

Evolution of Market-Based Measures and ICAO's Journey to CORSIA

Market-based measures (MBMs) are one of the elements of ICAO's comprehensive mitigation strategy to address greenhouse gas (GHG) emissions from international aviation. ICAO has a long history starting from around 1995 on developing policies and guidance material and undertaking technical and economic studies on various MBMs, including emission-related levies (charges and taxes), emissions trading, and emissions offsetting. As we mark three decades since the work on MBMs first started, it is important to recall the past considerations and understand how the international aviation sector arrived at a global MBM scheme for international aviation in the form of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), under ICAO's leadership.

I. Origins of ICAO consideration on Market-Based Measures (MBMs) for International Aviation, 1995-2007

ICAO first considered the issue of environmental levies (taxes and charges) around 1995 in relation to noise and other environmental issues prior to its consideration for climate change. In response to the request of the 31st Session of the ICAO Assembly in 1995, to consider the application of environmental charges or taxes to aviation, the ICAO Council adopted in 1996 a [“Council Resolution on Environmental Charges and Taxes”](#).

The 1996 Council Resolution noted that ICAO's policies make a conceptual distinction between a charge and a tax, in that **“a charge is a levy that is designed and applied specifically to recover the costs of providing facilities and services for civil aviation, and a tax is a levy that is designed to raise national or local government revenues which are generally not applied to civil aviation in their entirety or on a cost-specific basis”**.

In the Resolution, the Council strongly recommended that **any levies be in the form of charges rather than taxes, and that the funds collected should be applied in the first instance to mitigating the environmental impact of aircraft engine emissions**, while also recalled the non-discriminatory principle outlined in Article 15 of the Chicago Convention and the following general principles:

- Charges should not serve a fiscal purpose;
- Charges must be cost-related; and
- Charges should not discriminate against air transport compared to other modes of transportation.

Concurrently, the **ICAO Committee on Aviation Environmental Protection (CAEP)** began its work on environmental levies to study “whether charges could be an effective means of reducing adverse environmental consequences of aircraft engine emissions”. CAEP evaluated four types of levies: a fuel levy, a ticket levy, a route levy and an airport levy. The preliminary CAEP analysis showed that the route or fuel levy would be most effective. However, further work was needed to define emissions levies; the economic effects of emission levies at different rates and by different States; methods for calculating aircraft engine emission levies; and, how revenues from emission-related levies might be re-channelled. CAEP’s finding was reported to the 32nd Session of the ICAO Assembly in 1998.

The ICAO Assembly first considered MBMs at its [32nd Session in 1998](#), where it requested the Council through CAEP to “study policy options to limit or reduce the GHG emissions from civil aviation” (A32-8, Appendix F, paragraph 4) and included a request to continue pursuing the question of emission-related levies ” (A32-8, Appendix H, paragraph 1b)).

Between the 32nd (1998) and the 33rd ICAO Assembly (2001), CAEP Working Group 5 (WG5) and the Forecasting and Economic analysis Support Group (FESG) evaluated the potential role that MBMs could play in addressing CO₂ emissions from international aviation.

Three MBM options were initially considered by CAEP: emission-related levies, voluntary measures, and emissions trading. The impact of the MBMs option differed. The MBM with the smallest impact on demand was the open emissions trading system (ETS). A closed ETS¹ was not considered by CAEP to be appropriate due to the high estimated cost to the aviation industry. On emission-based levies, it was concluded that more research was required taking into account the 1996 Council Resolution on Environmental Taxes and Charges, and the concerns of developing countries that such charges would raise travel costs with negative impacts on their tourism industries and economic development.

The 33rd Session of the ICAO Assembly (2001) set out the basis for the MBM framework which integrated the three approaches discussed by CAEP (levies, voluntary measures and ETS). The Council was directed to develop guidelines for voluntary measures and a template voluntary agreement. Emission-related levies were to respect ICAO policies on aviation charges and be given further study. The relevant extracts are as follow:

[Resolution A33-7 Appendix I](#)

The Assembly:

¹ Closed ETS: an emissions trading scheme that is designed to limit or reduce emissions within one sector only without providing access to allowances or credits outside the scheme.

