First ever global regime for aviation emissions: ICAO adopts Global Market-Based Measure to combat aircraft CO₂ emissions

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On Friday, 7th October the General Assembly of the International Civil Aviation Organisation (ICAO) passed a resolution (the ICAO Resolution), resolving to implement the world’s first global regime for combating CO₂ emissions from aircraft. This marks the aviation industry the first industry sector ever to adopt a global carbon market. This article explains what has been agreed, and not agreed, its implications for airlines, financiers, carbon traders and others and the impact on the EU’s aviation emissions trading scheme.

Much of the detail of the so-called ‘Global Market-Based Measure’ (GMBM) is yet to be worked out in what is, given the amount of work to be done, a very short space of time before it formally takes effect in 2021.

However, after around 25 years of negotiation concerning the role of aviation in tackling global emissions, this represents an historic moment. The resolution has significant implications for international airlines around the globe, as well as more indirect implications for aircraft manufacturers, financiers, carbon-offset project developers, carbon traders, carbon trading registries and many others.

Lawyers in Reed Smith’s environmental and climate change practice have been working with the aviation sector on emissions issues for over 10 years at EU and international level. In this article, we highlight the most important features of the new GMBM, some of the key legal and practical issues arising from both the agreed features and those yet to be resolved and, finally, the implications of all this for the EU’s flagship Aviation Emissions Trading Scheme (the Aviation EU ETS).

What has been agreed?

Offsetting, not cap and trade

ICAO has agreed that the GMBM will take the form of a Carbon Offsetting and Reduction Scheme for International Aviation (referred to in the ICAO Resolution as the “CORSIA”).

Unlike the ‘cap and trade’ approach of the Aviation EU ETS, this scheme will oblige airlines to offset their emissions, but not necessarily (or indeed at all) to reduce them at source.

The scheme will only apply to CO₂, not other emissions such as NOx and particulates, and will operate on the basis of a three-year compliance cycle.

The scheme will also be subject to three-year reviews of its effectiveness and ambition.

It is intended to be the only market-based measure applicable (MBM) to CO₂ emissions from the international aviation sector.

How ‘global’ is global?

It is being trumpeted as a truly global scheme, and in some respects rightly so. However, it is important to be clear what ‘global’ means for these purposes.

First, it is important to understand that it only applies to international flights: that is, flights that take off and land in different countries. So, while the scheme will apply to a flight from the United States to China or Europe, it will not apply at all to a domestic flight between two airports in the same country.

Given the distances that may be flown between domestic airports in certain of the world’s largest countries (such as the United States, Canada and China) this is a major gap in global coverage (albeit one that individual countries are expected to plug with their own domestic aviation emissions reduction initiatives).

Secondly, there are some important exemptions that reduce the scope of the scheme further. These include:

- Exemption of airlines responsible for only low (de minimis) levels of activity (operators emitting less than 10,000 tonnes of CO₂ p.a.).
- Exemption of small aircraft (below 5,700 kg maximum take-off mass).
- Exemption for certain special categories of flight (humanitarian, medical or firefighting).
- Exclusion of flights to/from Least Developed Countries (LDCs), Small Island Developing States (SIDS) and Landlocked Developing Countries (LLDCs), unless they volunteer to participate.

Thus, a flight from a developed country airport in, say, Paris or London to an LDC, SIDS or LLDC will not be covered by the scheme, even though perhaps the bulk of its emissions en route may be emitted outside the LDC/SIDS/LLDC and in the airspace of countries to which the scheme applies in full.

It had been estimated prior to recent changes to the ICAO Resolution text that as a result of all of these limitations, the scheme would actually apply to only 40 per cent of global aviation activity.
However, a number of changes to the ICAO Resolution text made in the final weeks before the vote significantly watered down the scope of the scheme when compared with draft proposals circulating as recently as May/June 2016, at least in relation to the scheme’s first six years of operation through to the end of 2026.

Crucially, participation in the scheme will now be voluntary rather than mandatory in both:

- what is now being called a ‘pilot phase’ from 2021 to 2023; and
- the first phase of the scheme (2024 to 2026).

Participation will only become mandatory in the second phase, which will apply from 2027 to 2035, and then only provided the state of the aircraft operator in question accounts for at least 0.5 per cent of relevant in-scope global aviation activity or is included in the top 90 per cent of such activity (ranked highest to lowest).

Emissions that are not covered by the scheme (for example, those relating to a flight between an in-scope and out-of-scope destination) will not be re-assigned as offsetting requirements to aircraft operators included in the scheme: they will simply remain ‘orphan’ emissions.

In the end, the voluntary pilot phase and first phase were concessions that negotiators had no choice but to make in order to secure a global deal. While there is no doubt that these concessions have further watered down the impact of the scheme in its early years, they may be viewed as a pragmatic response to the very real prospect of otherwise achieving no deal at all.

