

ICSA

International Coalition for
Sustainable Aviation

FREQUENTLY ASKED QUESTIONS



TABLE OF CONTENTS

General FAQs 3

Questions Specific
to an ICAO Global
Market-Based Measure 6

Overall Climate Policy 9

Learning More
and Taking Action 10

Why is it important to tackle aviation emissions?

.....

The aviation industry is a top-ten global carbon polluter, responsible for an estimated 2% of global emissions. But aviation's impact on climate change is not confined to its carbon emissions alone: aircraft generate significant impacts upon radiative forcing with net additional warming effectives over shorter timescales. Radiative forcing is the change in energy in the atmosphere due to GHG emissions. Taking these CO₂ and non-CO₂ impacts together, aviation accounts for an estimated 3.5% of total warming of the climate attributed to anthropogenic activities, rising to an estimated 4.9% if the effect of aviation-induced cirrus cloud formation is included.¹

This climate impact remains unchecked, and the industry's CO₂ emissions are expected to treble by 2050 unless action is taken. **Such increases would contradict the climate progress made at the 21st Conference of Parties (COP21)** of the United Nations Framework Convention on Climate Change (UNFCCC), where the Paris Agreement set an aim of limiting warming to an increase in global temperatures of 2°C above pre-industrial levels, and of pursuing efforts to limit the increase to 1.5°C.

What does this have to do with the international Paris Agreement on climate?

.....

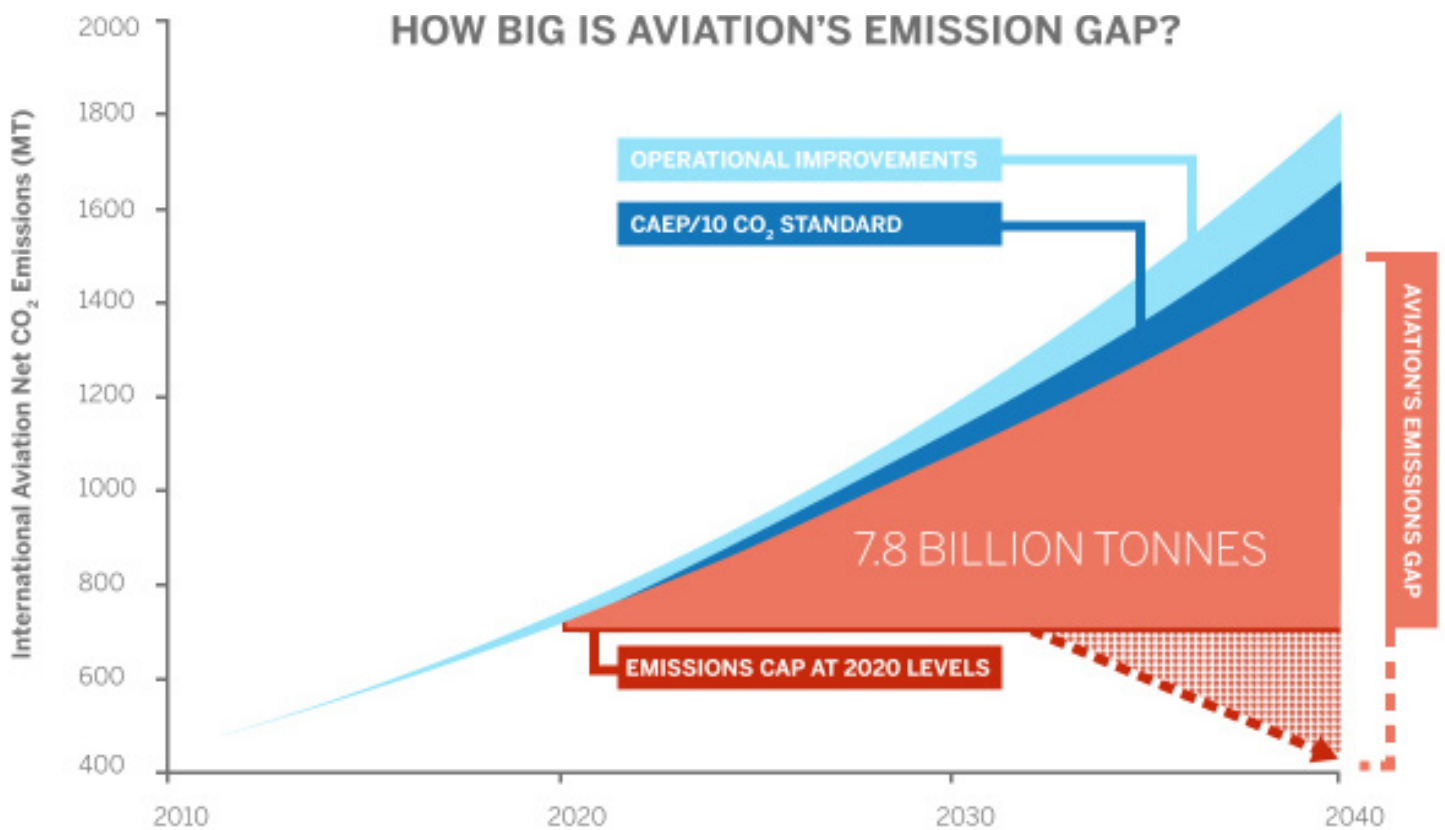
Despite the significance of aviation emissions for climate change, international aviation (flights between countries) was not directly referenced in the Paris Agreement. Emissions from domestic aviation (flights within countries) comprise about one-third of global aviation emissions and are counted in national greenhouse gas inventories. But emissions from international aviation and shipping are not included in national greenhouse gas inventories, and are not covered by the Nationally Determined Contributions (NDCs) that countries submitted at COP21. Further action is therefore required to ensure these sectors make a fair contribution to climate mitigation. Allowing emissions to continue to skyrocket would counteract the global consensus to pursue efforts to limit warming to 1.5°C.