1. *Requests* the Council to continue to develop guidance for States on the application of market-based measures aimed at reducing or limiting the environmental impact of aircraft engine emissions, particularly with respect to mitigating the impact of aviation on climate change; and to develop concrete proposals and provide advice as soon as possible to the Conference of the Parties to the UNFCCC;
2. *Encourages* States and the Council, taking into account the interests of all parties concerned, to evaluate the costs and benefits of the various measures with the goal of addressing aircraft engine emissions in the most cost effective manner and to adopt actions consistent with the framework outlined below, with States striving to take action in a consistent manner to both domestic and international aviation emissions:

Between 2001 and 2004, CAEP WG5, FESG and the ICAO Secretariat further analysed the MBM options and concluded with diverging views. The Secretariat concluded that while emission-related charges would, in principle, align with the Chicago Convention and ICAO policies, taxes would not. Some CAEP Members believed that further consideration of CO₂-related emissions charges should be discontinued, as they were impractical and cost-inefficient for achieving aircraft CO₂ reductions. Others argued that the uncertainties were not a valid reason for States to avoid their implementation. Developing countries believed that the analysis indicated that a CO₂ charge could increase operational costs and impose financial pressure on developing countries' air carriers with potentially detrimental impacts on their long-term growth. They pointed out that developing country air carriers were not granted government subsidies and carried far less passenger and cargo volumes; this would lead to detrimental effects on the economic and social development of their countries. With the lack of consensus at the CAEP-level, decision on the next steps for emission levies escalated to the Council and Assembly. CAEP Members also debated emission trading options at length and concluded with a recommendation to the Council: "that further work by ICAO on emission trading should pursue the concepts of a voluntary system and of integrated trading systems."

The [35th Session of the ICAO Assembly in 2004](#) recognized that **market-based measures are policy tools that are designed to achieve environmental goals at a lower cost and in a more flexible manner than traditional regulatory measures**, and recalled the 1996 ICAO Council Resolution recommending that any emission-related levies be in the form of charges rather than taxes, and that the funds collected should be applied in the first instance to mitigating the environmental effect of aircraft engine emissions.

[Assembly Resolution A35-5](#) addressed voluntary measures, emissions-related levies and emissions trading. It recognized that ICAO was not ready for the implementation of GHG emissions charges internationally and **urged Member States to refrain from unilateral**

implementation of GHG emissions charges prior to the next regular session of the Assembly in 2007 where additional guidance and studies were expected. The Assembly also endorsed the further consideration of an open ETS for international aviation under two approaches: development of a voluntary trading system, and guidance to incorporate emissions from international aviation in States' ETS.

Legal Issues with Emissions-Related Levies

To address outstanding legal issues related to the consistency of emission-related levies or emissions trading with the Chicago Convention and ICAO policies, the ICAO Council convened a **Special Group on Legal Aspects of Emissions Charges in September 2005**. This group reviewed the compatibility of emissions charges with the [Chicago Convention](#) and the ability to exempt operators of some States from a charge.

The conclusions of the Special Group were divided. Some States believed that if charges were linked to the quantity of emissions, they would not be in contravention of Article 15 which only deals with charges for the use of airports and air navigational services. Another group of States believed that emission charges would be in contravention of Article 15 because there was no link to facilities, services or remediation costs. The first group of States held the view that where charges were related to fuel consumption, they would not be contrary to the Article 24 exemption of fees on fuel. The second group disagreed, finding that charges based on the quantity of fuel per se would constitute a fuel-based tax which would be incompatible with Article 24.

On the issue of linking charges to the damage caused by emissions, both sides agreed that such a charge would be compatible with the Chicago Convention. **The Group concluded that an exemption of a particular State from emissions related charges would be a contravention of the Chicago Convention Article 15 non-discrimination clause.** However, they found that this may or may not preclude the possibility of exemption or waiver based on technical criteria, a transitional approach or a phased implementation of the levying of charges.

CAEP's Work on Environmental Levies Related to Local Air Quality

Following the 35th ICAO Assembly, the focus of CAEP's work on environmental levies shifted from greenhouse gas (GHG) emissions to local air quality (LAQ). CAEP compiled and summarized existing ICAO policies on charges and developed the ICAO Doc 9884, *Guidance on Aircraft Emissions Charges Related to Local Air Quality*. Doc 9884 included guidance on levies aligned with the 1996 Council Resolution as well as the Chicago Convention. As a result of the work undertaken by CAEP on environmental levies, a new section was also

added to Doc 9082, *ICAO's Policies on Charges for Airports and Air Navigation Services*, which set out principles for emission-related aircraft charges at airports.

