



WORKING PAPER

ASSEMBLY — 37TH SESSION

EXECUTIVE COMMITTEE

Agenda Item 17: Environmental protection

**DEVELOPMENT OF A GLOBAL FRAMEWORK FOR ADDRESSING
CIVIL AVIATION CO₂ EMISSIONS**

(Presented by the International Air Transport Association (IATA), on behalf of
ACI, CANSO, IATA, IBAC and ICCAIA, referred to hereafter as
the “aviation industry”)

EXECUTIVE SUMMARY

The aviation industry emphasizes the urgent need for ICAO Contracting States to agree on a global framework, with principles established by ICAO, as the most appropriate means of addressing CO₂ emissions from international aviation and avoiding conflicting and unilateral policy measures which lead to inefficiency. Representing all aspects of the aviation industry, ACI, CANSO, IATA and ICCAIA have proposed an ambitious set of collective targets and associated principles to address aviation CO₂ emissions. Additionally, IBAC representing the business aviation manufacturing and operating communities are committed to contributing to overall aviation targets and have developed an aggressive support program. The collective targets include a 1.5 percent annual average fuel efficiency improvement through 2020, providing carbon-neutral growth from 2020 and a trajectory towards halving net CO₂ emissions by 2050 compared to 2005. The targets and principles will help ensure continued sustainable aviation growth to support the global economy, taking into account the specific needs of developing countries but without distorting competition. Reaching these ambitious targets will require a multi-faceted approach with strong commitment and investment from all aviation stakeholders, including governments.

Action: The Assembly is invited to agree on a global framework to address aviation CO₂ emissions, underpinned by ambitious but realistic targets and a set of fair and balanced principles. The specific actions are outlined in paragraphs 5.2 – 5.4 of this paper.

<i>Strategic Objectives:</i>	This working paper relates to Strategic Objective C, <i>Environmental Protection - Minimize the adverse effect of global civil aviation on the environment.</i>
<i>Financial implications:</i>	No additional resources required.
<i>References:</i>	No references.

¹ French, Spanish, Russian, Arabic and Chinese translation was provided by IATA.

1. INTRODUCTION

1.1 The aviation industry wishes to emphasize the urgent need for ICAO Contracting States to agree on a global framework under ICAO as the most appropriate means to address CO₂ emissions from international aviation and to avoid conflicting and unilateral policy measures.

1.2 Aviation is a key driver of economic and social development. Moving 2.2 billion passengers a year, and supporting 32 million jobs, aviation accounts for 8 percent (US\$ 3.2 trillion) of global GDP and is a critical driver of tourism and trade. Representing about 2 percent of global man-made CO₂ emissions, the aviation industry is determined to be part of the solution – and is taking action. But the industry must not be held responsible for more than its fair share. The trend towards the adoption of increasingly fragmented national/regional and ad hoc policy measures to adjust public finances has been of great concern to the industry. This includes supposed environmental taxes and plans for increasingly stringent auctioning regimes for emissions permits. This is not conducive to our common goal of sustaining an orderly, efficient and financially viable aviation industry and will adversely affect the global economy as a whole.

1.3 Aviation is the ultimate global activity, providing an interconnected network of air services spanning the entire globe, and is highly competitive. Given the global nature of the aviation sector, and the need to avoid competitive distortions in both direct and indirect markets, multilateral collaborative action by all States, encompassing all air transport stakeholders, is urgently needed.

1.4 Representing all aspects of the aviation industry, ACI, CANSO, IATA and ICCAIA have proposed an ambitious set of collective targets and associated principles to address aviation CO₂ emissions. The collective targets include a 1.5 percent annual average fuel efficiency improvement through 2020, carbon-neutral growth from 2020 and a trajectory towards halving net CO₂ emission by 2050 compared to 2005. The targets and principles will help ensure continued sustainable aviation growth supporting the global economy, taking into account the specific needs of developing countries but without distorting competition. Reaching these ambitious targets will require a multi-faceted approach with strong commitment and investment from all aviation stakeholders, including governments.

2. ROADMAP 2010 – 2020² : AN ESSENTIAL FOUNDATION OF FUEL EFFICIENCY

2.1 The aviation industry has a solid record of environmental improvement, which it has achieved through continuous investments in technology, operations and infrastructure. As a result of these significant investments, in the 20 years since 1990, the industry has saved a cumulative total of 3.3 billion tonnes of CO₂.

2.2 Industry realizes, however, that there is no room for complacency. In order to continue to address aviation CO₂ emissions in the immediate future, industry has recommended adoption of an ambitious but realistic target to improve fuel efficiency by 1.5 percent on average per year between 2010 and 2020. Achieving this target, which amounts to about a 17 percent overall improvement in this timeframe, will require significant investment by the industry, including the purchase of approximately 12,000 new aircraft to enter the fleet between 2010 and 2020 at an estimated cost to the industry of US \$1.3 trillion, as well as significant improvements in load factors and continued operational and infrastructure improvements.