States are ‘strongly encouraged’ to participate early on a voluntary basis. Proponents of the scheme received a boost ahead of the Assembly from commitments made by the United States, Canada, China, Mexico and the EU member states to participate in the scheme from the outset in 2021. Despite formal reservations lodged by Argentina, Venezuela, India and Russia, in total, about 64 countries representing around 84 per cent of international aviation activity have declared an intention to voluntarily participate in the GMBM.

Level of ambition

The basic level of ambition is to cap sectoral CO₂ emissions from international civil aviation at their 2020 level. In other words, it is only emissions that exceed the baseline level of emissions from the sector as a whole in 2020 that must be offset.

The goal of carbon neutral growth from 2020 (CNG2020) is not new, having been adopted by ICAO at its 37th Assembly in 2010, together with a goal to achieve a global annual average fuel efficiency improvement of 2 per cent until 2020 and an ‘aspirational’ fuel efficiency rate of 2 per cent per annum from 2021 to 2050. ICAO has sought to achieve CNG2020 through a so-called ‘basket of measures’, of which a GMBM would be one element. Non-MBM measures would consist of operational improvements, technology improvements and sustainable alternative fuels.

The basic principle is that individual airlines’ obligations will not be directly determined by how much their own emissions increase over 2020 levels, but instead they will be responsible for a share of the overrun by the sector as a whole, which share will be assigned to them based on their calculated market share. Theoretically, therefore, an operator that managed to hold its emissions at or below its 2020 levels would still have to surrender offset credits if the emissions of the sector as a whole have grown above 2020 levels, albeit it would be proportionately less impacted.

However, the final text introduces further nuances as follows:

- During the pilot phase (2021-2023) the state to which an aircraft operator belongs can choose whether to use 2020 or some other year as the baseline.
- The method of calculating an individual aircraft operator’s compliance obligation by reference to emissions growth beyond 2020 levels (the growth factor) will gradually shift from a 100 per cent sectoral approach to a combined sectoral/individual operator approach up to 2035.
- By 2033, the growth factor used to calculate an aircraft operator’s compliance obligation must be at least 70 per cent based on the individual operator’s emissions growth.

Some, limited in time, protection for fast growing ‘new entrants’ is also included.

What still needs to be agreed and by when?

The following crucial elements of the scheme’s design still need to be worked out:

- Methodology for monitoring, reporting and verification of individual operators’ emissions (to be agreed by 2018 and implemented from 2019).
- Emissions Unit Criteria (EUC) – e.g., what types of carbon offset credits can be used by aircraft operators to meet their compliance obligation (to be agreed by 2018)? Whilst there remains uncertainty here, in one last minute change at the Assembly in Montreal it was made clear that UN-backed credits (under the CDM and Paris Agreement) would be accepted for use in GMBM.
- Registries – the electronic registries to be used for holding and transferring the relevant offset credits (policies and guidance to be agreed by 2018 and consolidated central ICAO registry to be operational from 1 January 2021).

It will be critical for airlines, trade associations and other stakeholders to play a full and active role in the technical development of these aspects of the scheme, starting now, to ensure that the industry is subject to a regime that is sufficiently rigorous, but also practical and fit for purpose.

Implications for the sector

Many of the world’s larger airlines already have some experience of carbon offsetting through operating their own bespoke offsetting schemes. As a result, these airlines will be familiar with the international market for voluntary offset credits.

The potential costs of the GMBM should not be underestimated. Aviation sector demand for credits will obviously be driven by aviation emissions growth from 2020. However, the cost of those credits will be driven by out-of-sector supply factors and both in- and out-of-sector demand for credits.

The GMBM is expected to provide a shot in the arm for the UN’s CDM offset credit scheme and for demand for REDD forestry credits. However, some are forecasting an over-supply, and therefore low unit price, based on anticipated numbers of offset credits already in the project pipeline even before the scheme gets up and running. However, while that seems a plausible scenario in the early stages of the GMBM, supply is also subject to factors such as (i) the EUC still to be developed by ICAO, (ii) the shelf-life/vintage of existing credits, especially UN Certified Emissions Reductions, (iii) demand from other schemes/countries and (iv) re-registration and cancellation of existing pipeline credits by project developers looking to take advantage of the availability of more valuable credits in other schemes, so a plentiful supply should not simply be taken for granted.
Some have calculated that the scheme will cost airlines in the region of between 0.7 per cent and 1.8 per cent of annual revenue depending on CO2 prices. These amounts sound small but would represent a very significant financial ‘hit’ for the affected airlines.

The GMBM may have an impact on the value of existing aviation assets, particularly if the scheme is effective at incentivising operators to reduce their emissions through fleet modernisation.

The fact that enforcement will be delegated to individual states leaves it open to ICAO member states to determine divergent enforcement criteria and potential enforcement actions (e.g., exercising a lien over the aircraft of non-compliant operators), which could lead to inconsistency and uncertainty.

There is also a question over the hypothecation of revenues generated by ICAO member states through fines and penalties, which is not dealt with by the ICAO Resolution.