Why does 2016 matter for addressing aviation emissions?

.....

The UN's International Civil Aviation Organization (ICAO) is the decision-making body that sets standards for international aviation. ICAO has set itself a deadline of finalizing, for adoption at its October 2016 General Assembly, a global market-based measure (GMBM) to limit international aviation's global warming pollution. ICAO's Assembly meets only once every three years. This makes 2016 a critical year for action. **If no action is taken in 2016, the aviation industry's CO₂ emissions are expected to increase to 300% above 2005 levels by 2050.**

¹<http://elib.dlr.de/59761/1/lee.pdf>



"Source: ICAO, "Overview of Environmental Work," Singapore GLADs, 2015."
http://www.icao.int/Meetings/GLADs-2015/Documents/Presentations/Singapore/20150423_GLADs_P1_V36_SINGAPORE.pdf

Will the international aircraft CO₂ efficiency standard be enough to reduce aviation emissions?

After 6 years of intense work, the CO₂ standard adopted by ICAO's Committee on Aviation Environmental Protection (CAEP) is unlikely to meaningfully reduce emissions. This standard won't come fully into effect until 2028, and the stringency of the standard is so low that most aircraft currently in production already meet it. That means the standard won't achieve its very purpose: to reduce emissions beyond what would have occurred without one.

There were many options for ensuring the standard would have greater environmental effectiveness, such as an earlier cut-off date or greater stringency. However, these were not pursued, which will result in hundreds of millions of tons of unnecessary emissions as the global aircraft fleet expands over the coming decades. However, the benchmarking standard is a starting point and it is welcome that ICAO has started a new technology review to support future tightening of the standard.

Will alternative fuel reduce aviation emissions?

Industrial-scale production of fuel crops is no silver bullet for the aviation industry. If natural environments are turned into farmland for growing fuel crops, this change can result in damage to habitats and emissions of CO₂ from the clearance of forest or grassland. If, on the other hand, existing farmland is used, there will be a reduced supply of the crop that was originally grown on that farmland for its original purpose. Sustainable biofuels that avoid these problems, for example, by using wastes and residues, could have a role to play. However, since the supply potential is limited, other solutions are also needed. Credible certification and "chain of custody" systems are essential for ensuring the sustainability of aviation biofuels.

What are market-based measures (MBM)?

.....

Market-based measures apply market principles to create incentives to reduce emissions. One type of market-based measure, emissions trading, caps the emissions of participating emitters. It also requires emitters to surrender one “emissions allowance” for each ton of covered emissions, and authorizes emitters to trade and save allowances for use in the future, when caps tighten. Such systems can deliver powerful incentives to cut pollution, since every ton of pollution cut represents money saved or even money made.

National, regional, and jurisdictional-level emissions trading systems are currently operating across four continents in 35 countries, 13 states or provinces, and seven cities, covering 40% of global GDP, and additional systems are under development. Their experience to date shows that, if well-designed emissions trading can be an effective, credible, and transparent tool for helping to achieve low-cost emissions reductions in ways that mobilize private sector actors, attract investment, and encourage international cooperation.²

What is a global market-based measure (GMBM)?

.....

In 2013, the 191 nations of ICAO's General Assembly decided to finalize a global market-based measure (GMBM) to cap international aviation's net carbon dioxide emissions at 2020 levels, by the time of ICAO's next General Assembly in September-October 2016. A GMBM would give each airline the flexibility to reduce its own emissions or purchase emissions units from other carbon market programs to meet an agreed compliance obligation as set by ICAO.

