

FLYING INTO THE FUTURE

The global aviation sector is taking action to curb its emissions, with a market-based mechanism set to be adopted by ICAO in 2016. Megan Flynn and Alec Kibblewhite map out the journey to this point and how it intersects with the UNFCCC process

The aviation industry has grown considerably over the past decades to nearly 1400 airlines operating services to around 4000 airports. The number of passengers has doubled in the last decade, to more than 3 billion in 2014, and another 65 billion passengers are expected over the next 15 years. The rise in air travel brings significant economic benefits. Globally, 58 million people have a job linked to aviation. But while the economic and social benefits from aviation are undeniably significant, they do come at a cost: GHG emissions.

Global demand continues to drive overall growth in aviation emissions, despite significant technological advances in reducing emissions. Emissions per passenger kilometre have reduced by more than 70% over the past 40 years and aviation contributes around 2% of global emissions.

Acknowledging its scale and significance in the global response to climate change, the aviation sector, through trade association the International Air Transport Association (IATA), has taken a proactive approach by setting the following ambitious targets:

1. 1.5% annual fuel efficiency improvement between 2010 and 2020;
2. Carbon neutral growth from 2020 (CNG2020);
3. 50% reduction in net emissions by 2050 compared to 2005 levels.

The second target, CNG2020, was formally adopted in 2010 by the member states of the UN International Civil Aviation Organization (ICAO). If successfully implemented, it means that the aviation industry's net emissions will not increase beyond 2020 levels despite expected industry growth.

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Modelling suggests current technology, operations such as required navigation performance (RNP), infrastructure improvements and fleet renewal will make a significant, yet insufficient contribution to achieving carbon neutral growth from 2020. It is anticipated that the remaining mitigation will be achieved using new technologies such as advanced biofuels, and a market-based measure (MBM) to be developed through the ICAO framework.

AVIATION AND THE UNFCCC: A UNIQUE CASE

Fuel used in international maritime and air transport is treated differently from fuel used domestically, both from a regulatory and tax perspective. The Kyoto Protocol delegated the regulation of emissions from international maritime and aviation bunker fuel to developed countries, working through the relevant UN bodies – the International Maritime Organization (IMO) and ICAO. Emissions from international bunker fuel are calculated and reported by developed countries, but are excluded from national totals and instead are reported separately within the UNFCCC framework. The practical effect of this is that emissions from international aviation bunker fuel, and therefore all international air travel, is not expected to be impacted directly by UNFCCC negotiations at COP 21 in Paris. Rather they will be regulated through agreement by countries through ICAO.

It is important to note that emissions from domestic flights do not come under

the international bunker fuel framework, and are subject to any binding national emissions targets negotiated at COP 21. Negotiations in Paris may have a particular impact on the aviation industries in large countries such as Australia and Canada that rely heavily on air transport for domestic travel.

ICAO AND MARKETS

The aviation community has made considerable progress in addressing its impact on climate change. While the UNFCCC negotiations in Paris will seek to set legally-binding targets, the aviation industry, through ICAO, is currently working on how to implement the target of CNG2020 adopted by member states in 2010.

As outlined above, one of the key measures identified to meet this goal in the short term is a global MBM for the aviation industry. ICAO's member states formally resolved in October 2013 to adopt a global MBM at its next triennial assembly, and divided the design and implementation of this measure into two streams of work. Political and legal issues are addressed at the Environmental Advisory Group (EAG), while technical issues are dealt with by the Global MBM Taskforce (GMTF).

These groups are bound to propose a working model for endorsement and adoption by member states at the 39th ICAO General Assembly in October 2016. While the final form of the MBM has not yet been

agreed, it is widely expected that the global mandatory offsetting option will be adopted – a baseline and offset programme.

While the global MBM is likely to be the primary driver keeping net aviation emissions at or below 2020 levels in the short term, advanced biofuels for aviation are needed to meet the industry's longer term goals. The use of biofuel will enable airlines to reduce emissions and therefore liabilities under a global MBM.

ICAO created the Alternative Fuels Task Force (AFTF) in 2014 with a mandate to assess potential emissions reductions from the use of alternative fuels up to 2050. More importantly, AFTF was also tasked with developing the lifecycle assessment (LCA) methodology to assess the carbon emissions benefits from aviation biofuel. The LCA methodology, along with further work on broader sustainability criteria, will safeguard a high degree of environmental

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integrity with regards to the development and use of aviation biofuel under a global MBM.

Equally, the MBM's proposed biofuel accounting criteria (known as “book and claim”) will protect against double counting whilst ensuring a system that is efficient for airlines, encouraging greater uptake of aviation biofuels.

PARIS AND THE ICAO NEGOTIATIONS

Although facilitating separate climate negotiations, ICAO cooperates actively with the UNFCCC Secretariat. ICAO reports regularly to the Subsidiary Body for Scientific and Technological Advice (SBSTA) – exchanging information and holding meetings of experts from both streams of negotiation and technical work.

While there has been some concern expressed that international aviation has been excluded from the UNFCCC process, solutions for reducing aviation emissions are highly technical and benefit from the support of the specialised ICAO body. Climate negotiations specific to aviation have created a forum for developing emissions reduction solutions focused on technology, and led to advancements in aircraft efficiency, biofuels and carbon markets. Lessons learned from the

dedicated industry negotiations within ICAO could provide a valuable precedent for other industry specific action within or in parallel to the UNFCCC framework. Existing arrangements for information sharing between ICAO and the UNFCCC will continue to benefit both processes.

The negotiations in Paris will undoubtedly impact the process at ICAO by positioning member states on issues common to each process and by increasing publicity and scrutiny into both UNFCCC and ICAO outcomes.

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