



TRANSPORT

Aviation

Action Plan

Provisional copy



CLIMATE SUMMIT 2014

**UN HEADQUARTERS · NEW YORK
23 SEPTEMBER · #CLIMATE2014**

Action Plan

Aviation's climate action takes flight

Collaborative climate action across the air transport world

At the 37th International Civil Aviation Organization (ICAO) Assembly in October 2010, governments resolved to achieve collective global aspirational goals for the international aviation sector: to improve fuel efficiency by 2% per year and keeping net CO₂ emissions from 2020 at the same levels. These aspirational goals were reaffirmed by the 38th ICAO Assembly in 2013. Governments also agreed to work further to explore the feasibility of a long-term global goal for international aviation.

- The ICAO Assembly Resolution A38-18 on Climate Change can be found at:
http://www.icao.int/Meetings/a38/Documents/Resolutions/a38_res_prov_en.pdf

The aviation industry, represented through the cross-sector Air Transport Action Group (ATAG), set itself ambitious short-, medium- and long-term goals as early as 2008. These goals, agreed by airports, airlines, air navigation service providers and the manufacturers of aircraft and engines, include:

- a) Improving fleet fuel efficiency by 1.5% per year through until 2020.
- b) Stabilizing net emissions from 2020 through carbon-neutral growth, subject to concerted industry and government initiatives.
- c) Reducing net aviation carbon emissions 50% by 2050, relative to 2005 levels.

These goals were reaffirmed ahead of the 2012 United Nations Conference on Sustainable Development (Rio+20), and are the common goals of ATAG's members and industry partners. The industry can report that it is already meeting the first goal and that good progress is being made on the other two goals, in collaboration with ICAO.

- Please see the 2012 industry declaration *Towards Sustainable Aviation* for further details:
<http://tinyurl.com/nesoaxy>.

In order to achieve these ambitious sectoral goals, ICAO and the aviation industry are working collaboratively. They are doing this through the efforts outlined in this action plan and the **Annex**, and via a comprehensive set of mitigation actions based on a basket of measures, individual actions, outlined in the following topic areas:

1) The development of new, more efficient aircraft technology and sustainable alternative fuels

CO₂ standard to be developed by 2016

Governments, civil society and the industry are collaborating on the development by ICAO of a global CO₂ standard for new aircraft – building upon the research and development already taking place amongst the manufacturers of aircraft, engines and components. Since the first jet aircraft flew in the early 1950s, fuel-use on a per-passenger basis has improved by well over 70%. Each new

generation of aircraft brings about double-digit emissions reductions over the models they replace. The civil aerospace industry spends in excess of \$15 billion a year on research and development of new technologies which will further improve fuel efficiency and airlines are investing billions more every year to continually upgrade their fleets with the latest technology aircraft. Underpinning this will be a global CO₂ standard on fuel efficiency for new aircrafts, currently being prepared and expected to be finalized in 2016.

- The development of a CO₂ standard by ICAO for new aircraft will be finalized in 2016.

Sustainable alternative fuels for aviation are a technical reality

Three pathways for the production of sustainable alternative fuels for use in aviation have already been approved by the relevant authorities and over 1,500 commercial flights by 18 airlines have taken place so far. However, more can be done in this regard to reduce the sector's net carbon emissions. Whilst a number of airlines and their partners are taking a leading role in supporting the development of sustainable alternative fuels for aviation, there remains a role for governments to set the right conditions for a viable commercial alternative fuels industry for aviation. In particular, in some parts of the world, the use of alternative energy by other transport modes is prioritized at the expense of the air transport sector.

To foster this new energy opportunity, partnerships are being established in many countries and regions, bringing together airlines, airframe and engine manufacturers, civil society, fuel producers, agriculture, research institutions and governments. Initiatives such as the Roundtable on Sustainable Biomaterials (RSB) are also partners in this process, ensuring that the high standards of sustainability are being maintained.

Established in 2009, the **ICAO Global Framework for Aviation Alternative Fuels (GFAAF)** is a web-based platform providing an extensive database on announcements, initiatives and projects related to aviation alternative fuels as well as reference documentation and a general overview of developments and progress in the area.

- See: <http://www.icao.int/environmental-protection/GFAAF/Pages/default.aspx>
- Further details of multi-stakeholder partnerships on aviation alternative fuels can be found in the **Annex**.

2) The promotion and deployment of operational improvements to reduce CO₂ emissions from aircraft already in service

This is an area where the industry has been making significant progress. Airlines around the world have been reviewing their operations and cutting fuel-consumption: from new methods of landing aircraft, which reduce fuel-use and noise; to projects aimed at reducing weight on-board aircraft through new materials used to construct cabin equipment; washing aircraft engines to improve performance and the use of tablet computers to replace heavy flight manuals. The reason is simple –



fuel is the number one cost for airlines, around a third of operating costs for most carriers, or over \$210 billion last year.