²Emissions Trading in Practice: A Handbook on Design and Implementation (World Bank 2016)
<https://openknowledge.worldbank.org/bitstream/handle/10986/23874/ETP.pdf?sequence=11&isAllowed=y>



QUESTIONS SPECIFIC TO AN ICAO GLOBAL MARKET-BASED MEASURE

What are emissions units?

Emissions units involve compensating for emissions by counting mitigation (emission reductions) achieved elsewhere. Emissions units may be emissions “allowances” from emissions trading systems, or “offset credits”, or a mix of the two. To be eligible for use in offsetting emissions, emissions units must meet agreed quality criteria.

What is an emissions “allowance” and what is an “offset credit”?

An emissions “allowance” is an emissions unit issued under an emissions trading system, which represents one ton of emissions allowable under an emissions cap. An offset credit is an emissions unit representing an emissions reduction or removal below a baseline in a sector or location that does not have an emissions cap.

The Paris Agreement will fundamentally alter the emissions unit landscape. It will require pledges from all countries and drastically reduce or even eliminate the number of sectors and economies that operate outside of an emissions cap. While the Agreement contains important language on, for example, the need to ensure that double counting of emissions units is avoided and to achieve an overall net mitigation, it is unclear how markets will operate. That is why it is important for ICAO to operate in an open manner, and to cooperate closely with UNFCCC, to ensure its work on the GMBM responds to the latest developments in emissions units.

Why is it important to have strict criteria for emissions units?

For offset credits, there are a number of important criteria. First, emissions-reducing programs and projects should support host country efforts to develop sustainably. Second, because each offset credit used in the GMBM allows the aviation sector to increase emissions one ton above its cap, it is very important that each offset credit actually represents a real, permanent, and verified reduction - otherwise, emissions could increase. Third, when an offset credit is transferred for use in offsetting an emissions increase elsewhere, it is important to ensure that the transfer is accounted for, i.e., subtracted from the pool of emissions units under a cap, or added to the emissions inventory of, the offset credit host country. Otherwise, the transfer could result in an increase in emissions to the atmosphere. Measures need to be in place to ensure that offset credits are not counted twice: by the airline buying them, and by the host country towards its own emissions reduction contributions. Fourth, it should be noted that agencies like United Nations Office for Project Services (UNOPs), or the European Union, have restrictions on eligible offset credit project types, which exclude projects such as large hydro, HFC-23 destruction, and coal power projects.

For allowances, it is equally important that strict criteria be put in place. The cap itself must be sufficiently ambitious, otherwise its market will generate allowances which are known as “hot air” and which have no environmental credibility. Additionally, when an emissions allowance is transferred to compensate for an emissions increase outside the emissions trading system of origin, it must be subtracted from the total number of allowances issued under the system, so that total emissions do not increase.



Will there be a sufficient supply of emissions units post-2020?

.....

A concern frequently raised in the ICAO discussion is whether there will be enough supply of emissions units available from the carbon markets to meet the demand of the aviation industry when the GMBM begins to operate in 2021. Analysis by the Oeko Institut found that

"Credits from the pipeline of existing Clean Development Mechanism (CDM) projects could cover this demand for a period of at least eight years even if eligibility requirements for certain project types and vintages are introduced. If, in addition, the four years from ICAO's potential decision to establish the GMBM in late 2016 to its entrance into force in early 2021 are taken into account, the period amounts to 12 years, which is certainly long enough to provide CDM project developers sufficient lead time to develop and register new projects. Based on this evidence, concerns that there is a scarcity of offset supply for ICAO's GMBM would seem to be groundless even if ICAO were to deem only credits with high environmental quality standards eligible and to use only recent vintages."³

Other analyses of emissions unit supply, aviation's emissions unit demand, and price in the context of aviation have supported the conclusion that aviation will be able to find adequate supplies of emissions units at reasonable cost.⁴

Can the GMBM be easily, fully and fairly enforced?

.....

If a GMBM is to be introduced, it is essential that compliance with the MBM be fully and fairly enforced. Failure to fully implement it would undermine the GMBM's environmental integrity - its very purpose. If the GMBM is not fairly enforced, e.g., if some states are less rigorous in ensuring emission units are surrendered, this would introduce competitive distortions between operators.

Domestic aviation authorities have been enforcing ICAO standards for decades, and countries and regions have been enforcing market-based measures for many years. It is possible to construct overlapping enforcement mechanisms that build on existing authorities and ensure full and fair compliance with the GMBM.

As a basic starting point, there must be an effective monitoring, reporting, and verification system which is easy to comply with and which draws on best international practice to date, such as with EU Emissions Trading System (ETS). It should require flight-by-flight reporting and involve both technical and financial support for developing countries.