Theoretically, the combination of phased introduction and permanent exemptions for certain states (such as LDCs) would appear to have the potential to distort behaviour, for example encouraging airlines to re-route aircraft via near-destination locations that are outside the scheme. Whether this will happen remains to be seen.

**Impact on the Aviation EU ETS post 2021**

The current state of play under the Aviation EU ETS cap and trade scheme is as follows.

**Intra-EU flights (i.e., flights that take off and land in the EU)**

Intra-EU flights are currently caught by the Aviation EU ETS and this is unlikely to change in the short to medium term as a result of the outcome of the passing of the ICAO Resolution.

This means that all aircraft operators (including operators registered outside the EU) undertaking intra-EU flights will continue to be required to comply with the Aviation EU ETS and surrender sufficient allowances during each compliance period to cover those intra-EU flights.

**Extra-EU flights (i.e., flights that take off in the EU and land outside the EU, or vice versa)**

Extra-EU flights are not currently caught by the Aviation EU ETS because of the “stop the clock” temporary derogation that came into place in 2012.

As things currently stand, however, this derogation will automatically cease from 1 January 2017, meaning that extra-EU flights would from that date be caught by the Aviation EU ETS and treated in the same way as intra-EU flights unless further legislative measures were taken to continue their exclusion.

Whether the EU introduces legislation to extend the stop the clock derogation beyond 2016 will depend on the EU’s reaction to the outcome of the ICAO’s 39th Assembly (ICAO 39).

Relevant EU legislation provides that the European Commission must report to the European Parliament and Council of the EU following ICAO 39 and put forward a legislative proposal to amend the scope of the Aviation EU ETS from 1 January 2017 onwards (i.e., pending the introduction of the GMBM).

The EU legislation does not explain, in advance of the publication of this report, what is to happen to extra-EU flights from 1 January 2017. It is possible that the EU could decide not to extend the stop the clock derogation if it considers there has been an unsatisfactory outcome at ICAO 39, although the EU will not take that decision lightly. Given the passing of the ICAO Resolution and the commitment by the EU and other key states to voluntarily participate in the GMBM from 2021, it seems more likely that the EU will extend the derogation post 2016.

**Non-EU flights (i.e., flights that neither take off nor land anywhere in the EU)**

Non-EU flights are not currently (and have never been) caught by the Aviation EU ETS. This will not be affected by the outcome of ICAO 39. However, if any non-EU countries develop their own emissions trading scheme in the wake of ICAO 39, such flights could be caught if they originate or land in those countries. For example, China plans to launch a domestic emissions trading scheme in 2017, which presently proposes to cover the domestic aviation sector.

Therefore, ICAO’s stated aim of avoiding “a patchwork of state and regional MBMs” will not be achieved by the GMBM in relation to domestic flights, meaning aircraft operators may in future have to comply with various domestic emissions trading schemes in addition to the GMBM.

**Impact on the Aviation EU ETS post 2021**

At this stage, it is unclear what the status of the Aviation EU ETS might be after 2021 if the GMBM is implemented from this date. The EU may, for example, opt to participate in the GMBM in relation to extra-EU flights, but retain the Aviation EU ETS in relation to intra-EU flights through a permanent modification to the scope of the Aviation EU ETS. However, this would run contrary to the clear intention of ICAO that the GMBM will be the exclusive MBM applying to CO2 emissions from international aviation, which the EU has effectively agreed to by committing to participate in the GMBM.

Alternatively, the EU may opt to abolish the Aviation EU ETS altogether, meaning that all international flights (including extra- and intra-EU flights) would be regulated under the GMBM and domestic flights would be subject to local schemes that fall outside regulation under the Aviation EU ETS.

**Conclusion**

At this stage, it is too-early to say the extent to which the GMBM will impact aircraft operators, as well as the wider aviation sector and global carbon markets.

It seemed inevitable that certain concessions would need to be made to get the ICAO Resolution passed and to secure commitments from the likes of China and the United States to voluntarily participate in the GMBM from 2021, the effect of which would be to dilute the potential impacts of the GMBM. However, that is not to say it will be ‘business as usual’ post 2020; airlines will need to develop compliance programmes and offset procurement strategies well in advance of 2021 to ensure that they can meet their obligations under the GMBM.

While the GMBM does not commence until 2021, there will be plenty of activity at ICAO. EU-and national-level in the run-up to its implementation: ICAO has already started work on the technical standards (such as EUC) that will underpin the GMBM and determine its rigour, which need to be adopted by ICAO no later than 2018; the EU will need to lay out its plans for the future of the Aviation EU ETS before the end of 2016; and national governments who have acceded to the voluntary pilot phase will need to pass domestic laws to enforce the GMBM, addressing critical questions such as whether to impose criminal rather than mere civil sanctions for non-compliance.
Airlines and other stakeholders in the aviation industry will, more so now than ever, have an important role in shaping these activities in a way that balances the laudable aim of the scheme to contribute to the mitigation of CO₂ emissions with the need to ensure the fair treatment of the international aviation sector.