2.3 The industry is aware that the ICAO High-level Meeting in 2009 recommended a 2 percent annual average fuel efficiency improvement through 2020. We note that fuel efficiency

² Numbers and estimates mentioned in this section are derived from IATA's Aviation Carbon Model (2010) and have been presented to ICAO's Directors General Civil Aviation Climate Group (DGCIG).

improvements beyond 1.5 percent on average per year between 2010 and 2020 would require governments to urgently make additional necessary investments to expedite the modernisation of air traffic management infrastructure, and establish the right legal and fiscal frameworks to promote and accelerate integration of innovative emissions-saving technologies into the fleet.

2.4 Similarly, there is an urgent need for establishing policies that support and facilitate the development and use of sustainable alternative fuels and help ensure that such fuels become commercially viable and available for use in aviation, including the development of appropriate, globally harmonised sustainability criteria for biofuels. The aviation industry has played a leading role in developing, testing and promoting such fuels. However, reaching an acceptable level of global, commercial scale deployment requires supportive regulatory policies and further investment by governments.

3. **IMPLEMENTATION OF INDUSTRY'S COLLECTIVE TARGET FOR CARBON-NEUTRAL GROWTH (CNG) FROM 2020 AND BEYOND**

3.1 As from 2020, industry proposes a global cap on net CO₂ emissions, as part of a global framework for the sector, a target commonly referred to as carbon-neutral growth (CNG) from 2020. Industry urges ICAO Contracting States to adopt this target as part of the global framework.

3.2 Even building on the critical base of fuel efficiency improvements through 2020, achieving carbon-neutral growth from 2020 will require significant, additional and continual investment by aircraft operators and the other stakeholders in the supply chain. Industry analyses show that fleet renewal still will make a critical contribution toward achieving this target, but that sustainable aviation alternative fuels will need to play a greater role over time. Government support to facilitate aviation's access to such fuels, including public investment in related infrastructure, will be critical.

3.3 Even with the abatement potential from these measures, the analyses suggest that industry would also need to make investments in carbon market instruments to meet the CNG from 2020 target. Industry carbon offset programs could play a significant role in this context and carbon offsets should be accounted for and recognized as a legitimate measure to address aviation CO₂ emissions.

3.4 To facilitate implementation of the CNG from 2020 target in a robust and timely manner, industry has further developed a number of elements:

- **Monitoring and reporting requirements** – CO₂ emissions from all commercial aviation activity must be centrally and transparently accounted for at a global level while avoiding double counting. Laying the foundation for a credible and comprehensive industry-wide emissions monitoring and reporting mechanism, IATA member airlines will start reporting key data to IATA, including traffic, fuel, alternative fuel and carbon offset data, as from 2010. This commitment moves IATA beyond the current voluntary airline reporting system it maintains to a membership-wide system. Non-IATA members are encouraged to participate in the same system on a voluntary basis. IBAC and its member associations are developing concepts for the reporting of data by business aircraft operators.
- **Collective target, with individual responsibilities** – Industry has agreed that responsibility for meeting the proposed collective industry target for CNG from 2020 should be equitably and fairly distributed among individual operators taking into account each operator's fuel efficiency performance and without causing an operator to bear responsibility for another operator's emissions. Assuming individual responsibilities, each operator should have the option to decide what measures to use to reduce and/or mitigate its CO₂ emissions to meet its target, including fleet renewal,

retrofits, operational improvements, sustainable alternative fuels, as well as carbon market instruments.

4. PRINCIPLES CRITICAL TO THE FRAMEWORK

4.1 While the emission targets undoubtedly are central to the global framework for addressing aviation CO₂ emissions, the framework also must include core principles for implementation. The aviation industry proposes the following, supportive principles:

- **Accounting for aviation emissions** - Aviation CO₂ emissions should be addressed through a global framework and accounted for in a global emissions inventory, not at a regional or national level. It is essential that emissions from aviation are accounted for only once.
- **Geographic coverage** - Due to the global, interconnected nature of air transport, the framework should apply equally to both domestic and international aviation emissions, without distinction.
- **Interdependencies of measures** - Regulators, when formulating actions to address CO₂ emissions from aviation, must carefully consider and balance the overall possible impacts of such actions. But whatever the approach, adopted measures must not diminish safety and should be technologically feasible, economically reasonable, and environmentally beneficial. The aviation industry believes that ICAO is uniquely qualified to provide guidance and technical expertise to develop CO₂ mitigation measures and ensure that they do not adversely impact safety or other sensitive aviation environmental areas such as noise and local air quality.
- **Cost-effective economic measures** - Economic measures to address CO₂ emissions from aviation must be cost-effective and non-discriminatory.
- **Use of revenues** - Any eventual revenues from economic measures under a global framework to address aviation emissions should be clearly earmarked for aviation and environmental purposes. Such revenues should be prioritized for re-investment in additional measures to further improve the emissions profile of aviation, for instance by supporting the development and deployment of more fuel-efficient aircraft, engines, infrastructure, low carbon sustainable alternative fuels and investment in CNS/ATM technologies.
- **Use of carbon market instruments** - For a global framework for aviation to be effective it must have an open architecture, i.e. aviation should have unrestricted access to carbon market instruments to meet its obligations, on a par with other sectors.
- **Global framework** - As the designated United Nations body for international aviation, ICAO should have a central oversight role in the global framework and establish the framework principles.
- **Accommodation of differing needs** – ICAO has traditionally recognised and accommodated the specific needs of Contracting States that have difficulty complying with standards or recommended practices, for example through technical and financial support or via differentiated timelines for the implementation of