Inclusion of Market-Based Measures in the ICAO Assembly Resolution

In September 2007, the 36th Session of the ICAO Assembly recognized the urgency and critical importance of addressing emissions from international aviation and emphasized ICAO's leadership in this area. The Assembly generally agreed on the technical and operational aspects of mitigation measures to address emissions from international aviation.

However, accommodating the differing views of States on an MBM for international aviation remained one of the most important and contentious issues. As an effort to bridge the different views, the Assembly decided to establish a high-level [Group on International Aviation and Climate Change \(GIACC\)](#) to develop the Programme of Action on International Aviation and Climate Change. **New appendixes related to aviation and the environment were adopted in [Assembly Resolution A36-22](#) including *Appendix K — ICAO Programme of Action on International Aviation and Climate Change, and Appendix L — Market-based Measures, including Emissions Trading*.**

Assembly Resolution A36-22 was the first to introduce the potential for carbon offset mechanisms to mitigate aviation emissions. Work on MBMs was still in its early stages, with the following next steps after the 2007 Assembly:

- Emissions-related charges and taxes: recognition that the existing ICAO guidance was not sufficient to implement GHG emissions charges internationally. **States were urged to refrain from unilateral implementation of GHG emissions charges.**
- Emissions trading: requested the ICAO Council to conduct further studies on ETS. **States were urged not to implement an emissions trading system on other States' aircraft operators except on the basis of mutual agreement between those States.**
- Carbon offsets: requested the ICAO Council to examine the potential for carbon offset mechanisms as a further means to mitigate the effect of aviation emissions.

II. Toward ICAO Decision to Develop a Global MBM for Addressing Sectoral CO₂ Emissions, 2008-2013

The aviation industry faced **significant uncertainties particularly from around 2009 to 2012 due to a fragmented approach**, with a handful of States and regions implementing unilateral MBMs. This patchwork of MBMs encountered strong resistance from other States and the industry as it was seen as unilateral, duplicative, and market-distorting. Notably, Assembly Resolution A36-22, adopted by consensus among ICAO Member States had already urged Contracting States to refrain from unilaterally implementing greenhouse gas emissions charges.

ICAO Programme of Action on International Aviation and Climate Change by the GIACC

Nevertheless, ICAO and its Member States continued to advance global efforts to address emissions from international aviation. Following the 36th ICAO Assembly, the GIACC was formed in January 2008 and comprised 15 senior government officials representing all ICAO regions and with equitable participation from both developing and developed States, with the technical support of CAEP.

GIACC deliberated over two years on the development of the Programme of Action on International Aviation and Climate Change. The [MBM Working Group of the GIACC](#) considered and acknowledged that CAEP had already considered many of the options in its previous work, as follows:

- **Carbon related taxation** applied either on fuel or on passenger was ruled out, as generating revenues for States without any benefit for the environment;
- **Revenue neutral charges** based on fuel efficiency was ruled out as being impractical and having minimal effect on the environment;
- **Charges** would be acceptable provided the revenues were directed to mitigation of environmental impact of aviation (carbon or passenger based);
- **Voluntary MBM** were considered valid on a transitional basis towards a mandatory system, but with limited environmental benefits; and
- **Open ETS** was recommended as the most cost-effective MBM for the environment (“open” meaning that aircraft operators had access to a carbon market where they could buy carbon credits for emissions reductions from other industry sectors).

By June 2009, [GIACC had published its report](#) which served the basis for the ICAO global aspirational goals, a basket of CO₂ reduction measures and State Action Plans, which were recognized later at the 2010 Assembly. The Programme of Action adopted by consensus in the GIACC includes the following key recommendations on MBMs to the ICAO Council:

14. GIACC recommends that the Council should adopt the basket of measures developed by GIACC, from which States may choose, covering aircraft-related technology development, improved air traffic management and infrastructure use, more efficient
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operations, economic/market-based measures, and regulatory measures. The basket includes measures to facilitate access to assistance, particularly for developing countries.