- For examples of projects announced in the past year, see the **Annex**.

Through the State Action Plans that are being promoted by ICAO, governments are being made aware of the opportunities for fuel-use and emissions reductions. In addition, the industry continues to promote best practice in new techniques and operational procedures through events such as ATAG's Global Sustainable Aviation Summit and the industry web resource www.enviro.aero, as well as through the existing environmental committee and task force structures of the International Air Transport Association (IATA), Airports Council International (ACI), Civil Air Navigation Services Organisation (CANSO) and the International Coordinating Council for Aerospace Industry Associations (ICCAIA).

3) Making better use of infrastructure, particularly air traffic management

Implementing the Global Air Navigation Plan

ICAO is working with Member States and the industry to implement the Global Air Navigation Plan, the latest iteration of which was adopted by States during the 2013 Assembly. This will help reduce emissions through the rollout of advanced air traffic management systems. The Global Plan has been developed as a set of 'block upgrades' that Member States can implement in line with national circumstances and the availability of technology. Developed as part of a collaborate effort involving states, ICAO and the industry, the Global Plan provides a strategic direction for the development of global air navigation services based on a common understanding. Many of the blocks will allow better use of airspace capacity, providing room for air traffic to grow whilst reducing inefficiencies in the system, and emissions.

- The current Global Air Navigation Plan runs from 2013 – 2028
- The Global Air Navigation Plan can be found at:
http://www.icao.int/publications/Documents/9750_4ed_en.pdf

The Global Air Navigation Plan is consistent with several large-scale air traffic management efficiency and modernization projects already underway, for example, the NextGen project in the United States and the Single European Sky ATM Research (SESAR). The aviation industry encourages governments to make rapid progress and help deliver the millions of tonnes of CO2 reductions that will result from implementation of these two projects and other such projects around the world.

4) Designing an effective, global, market-based measure for international aviation.

In October 2013, governments meeting at the 38th ICAO Assembly agreed to develop a global market-based measure for international aviation, for consideration at the next ICAO Assembly in 2016 and for implementation from 2020. ICAO, governments, civil society and the industry are working in partnership to deliver a robust worldwide measure that will enable the achievement of



ICAO's aspirational goal to stabilize international aviation's net CO₂ emissions from 2020 through carbon-neutral growth.

- ICAO work on developing a global market-based measure (MBM) for aviation started shortly after the 38th ICAO Assembly in October 2013 and is progressing well.
- Two tracks of discussions are taking place – an Environmental Advisory Group has been formed as a sub-group of the ICAO Council; and a Global Market-based Measure Task Force has been created under the existing ICAO Committee on Aviation Environmental Protection to analyze specific elements.
- Experts from governments, industry and civil society are working to deliver the proposal requested by the 38th Assembly, in time for the 39th ICAO Assembly in 2016.
- The industry is fully supportive and highly engaged in this process.

Capacity-building and assistance

In order to ensure comprehensive global deployment of these initiatives, ICAO, in partnership with the aviation industry, is undertaking capacity-building activities, including hands-on training of national focal points in all ICAO regions. The purpose is to support the development and implementation of Member States' action plans to reduce CO₂ emissions from international aviation.

States' action plans allow governments in partnership with the aviation industry (airlines, manufacturers, airports and air navigation service providers), to identify and include mitigation measures and assistance needs to implement such measures. In turn, the compilation of information contained in the States' action plans enables ICAO to assess the progress toward achieving the global aspirational goals, as well as address the identified assistance needs.

To date, 74 ICAO Member States, representing around 82% of global international air traffic have submitted State Action Plans to ICAO. This high level of interest and cooperation of Member States and other stakeholders was due to a robust capacity building programme, ranging from the provision of guidance material, interactive web-interface and practical tools, to the convening of training workshops in all regions and support via teleconferences with individual national action plan focal points. ICAO will continue to provide capacity-building and assistance to support actions toward 90% coverage of international aviation emissions by 2016.

ICAO is reinforcing its strategy for capacity building with the establishment of two partnerships with the European Commission (EC), as well as with the Global Environmental Facility (GEF) and United Nations Development Programme (UNDP).

The first partnership with the EC aims to assist selected Member States in the African and the Caribbean Regions, including three Small Island Developing States (SIDS). The project, funded by the EC, which started in early 2014, aims to assist the selected States to develop their national action plans and implement the selected mitigation measures.



The second partnership with GEF-UNDP includes identifying and facilitating the implementation of measures to reduce the CO2 emissions of international aviation. One important element of this

partnership is a pilot renewable energy project to be implemented in Jamaica to demonstrate to developing States and SIDS the environmental and financial feasibility to replicate similar projects.

In addition, the Inter-American Development Bank (IDB) is funding several projects that are leading the development and deployment of alternative aviation fuels. Similarly, many other regional development banks are exploring possible opportunities to provide funding to projects that will 'green' aviation operations.