measures. Industry is open to explore ways to accommodate Contracting States with specific needs, mindful of the need for global, fair and cost-effective solutions that avoid competitive distortions.

4.2 In addition to the general principles noted in the previous paragraph, industry proposes that to the extent market-based measures are used, these should:

- support sustainable growth of the aviation sector;
- ensure that the aviation sector is treated fairly relative to other sectors and recognize investments already made to improve efficiency;
- be cost-effective in reducing CO₂ emissions;
- be transparent and as simple as possible;
- be a part of a basket of measures that includes technology, operational and infrastructure measures, aimed at achieving the industry-supported goals;
- avoid being duplicative; aviation CO₂ emissions should be accounted for only once;
- avoid market distortions, in both direct and indirect markets;
- respect non-discrimination among operators, and recognize different States' needs and capacities;
- include full and open access to carbon markets, as appropriate; and
- be applied by States to other Contracting States' aircraft operators only on the basis of mutual agreement between those States.

5. CONCLUSIONS

5.1 The aviation industry is resolved to address its CO₂ emissions and stands united behind its proposed collective targets and associated principles. The Industry Resolution shown in Appendix A, adopted on 31 August 2010, is just the latest testimony to the commitment within the industry. ICAO Contracting States have a unique opportunity to capitalize on the sector's shared determination.

5.2 The aviation industry therefore asks governments to act decisively and urges the Assembly to agree on a global framework to address aviation CO₂ emissions, underpinned by ambitious but realistic targets and a set of fair and balanced principles.

5.3 In particular, the aviation industry urges the Assembly to adopt, as part of this global framework, the following collective targets:

- a fuel efficiency improvement of 1.5 percent on average per year between now and 2020;
- carbon-neutral growth from 2020; and
- a 50 percent net reduction in CO₂ emissions by 2050, compared to 2005 levels.

Reaching these ambitious targets will require a multi-faceted approach with strong commitments and investment from all aviation stakeholders, including governments.

5.4. Furthermore, the aviation industry urges the Assembly to adopt, as part of this global framework, the general principles noted in paragraph 4.1 above, as well as the principles specific to the potential use of market-based measures set forth in paragraph 4.2 above.

APPENDIX

AVIATION INDUSTRY RESOLUTION ON CARBON-NEUTRAL GROWTH FROM 2020 AND A GLOBAL FRAMEWORK APPROACH TO MANAGE AVIATION EMISSION

Introduction

The civil aviation industry, as represented by ACI, CANSO, IATA, IBAC and ICCAIA (“the industry”), takes its environmental responsibilities seriously and has an unsurpassed record of improving its environmental performance over time. It is committed to improve its fuel efficiency by an annual average of 1.5 percent from now through 2020, stop the growth of its net carbon emissions from 2020 (carbon-neutral growth from 2020) and to halve its net emissions by 2050 compared to 2005 levels, subject to governments incentivizing technological research and development for airframes and engines and the commercial development of alternative low-carbon fuels while also providing modern airport and airspace infrastructure.

Policy responses must be cost-effective, equitable and globally coordinated through ICAO, providing open access to carbon markets. Governments must recognize that the industry’s ability to invest in new aircraft, currently the most effective tool for lowering CO₂ emissions, is threatened by increasing and costly regulatory burdens, including taxes, charges and economic measures.

Cooperation between industry and ICAO provides a solid foundation for implementing a global framework based on the industry’s targets and four-pillar strategy.

Resolution

The civil aviation industry:

1. Strongly endorses the continuing efforts of governments to develop a comprehensive global carbon emissions management framework under ICAO as opposed to a patchwork quilt of unilateral national and/or regional plans.
2. Agrees that such a framework gives due consideration to the special needs of developing countries and the maturity of aviation markets, while ensuring a level playing field amongst operators.
3. Encourages ICAO and governments to gain endorsement at the 37th triennial ICAO Assembly for a global framework (or globally accepted approach) to limit and reduce aviation emissions consistent with industry’s proposals.

— END —