16. GIACC acknowledges that there remains disagreement on the application of market-based measures across national borders. GIACC recommends that the ICAO Council establish a process to develop a framework for market-based measures in international aviation, taking into account the conclusions of the High-level Meeting and the outcome of the UNFCCC COP-15 with a view to complete this process expeditiously.

ICAO subsequently organized the **High-level Meeting on International Aviation and Climate Change (HLM-ENV)** from 7 to 9 October 2009 to review the GIACC Programme of Action and to provide recommendations to the ICAO Council for inputs to the fifteenth Conference of Parties (COP15) of the UNFCCC in Copenhagen, December 2009. The [Declaration by the HLM-ENV](#) called for ICAO to develop a framework for MBMs:

5. ICAO will establish a process to develop a framework for market-based measures in international aviation, taking into account the conclusions of the High-level Meeting and outcome of the UNFCCC COP 15 and bearing in mind relevant ICAO Assembly resolutions and the appendices with a view to complete this process expeditiously.

First Historic ICAO Agreement to Address International Aviation Emissions

At the 37th Session of the ICAO Assembly in 2010, ICAO and its Member States achieved a landmark global agreement to address international aviation emissions.

[Assembly Resolution A37-19](#) provided a solid framework towards the achievement of a sustainable future for international aviation. This Resolution made international aviation the first sector to establish global aspirational goals of 2 per cent annual fuel efficiency improvements, and stabilizing CO₂ emissions at 2020 levels (or called “carbon neutral growth from 2020 – CNG2020 goal”). The Assembly also agreed on the guiding principles for MBMs and decided to explore a global scheme for international aviation, along with other agreements related to CO₂ certification standards for aircraft, sustainable aviation fuels (SAFs), and the voluntary submission of States' Action Plans to address international aviation emissions.

Recognizing the transboundary nature of international aviation, the 37th ICAO Assembly also affirmed that **multilateral collaborative actions by all States through a global sectoral approach under ICAO is the most appropriate mechanism to effectively address international aviation emissions.** ICAO Assembly Resolution A37-19 clearly

demonstrated the determination of ICAO and its Member States to take concrete steps toward addressing international aviation CO₂ emissions, in cooperation with industry and other stakeholders.

Work to explore the feasibility of options for a global MBM scheme was advanced. In 2011, the ICAO Secretariat was requested by the Council to assess the impact of various MBMs with and without a de-minimis threshold on MBMs.

With consultancy support, the following global MBM options were studied in 2012²:

- Global Aviation Carbon Levy;
- Global Carbon Offset Scheme by Airlines;
- Global Aviation Carbon Levy combined with Global Carbon Offset Scheme³; and
- Global CO₂ Emission Trading Scheme.

The study found that there were very significant differences in additional aircraft operating costs to achieve CO₂ targets through carbon levies, compared to emission-trading or offsetting. The results of the assessment were provided to the 195th Session of the ICAO Council at the beginning of 2012.

During this period, the Ad-hoc Group of the ICAO Council was established to identify and reduce options for a global MBM scheme. The Ad-hoc Working Group initially considered six options for the global MBM as follows:

- Option No. 1: Global Departure Levy;
- Option No. 2: Global Carbon Levy;
- Option No. 3: Global Offsetting;
- Option No. 4: Global Emissions Trading;
- Option No. 5: Global Departure Levy and Offsetting combined; and
- Option No. 6: Global Carbon Levy and Offsetting combined.

The levy-based options were ultimately not considered as the Group viewed that:

- Global Departure Levy (Option No.1) would only create the suppression of demand without incentivising the improvement of fuel efficiency.
- Global Carbon Levy (Option No.2) would involve unresolved legal issues; and that both options would not facilitate the access to carbon markets and would therefore lead to a higher economic burden on international aviation to mitigate GHG emissions.

² “Study of Impact of De Minimis Thresholds on Market Based Measures to Limit or Reduce CO₂ Emissions from Aircraft”, MVA Consultancy Report for ICAO Secretariat, January 2012.

³ Option 3 includes the application of a per tonne charge which would be used to purchase offsets equal to carbon neutral growth from 2020 and any remaining revenue would be channelled to States.

- Considering the lesser compatibility with the MBM guiding principles compared to the other options, the Group agreed that it would not be worthwhile to further elaborate on Option Nos. 1 and 2.
- The Group was also not in favour of Global Departure Levy and Offsetting combined (Option No. 5) or Global Carbon Levy and Offsetting combined (Option No. 6).

