidance on critical issues, perform audits and studies and reports, and pursue targeted capacity building.

**Latest News**  
Driving Momentum on Global Air Navigation's "Highest Priority" | 22/10/2012  
Eighth ICAO MRTD Symposium | 11/10/2012  
See more ...

**Upcoming Meetings & Events**  
Seventh Meeting of the Facilitation Panel | ICAO, Montréal, Canada | 22/10/12 - 26/10/12  
Assistance for Action – Aviation and Climate Change Seminar (ACLI) | ICAO, Montréal, Canada | 23/10/12 - 24/10/12  
Cape Town Regional Runway Safety Seminar | Cape Town, South Africa | 29/10/12 - 30/10/12  
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Secretary General visits Beijing  
**MONTREAL, Sept. 28 (Xinhua)** – As part of his tour of the States presently being

**Services & Resources**  
Carbon Calculator  
iSTARS



# Carbon Calculator

The screenshot shows the ICAO Carbon Emissions Calculator web page. At the top left is the ICAO logo. The page title is 'Carbon Emissions Calculator'. Below the title, there is a navigation menu with 'Home' and 'English'. A sidebar on the left contains links: 'Click here to read the ICAO Methodology', 'FAQ', and 'Help us to improve the calculator'. The main content area includes the text: 'ICAO has developed a methodology to calculate the carbon dioxide emissions from air travel for use in offset programmes.' It then explains that the calculator allows passengers to estimate emissions based on limited user information and that the methodology uses industry data for aircraft types, routes, and cargo. A small graphic of an airplane flying over a globe is shown. Below the text, there is a form with 'From:' and 'To:' input fields. Underneath, it asks 'My ticket is:' with radio buttons for 'Economy Class' (selected), 'Premium Class (Economy Premium, Business, or First)'. Below that, it asks 'Number of passengers:' with a dropdown menu set to '1', and 'One-Way' or 'Round Trip' radio buttons, with 'Round Trip' selected. The browser's status bar at the bottom shows 'Done', 'Trusted sites', and '100%' zoom.



# INTERNATIONAL CIVIL AVIATION ORGANIZATION

A United Nations Specialized Agency

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## Assistance for Action – Aviation and Climate Change Seminar (ACLI)

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Aviation and  
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ESAF  
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Air Services  
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Conference

6th Air  
Transport  
Conference

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ACTION PLANS



TOOLS

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## Environmental Protection

Improving the environmental performance of aviation is a challenge ICAO takes very seriously. In fulfilling its responsibilities, the Organization developed a range of standards, policies and guidance material for the application of integrated measures to address aircraft noise and engine emissions embracing technological improvements, operating procedures, proper organization of air traffic, appropriate airport and land-use planning, and the use of market-based options.

[See more ...](#)

### Environmental Protection News

- [New Progress on Aircraft CO2 Standard](#) 11/7/12
- [ICAO Secretary General Successfully Completes Pioneering Biofuels Journey](#) 20/6/12
- [ICAO Launches its First App](#) 8/6/12

### Environmental Protection Meetings and Events

|   |               |                        |
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| Assistance for Action – Aviation and Climate Change Seminar (ACLI)        | 23 - 24/10/12 | ICAO, Montréal, Canada |
| ICAO Aviation and Sustainable Alternative Fuels Workshop (SUSTAF)         | 18 - 20/10/11 | ICAO, Montréal, Canada |
| World Route Development Strategy Summit. ICAO   World Bank   UBM Aviation | 02 - 03/10/11 | Berlin                 |

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ASSEMBLY



CAEP

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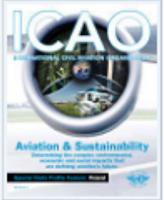
Environment Report 2010



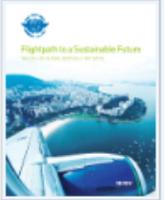
Environment Report 2007



Brochure



ICAO Journal Environment Issue



Flightpath to a Sustainable Future (Rio+20 Review)



Global Framework for Alternative Aviation Fuels

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**Climate Change : Action Plan**



A global agreement reached by the 37th Session of the ICAO Assembly in October 2010 established a new benchmark for ICAO's objective relative on aviation and climate change. It provides a roadmap for action through 2050 for the 190 Member States of the Organization and invites them to voluntarily submit their/national action plans to reduce CO<sub>2</sub> emissions from international civil aviation to ICAO by June 2012.

The action plans will allow State to showcase the specific voluntary measures they intend to take in order to improve efficiency and thereby contribute to the global environmental aspirational goals established by the Assembly.

"ICAO environmental action plans will help States identify the most appropriate measures to reduce emissions from international aviation. They will also allow ICAO to monitor progress by States in achieving global aspirational goals and help address specific needs through more targeted technical and financial assistance," said the Organization's Council President Roberto Kobeh González in his opening address at the first ICAO Hands-on Training workshop for States' Action Plans on CO<sub>2</sub> Emissions Reduction Activities held in Mexico City, Mexico, the first week of May 2011.