³ <http://www.oeko.de/en/publications/p-details/availability-of-offsets-for-a-global-market-based-mechanism-for-international-aviation/>

⁴ "Market-Based Measures: Achieving Carbon Neutral Growth from 2020" (modeling and analysis of potential costs to aviation industry of implementing CNG2020 through 2050), in Destination Green: 2013 Environment Report (International Civil Aviation Organization (ICAO) 2013), at 150-151. <http://cfapp.icao.int/Environmental-Report-2013/files/assets/basic-html/page162.html>

Experience to date has shown that carbon markets operate most effectively when there is a high degree of transparency, including common access to allocation of obligations, emissions, and nature, and number of emissions units are surrendered to meet those obligations. Operators must have confidence that their competitors are complying with the mechanism, and this can be achieved through publication of emissions reports, provided there are sufficient safeguards to protect legitimate commercially sensitive information.

There should also be transparency in how states are enforcing the GMBM. This could involve peer-review of each state’s enforcement mechanism, similar to what currently exists for reporting emissions under the UNFCCC.

How can the GMBM reflect the principles of differentiation?

A central challenge in the ICAO MBM talks is how to ensure that responsibilities for reducing and offsetting emissions are shared fairly. Developing countries and their airlines point out that richer nations and their legacy airlines are responsible for the lion’s share of aviation emissions, both currently and historically. They also argue that the latter should therefore shoulder more of the emissions reduction responsibility. At the same time, developed countries do not want to put their airlines at a disadvantage vis-à-vis some of the more competitive fast-growing airlines. How to maintain environmental integrity while taking into account the Paris Agreement principle of common but differentiated responsibilities and respective capabilities in the light of different national circumstances, and the Chicago Convention on Civil Aviation requirements of non-discrimination and fair opportunities, presents a challenge.

ICSA suggests that one way to meet this challenge is a simple formula. First, allocate emissions offset responsibilities to regional traffic groups based on each group’s historical share of emissions during a representative base year. Then, allocate responsibilities among airlines within each regional traffic group based on the airline’s actual share of emissions in that regional traffic group. Then, update the calculation periodically (e.g., every 3 years). To find a global carrier’s total offset obligation for

any year, simply sum its offset obligations in each of the regional traffic groups in which it operates. The result is an allocation that is simple, fair, provides differentiation, and does not discriminate.

Will developing countries receive support to implement the GMBM?

ICAO is well aware of the challenges that developing countries have to implement policies without sufficient support. ICAO’s “No Country Left Behind” campaign has helped countries in implementing ICAO Standards and Recommended Practices. Similar support will be needed to enable all countries to participate in the GMBM.

How can developing countries benefit from the GMBM?

The GMBM will require airlines to meet targets for limiting and reducing their CO₂ emissions. Under the GMBM, airlines will be able to meet these targets by reducing their own emissions, or by investing in reducing emissions of other sectors. This means that the GMBM will generate demand for emissions units, including from “offset programs” that are generating emissions reductions in developing countries. These emissions reductions could be coming from a wind or solar program or from an enhanced cook stove program, among others. Developing countries can take advantage of the sizable demand for emissions units by creating an enabling environment for high-quality emissions reduction programs that will promote sustainable economic development while delivering social and environmental co-benefits.



OVERALL CLIMATE POLICY

How does the GMBM relate to the objectives of the Paris Agreement?

Despite the significance of aviation emissions on climate change, they were not explicitly included in the COP21 climate accord. Allowing emissions to continue to skyrocket would conflict with the global consensus to restrict warming to 1.5°C.

What is needed to ensure the efforts are international aviation are in line with the Paris Agreement?

As a first step, the ICAO agreement in October 2016 must initially cap net total carbon emissions of international civil aviation at 2020 levels. At the same time, ICAO must launch a process to regularly review the 2020 cap. Over time, international aviation can be pressed to ratchet its emissions down in line with the Paris Agreement's goal of pursuing efforts to limit the increase in global temperatures to 1.5°C.

In order to avoid a temperature increase above 1.5°C, there is a limit to the amount of emissions which can be produced. This is known as the 'global carbon budget', which some estimates now put at 500 gigatons of CO₂. While the GMBM is an important first step, it should be remembered that it does not guarantee that emissions within the international aviation sector itself will be reduced. Without reducing these in-sector emissions, international aviation will consume an ever larger share of the diminishing global carbon budget, undermining the objectives of the Paris Agreement.

The GMBM should therefore be complemented by further measures which reduce emissions within the sector, such as a more stringent CO₂ efficiency standard for aircraft.

Why is this year, 2016, so important?

All countries who participate in ICAO only meet every three years, and they are expected to decide on proposals for a market-based measure at their meeting this October. This is the moment to make sure that ICAO's MBM is strong enough to prevent serious climate impacts. The world can't wait to 2019 and debate this issue again.



LEARNING MORE AND TAKING ACTION

Where can I learn more?

.....

Visit the ICSA website at www.icsa-aviation.org.