The Group recommended the following four options to the ICAO Council in March 2012:

- a) **Global Mandatory Offsetting**⁴;
- b) **Global Mandatory Offsetting complemented by a revenue generation mechanism**⁵;
- c) **Global Emissions Trading** (Cap & Trade System)⁶; and
- d) **Global Emissions Trading** (Baseline & Credit System)⁷.

Options for a global MBM were further reviewed and reduced to the three (a, b and c) in June 2012. The Council subsequently requested that a **High-level Group on International Aviation and Climate Change (HGCC)** be established to develop policy recommendations regarding the elements for the 38th ICAO Assembly Resolution. The HGCC considered various issues related to a global MBM scheme including: appropriate participants in a scheme; means to accommodate special circumstances and respective capabilities; and generation of revenue from a scheme.

Further assessment on the feasibility of the three options for a global MBM scheme continued in 2013 ([ICAO Doc 10018, Report of the Assessment of Market-based Measures](#)) on the most practical and effective design features for a global MBM scheme. The quantitative study on the impacts of MBMs in 2012 was updated using the latest forecasts on traffic, fleet and emissions that were completed by the CAEP. According to the 2013 Report, **the overall results of the qualitative and quantitative assessment of the three**

⁴ **Global mandatory offsetting**: where participants acquire emissions units to offset emissions from international aviation above an agreed baseline.

⁵ **Global mandatory offsetting complemented by a revenue generation mechanism**: generally functions the same way as the mandatory offsetting scheme. A key difference would be that in addition to offsetting, revenue would be generated by applying a fee to each tonne of carbon, for instance, through a transaction fee. The revenue would be used for agreed purposes, such as climate change mitigation or providing support to developing States to reduce GHG emissions.

⁶ **Global emissions trading (cap & trade system)**: where total international aviation emissions are capped at an agreed level for a specified compliance period. Aviation allowances (one allowance is equivalent to one tonne of CO₂) would be created for all the emissions under the cap. These allowances would then be distributed among, or auctioned to, participants, using an agreed method. Revenues can be generated by auctioning aviation allowances.

⁷ **Global emissions trading (baseline & credit system)**: a baseline is used representing an implicit authorization of emissions for the compliance period. Emission reduction credits result when the actual performance — e.g. the actual emission level — is lower than the allowed performance.

options for a global MBM scheme demonstrated that they were technically feasible and had the capacity to contribute to achieving ICAO's environmental goals.

The recommendations on the global MBM options [were reported](#) to the 38th Session of the ICAO Assembly in 2013 and had contributed to a [historic agreement by ICAO Member States to develop a global MBM for international aviation](#). The agreement reflected the strong support of Member States for a global solution for the international aviation industry. Significant efforts were needed since 2013 as the Organization moved forward in developing a concrete global MBM scheme to be implemented from 2020, for decision by the 39th Session of the Assembly in 2016.

III. The Making of CORSIA, 2014-2016

Following the landmark [agreement at the 38th ICAO Assembly](#), experts and relevant stakeholders from Member States, industry and international organizations continued working closely together to advance the development of a global MBM scheme for international aviation.

In March 2014, the ICAO Council established the **Environment Advisory Group (EAG)**, composed of 17 Council Representatives, to oversee all the work related to the development of a global MBM scheme and make recommendations to the Council. The EAG deliberated and analysed options for a global MBM scheme over two years from 2014 to 2016, with the support of CAEP's analyses on the technical elements of a global MBM scheme.

Although the previous consideration by the Council in 2012 had already eliminated the global fuel levy option, the EAG still considered the possibility of developing a global fuel levy as an option. **Several EAG members expressed concern on the consideration of a levy, in terms of the consistency with past agreements and decisions by the Organization, the uncertainty for a levy to achieve an intended environmental benefit, un-resolved legal issues, the political feasibility of collecting levies in an internationally consistent manner, and the practical challenge of distributing the collected revenue in a fair and transparent manner.** There was no momentum to revisit the global levy proposal. Subsequently, the EAG meetings remained focused on developing a proposal to facilitate an agreement on the global MBM Scheme at the 39th ICAO Assembly.