**Action Plan**

Action Plans submitted by States

1. United States  
Aviation Greenhouse Gas  
Emissions Reduction Plan

**What are action plans?**

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## Environmental Toolkits



### ICAO Carbon Emissions Calculator

ICAO has developed a methodology to calculate the carbon dioxide emissions from air travel for use in offset programmes. [Click here](#) to see more.

The Carbon Calculator is additionally available in the Apple App Store as an **iPhone and iPad application**.



### ICAO Green Meetings Calculator

The ICAO Green Meetings Calculator (IGMC) is a tool designed to support decision-making in reducing the carbon emissions from air travel to attend meetings.

The software generates an optimal location for a meeting in terms of CO2 emissions, taking into consideration the city of origin and the number of participants, as well as other parameters. While many factors may affect the decision for where a meeting should be held, the calculator helps facilitate the planning process.

Access the files here: [ICAO Green Meetings Calculator](#) (requires Microsoft Windows XP or newer) and the [IGMC User Guide](#).



### ICAO Fuel Savings Estimation Tool

Operational measures are one of the instruments available to States to improve fuel efficiency and reduce CO2 emissions. The ICAO Fuel Savings Estimation Tool (IFSET) has been developed by the Secretariat with support from States and international organizations to assist the States to estimate fuel savings in a manner consistent with the models approved by CAEP and aligned with the Global Air Navigation Plan.

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### Working Papers by Item

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| WP/21<br>EX/4   | Civil aviation and the environment (04/05/10)   | <a href="#">en</a> | <a href="#">fr</a> | <a href="#">es</a> | <a href="#">ru</a> | <a href="#">ar</a> | <a href="#">zh</a> |
| WP/22<br>EX/5   | United Nations Climate Neutral Initiative (26/05/10)  | <a href="#">en</a> | <a href="#">fr</a> | <a href="#">es</a> | <a href="#">ru</a> | <a href="#">ar</a> | <a href="#">zh</a> |
| WP/23<br>EX/6   | Aviation and alternative fuels (25/05/10)   | <a href="#">en</a> | <a href="#">fr</a> | <a href="#">es</a> | <a href="#">ru</a> | <a href="#">ar</a> | <a href="#">zh</a> |
| WP/24<br>EX/7   | Consolidated statement of continuing ICAO policies and practices related to environmental protection - General provisions, noise and local air quality (04/06/10) | <a href="#">en</a> | <a href="#">fr</a> | <a href="#">es</a> | <a href="#">ru</a> | <a href="#">ar</a> | <a href="#">zh</a> |
| WP/25<br>EX/8   | Consolidated statement of continuing ICAO policies and practices related to environmental protection - Climate Change (24/09/10)                                  | <a href="#">en</a> | <a href="#">fr</a> | <a href="#">es</a> | <a href="#">ru</a> | <a href="#">ar</a> | <a href="#">zh</a> |
| WP/26<br>EX/9   | Present and future aircraft noise and emissions trends (21/07/10)   | <a href="#">en</a> | <a href="#">fr</a> | <a href="#">es</a> | <a href="#">ru</a> | <a href="#">ar</a> | <a href="#">zh</a> |
| WP/27<br>EX/10  | Developments in other United Nations bodies (06/08/10)  | <a href="#">en</a> | <a href="#">fr</a> | <a href="#">es</a> | <a href="#">ru</a> | <a href="#">ar</a> | <a href="#">zh</a> |
| WP/262<br>EX/53 | International aviation and climate change – Proposal for Assembly Resolution (21/09/10)   | <a href="#">en</a> | <a href="#">fr</a> | <a href="#">es</a> | <a href="#">ru</a> | <a href="#">ar</a> | <a href="#">zh</a> |
| WP/361<br>P/35  | Report of the Executive Committee on Agenda item 17 (4/10/10)   | <a href="#">en</a> | <a href="#">fr</a> | <a href="#">es</a> | <a href="#">ru</a> | <a href="#">ar</a> | <a href="#">zh</a> |
| WP/402<br>P/66  | Report of the Executive Committee on Agenda item 17, Section on climate change (7/10/10)  | <a href="#">en</a> | <a href="#">fr</a> | <a href="#">es</a> | <a href="#">ru</a> | <a href="#">ar</a> | <a href="#">zh</a> |

#### Livestream videos

1. ICAO Carbon Emission Calculator  
<http://www.livestream.com/icao>
2. Feasibility of Achieving Climate Change Goals for International Aviation  
<http://www.livestream.com/icao>
3. Aviation and climate change  
<http://www.livestream.com/icao>
4. Alternative fuels. *(Will be available shortly)*

#### 37th Assembly, Agenda Item 17: Environmental Protection

Since the 36th Session of the ICAO Assembly held in September 2007, ICAO's main effort in environmental protection has continued to be focused on addressing the impact of aviation emissions



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ICAO: UNITING AVIATION ON CLIMATE CHANGE

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## Climate Change : Adaptation

### Introduction

Climate change is considered to be one of the most serious environmental threats to sustainable development, with adverse impacts expected on human health, food security, economic activity, natural resources and physical infrastructure. There is solid scientific evidence to suggest that despite the technology improvements as well as other operational and economic measures to reduce greenhouse gas (GHG) emissions, the climate could continue to change, and the potential consequences might be significant.