A series of [ICAO Global Aviation Dialogues \(GLADs\)](#) were also organized across all regions in 2015 and 2016 to share information regarding the global MBM options and served as an important opportunity for ICAO to receive feedback from all its Member States and relevant organizations to progress work on the global MBM scheme towards the 39th ICAO Assembly.

Participants in the GLADs provided valuable feedback on key considerations for the global MBM scheme, emphasizing the importance of administrative simplicity, opposition to using aviation as a revenue source, ensuring environmental integrity, and maintaining cost-effectiveness. They also shared perspectives on the scheme's design elements.

Landmark decision on CORSIA

In January 2016, the ICAO Council established a **High-level Group on a Global MBM Scheme** to facilitate the convergence of views on a proposal for a global MBM scheme by the 39th ICAO Assembly in September 2016. The ICAO Council started to discuss a proposal (in the form of draft Assembly Resolution text) for the global MBM scheme, on the basis of creating a global offsetting scheme for international aviation, aiming to achieve carbon neutral growth from 2020 onwards (CNG2020 goal).

Through the dedicated efforts of ICAO and its Member States as well as the aviation industry, an unprecedented and coordinated effort to advance aviation environmental protection took shape. **This strong and united collaboration led to the [groundbreaking agreement on the Carbon Offsetting and Reduction Scheme for International Aviation \(CORSIA\) at the 39th ICAO Assembly in 2016](#)**. CORSIA is the first MBM scheme adopted by any industry sector to address CO₂ emissions from international activity. It was designed to complement the basket of mitigation measures that the air transport community is already pursuing to reduce CO₂ emissions from international aviation, which includes technical and operational improvements and sustainable aviation fuels.

Notably, the 39th ICAO Assembly and [the subsequent Assemblies](#) also determined that **“CORSIA is the only global market-based measure applying to CO₂ emissions from international aviation so as to avoid a possible patchwork of duplicative State or regional MBMs, thus ensuring that international aviation CO₂ emissions should be accounted for only once”**. It is important to recognize and affirm CORSIA's role as the only global market-based measure for international aviation, in order to maintain a unified and effective approach to address aviation emissions given its transboundary nature.

Since the CORSIA agreement in 2016, its implementation has been on-track, including the development and update of [ICAO Standards and Recommended Practices \(SARPs\), guidance material and other CORSIA implementation elements related to CORSIA](#), which are fully implemented by all relevant States since 2019, thanks to robust capacity-building efforts under ICAO Assistance, Capacity-building and Training for CORSIA (ACT-COSRIA) programme.

IV. 2050 Net-Zero Long-term Aspirational Goal (LTAG), 2022

At the 41st Session of the ICAO Assembly in 2022, Member States adopted a [collective long-term global aspirational goal \(LTAG\)](#) of net-zero carbon emissions by 2050, in addition to the previously-agreed carbon neutral growth from 2020 (CNG2020 goal).

Following the adoption of LTAG, ICAO also adopted in 2023 a comprehensive [ICAO Global Framework for Aviation Cleaner Energies](#), which comprise a Vision to reduce CO₂ emissions in international aviation by 5 per cent by 2030 using sustainable aviation fuels (SAF), lower carbon aviation fuels (LCAF) and other aviation cleaner energies. The Framework recognized the need for comprehensive capacity-building, implementation support and financing activities to support developing countries and States with particular needs, in making broader progress on aviation decarbonization efforts.

The [ICAO LTAG technical analysis](#) showed that significant financial resources by 2050 are required for the aviation sector to achieve the LTAG through in-sector measures comprised of aircraft technology improvements, operational improvements and SAFs. **Access to financial resources is crucial for developing and deploying SAF and other cleaner aviation energies, as scaling up these fuels to support the LTAG will require an estimated USD 3.2 trillion in cumulative investments by 2050.**

V. Developments in other UN agencies and international organizations

While ICAO and its Member States made strides in addressing the climate change challenges facing international aviation, developments outside the sector raised some important concerns and presented opportunities for cross-sector collaborations.

The fifteenth session of the Conference of the Parties (COP 15) to the United Nations Framework Convention on Climate Change (UNFCCC) held in December 2009 in Copenhagen, Denmark, adopted the [Copenhagen Accord](#) which contains a provision on climate finance:

Copenhagen Accord (2009)

8. (...) In the context of meaningful mitigation actions and transparency on implementation, developed countries commit to a goal of mobilizing jointly USD 100 billion dollars a year by 2020 to address the needs of developing countries. This funding

will come from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources of finance....

The Secretary-General of the United Nations subsequently established the High-level Advisory Group on Climate Change Financing (AGF) in February 2010 to provide strategic advice on the goal of mobilizing USD 100 billion per year by 2020.

[ICAO actively contributed to the AGF process](#) by providing information on its achievements as well as sharing its concerns on proposals related to potential revenue generation from the international transport sectors. **ICAO's concerns primarily focus on the risk of undermining its concerted mitigation efforts, legal and practical challenges of implementing emissions-related levies, complexities in applying an international aviation MBM differently across States, and the need for dedicated climate finance within the aviation sector.**

The [AGF report](#) published in November 2010 suggested that international aviation could be a potential source of revenue through a fuel levy, passenger ticket tax or emissions trading system, generating up to USD 6 billion in revenue per year. **However, the AGF report also recognized that further work on carbon-related instruments should be taken forward in ICAO.** Notably, these developments occurred alongside ICAO's progress in tackling international aviation emissions, culminating in the adoption of the first sector-wide global aspirational goals at the 37th ICAO Assembly in 2010.

In 2011, at the request of G20 Finance Ministers, the World Bank Group, in close partnership with the International Monetary Fund (IMF), the OECD and the Regional Development Banks, published a paper to explore scaling up finance for climate change adaptation and mitigation in developing countries. This paper built upon and extended the work of the AGF, to propose market-based instruments (MBIs) for international aviation and maritime bunker fuels as an innovative source of climate finance. It suggested that a globally coordinated carbon charge of USD 25 per ton of CO₂ could raise around USD 12 billion from international aviation and around USD 25 billion from international maritime transport annually in 2020, while reducing CO₂ emissions from each industry by perhaps 5 per cent, mainly by reducing fuel demand.

However, the WB/IMF report fell short of recognizing the aviation sector's achievements in advancing climate actions, as well as the AGF's conclusion that further work on carbon-related instruments should be advanced within ICAO. The report was brought to the attention of the COP17 meeting held from in December 2011 in Durban, South Africa, but the Conference did not agree to specify the sources of revenue for long-term climate finance.

The UNFCCC process toward the COP20 (December 2014, Lima, Peru) was key to the negotiations leading to an expected climate change agreement at COP21 (December 2015, Paris, France). ICAO continued to provide updates⁸ to the UNFCCC process and closely follow-up if, and how, issues related to international aviation would be incorporated into the UNFCCC agreements.

Regarding the proposal on the use of international aviation as a source of financing for adaptation, the ICAO Council in March 2015 had urged Member States to express a serious concern, through the UNFCCC process, on the use of international aviation as a potential source for the mobilization of revenue for climate finance to the other sectors, in order to ensure that international aviation would not be targeted as a source of such revenue in a disproportionate manner, pursuant to Assembly Resolution A38-18, paragraph 30.

At the COP21 held in December 2015 in Paris, France, the [Paris Agreement and COP21 decision text](#) included a key decision that “developed country Parties should continue to take the lead in mobilizing climate finance from a wide variety of sources, instruments and channels, with a concrete roadmap to achieve the goal of jointly providing USD 100 billion annually by 2020 for mitigation and adaptation through 2025, while the CMA⁹ shall set a new financial goal prior to 2025 from a floor of USD 100 billion per year ...”. There was **no reference to the international aviation sector in the COP21 decision text**. Moreover, some Parties welcomed the progress achieved by ICAO in addressing emissions from the international aviation sector and expressed support for further work to be undertaken.

Following up on the decisions under the Paris Agreement, at COP29 held in November 2024 in Baku, Azerbaijan, the Conference adopted the Baku Finance Goal, known as the New Collective Quantified Goal on Climate Finance (NCQG), which aims to triple finance to developing countries, with developed countries taking the lead, from the previous goal of USD 100 billion per year, to at least USD 300 billion per year by 2035 – and also to secure efforts of all actors to work together to scale up finance to developing countries, from public and private sources, to the amount of USD 1.3 trillion per year by 2035.

VI. Moving Forward – Reflections on ICAO’s Journey to CORSIA and the Importance of ICAO’s Leadership to Effectively Address International Aviation Emissions

⁸ ICAO statements to UNFCCC SBSTA are available at: <http://www.icao.int/environmental-protection/Pages/statements.aspx>

⁹ CMA: Conference of the Parties serving as the meeting of the Parties to the Paris Agreement.