The likely impacts of climate change (storms, heat waves, etc.) were initially assessed by the Intergovernmental Panel on Climate Change (IPCC) in 1999 and these assessments have since been updated, the most recent one being IPCC's Fourth Assessment Report issued in 2007. According to the latest IPCC assessments, the impacts of climate change will be felt worldwide (see article [Adaptation to Climate Change— Challenges Facing Civil Aviation Stakeholders](#), Chapter 6 of this report). The need to address the adverse effects of climate change either by mitigation or by adaptation is becoming more pressing.

The articles in Chapter 6 of this report focus on how the changes in climate could affect aviation and the possible areas where aviation might need to adapt its ground and flight operations.

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### Adaptation — An International Concern

The Bali Action Plan adopted in 2007 at the thirteenth Conference of the Parties (COP13) of the United Nations Framework Convention on Climate Change (UNFCCC), identified "adaptation" as one of the four building blocks (along with mitigation, finance and technology) required for a strengthened future response to climate change. These building blocks are meant to enable the full, effective and sustained implementation of the UNFCCC through long-term cooperative action, from now to beyond

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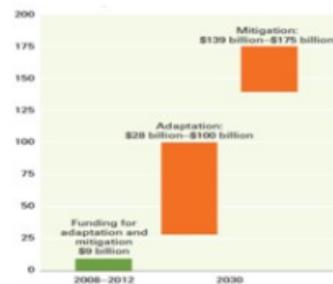
## Climate Change : Financing

Climate financing is one of the key elements of the international discussions addressing climate change in the medium and long term. The scale and size of the challenge that is associated with sustained reductions of greenhouse gas (GHG) emissions on a global scale requires rigorous solutions and robust financing mechanisms that will be needed to develop and deploy mitigation technologies and to adapt to the impacts of climate change. In particular, significant financial and human resources will be required to ensure that developing countries are able to meet the challenge of climate change while growing their own economies in a sustainable manner.

### Background

According to the United Nations Framework Convention on Climate Change (UNFCCC), the current levels of funding available for climate change-related initiatives will be insufficient to address the future financial flows estimated to be required for adaptation and mitigation measures under a strengthened future climate change agreement, post-2012. Developing countries currently receive only 20 to 25 per cent of the investment they need for climate change mitigation and adaptation, which only represents approximately 46 per cent of the total that will be required by 2030.

While a few States have been able to undertake initial actions to combat climate change using their own financial resources (as a result of their own economic growth), the energy demand in developing countries is projected to increase immensely, which will require additional resources. Nonetheless, the resulting emissions reductions expected to be achieved by developing States by 2030 is estimated to be about 68% of global emission reductions.



**Figure 1: Additional investment needs in developing countries, by 2030**  
 (World Bank presentation at the ICAO Colloquium on Aviation and Climate Change, Montreal, May 2010).

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## Voluntary Measures

ICAO has collected information on voluntary activities and is planning to provide feedback to States and the aviation community, with the aim of dissemination of such activities. ICAO has been encouraged to study three market-based measures such as voluntary measures, emission-related levies and emissions trading, pursuant to Appendix I to Assembly Resolution A35-5, aimed at reducing climate impact caused by greenhouse gases (GHG) emitted from the aviation sector.

In addition the new resolution (Assembly [Resolution A36-22](#), Appendix L) urges States to adopt measures relating to Emissions related charges and taxes, Emissions trading, Carbon offsets and Clean Development Mechanism.

Regarding voluntary measures, ICAO has already developed a [template](#) (pdf) for voluntary agreements between the aviation sector and public sector organizations.

This call for States to provide information was sent to all States on 3 October 2006 and renewed on 2 December 2009. Some States had replied to the first State Letter as of 7 December 2006. The information submitted, as well as the information collected prior to February 2007 is available [here](#) (pdf). A second State Letter has requested submission of an updated questionnaire by 31 December 2009. [Click here](#) to view the latest responses.

ICAO welcomes submissions regarding voluntary activities at any time, in order to ensure that a wide sample of information is collected.

- [Template and Guidance on Voluntary Measures, 2004 \(pdf\)](#)
- Questionnaire (doc): [English](#) | [Français](#) | [Español](#) | [Русский](#) | [عرب](#) | [中文](#)
- Questionnaire (PDF): [English](#) | [Français](#) | [Español](#) | [Русский](#) | [عرب](#) | [中文](#)
- [List of collected Voluntary Activities Against Global Warming](#)
- Operational Opportunities to Minimize Fuel Use and Reduce Emissions, Circular 303-AN/176.*



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## ICAO ENVIRONMENTAL REPORT 2010



AVIATION and  
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