Over the past three decades, significant efforts have gone into developing a global MBM to address international aviation emissions under ICAO. Numerous MBM options including aviation emissions levies, emissions trading, and carbon offsetting were thoroughly examined by expert groups and high-level State representatives, with detailed technical and policy analysis and extensive consultation, leading to the hard-fought landmark agreement on CORSIA by the ICAO Assembly in 2016.

Some key advantages of CORSIA and its design features including the following:

- **Cost-effective option** allowing for a clear emissions reduction based on the ICAO global aspirational goal for the international aviation sector;
- **Fair distribution of requirements** as airlines only need to offset emissions above the sector's baseline, rather than facing blanket charges / taxes;
- **Incentivizes emissions reduction** within the sector, in particular through the use of sustainable fuels to reduce an airline's offsetting requirements;
- **Administrative simplicity** as emissions and offsets are tracked and reported through a central registry;
- Phased implementation accommodates the **special circumstances and respective capabilities of States**, while **minimizing market distortion** through the equal treatment of airlines on the same international air routes; and
- Also accounts for the **concerns of developing countries and emerging economies** with the provisions for new entrants, and calculation of offsetting requirements through the sector's growth factor.

It is crucial to understand that the transboundary nature of international aviation operations requires a globally harmonized MBM in the form of CORSIA to effectively and feasibly address international aviation CO₂ emissions, while accommodating the special circumstances and respective capabilities of States.

Despite extensive discussions and agreements over the past three decades on the MBM for international aviation, as well as on climate financing at ICAO and UNFCCC platforms, certain UN bodies and other organizations have recently re-introduced proposals in 2024. These proposals, including those under consideration by the [UN Committee of Experts on International Cooperation on Tax Matters](#), the [\(IMF\)](#), and the [Global Solidarity Levies Task Force](#), suggest that the aviation and maritime transport sectors could serve as "innovative" sources for levies and taxes to fund climate action in other sectors. The aviation levies discussion is expected to be a relevant issue toward COP30 scheduled to take place in

Belém, Brazil, from 10 to 21 November 2025, with a series of events¹⁰ being identified leading up to COP30.

The recent proposals on aviation emissions levies are deeply concerning, as they risk undermining the significant achievements and extensive efforts made over three decades to develop a global MBM for international aviation. This raises fears of returning to the fragmented landscape of aviation MBMs seen between 2009 and 2012, when a few States and regions implemented unilateral MBMs such as levies and ETS, which was met with strong opposition from others and the industry and resulted in ineffective overlapping measures.

It is also crucial to recall that significant financial resources are needed by 2050 for the aviation sector to achieve the LTAG through in-sector measures, including USD 3.2 trillion in cumulative investments required to deploy SAF and other cleaner aviation energies.

Furthermore, it is important to reiterate ICAO [Assembly Resolution A41-21](#), paragraph 16, which states **“while recognizing that no effort should be spared to obtain means to support the reduction and stabilization of CO₂ emissions from all sources, urges that ICAO and its Member States express a clear concern, through the UNFCCC process, on the use of international aviation as a potential source for the mobilization of revenue for climate finance to the other sectors, in order to ensure that international aviation would not be targeted as a source of such revenue in a disproportionate manner”**.

As the specialized UN agency for international aviation, ICAO has worked tirelessly to develop a global solution for GHG emissions from international aviation, with the strong support of its Member States and the aviation industry. **We urge all stakeholders to recognize the history and significance of the global MBM scheme for international aviation and to continue supporting the implementation of CORSIA as the only global MBM scheme for international aviation, ensuring the sustainable development of the sector and effective mitigation of aviation emissions.**

¹⁰ Non-ICAO events in 2025 of relevance to climate financing:

- Spring meetings of the World Bank Group (WBG) and the IMF to be held from 21 to 26 April 2025;
- Financing for Development (FfD) Forum and 4th Preparatory Committee Meeting to be held from 28 April to 1 May 2025;
- 4th International Conference on Financing for Development (FfD4) to be held from 30 June to 4 July 2025;
- 80th Session of the UN General Assembly to be held from 9 to 23 September 2025.