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ASSEMBLY — 38TH SESSION

EXECUTIVE COMMITTEE

Agenda Item 17: Environmental Protection

EFFECTIVE MARKET-BASED MEASURES TO ADDRESS GREENHOUSE GAS EMISSIONS FROM INTERNATIONAL AVIATION

(Presented by the International Coalition for Sustainable Aviation (ICSA))

EXECUTIVE SUMMARY

ICSA believes that a global MBM is the only feasible mechanism to close the gap between emission goals and projected actual emissions, even after taking technology and alternative fuels into account. Furthermore, recent evidence highlights the importance of taking early action: early reductions result in a lower emissions trajectory than equivalent annual savings made at a later date. This paper sets out ICSA's views on the introduction and timing of a global MBM, and key considerations for national and regional approaches in the interim.

Action: The Assembly is invited to:

a) agree to develop a global MBM for adoption in 2015 and implementation in 2016 which is effective in reducing emissions, which is non-discriminatory, non distortive and accommodates SCRC concerns; and recognises that national and regional MBMs are essential tools in the interim if the sector is to make its fair contribution to ensure global warming remains below 2 degrees.

Strategic Objectives:	This working paper relates to Strategic Objectives, *Environmental Protection and Sustainable Development of Air Transport*
Financial implications:	No additional resources required.
References:	No references.

1. INTRODUCTION

1.1 The primary objective shared by environmental NGOs is to see that greenhouse gas emissions from international aviation are reduced to a level that, in the context of limiting temperature rises to no more than 2 degrees, represents a fair and equitable contribution by the sector. Taking into account the non-CO2 effects of aircraft emissions (a critical issue that has fallen outside of ICAO's current focus), aviation today accounts for around 5% of the total radiative forcing attributable to manmade activities. In fact, the aviation sector would be the 7th largest emitter of greenhouse gases if it were a country. Action to address its accelerating impacts is a central challenge for ICAO's members and for industry if the sector is to secure a sustainable future.

1.2 Achieving this objective will require the sector to deliver significant in-sector reductions. For this reason, ICSA supports the implementation of a range of technological and operational improvements to deliver and exceed ICAO's 2% per annum efficiency goal and the State Action Plan process as a means of planning, implementing, measuring and forecasting the expected reductions from these approaches. ICSA also firmly supports the development of a CO2 standard for new and in production aircraft being developed in CAEP provided it delivers emission reductions beyond business as usual. ICSA continues to engage in the ongoing debate to identify sustainable bio-fuels.

2. MBMS ARE AN ESSENTIAL COMPONENT TO MEET THE 2 DEGREE TARGET AND INTERIM GOALS

2.1 In March 2013, Manchester Metropolitan University published a study assessing the mitigation potential of i) technology and improved operations; ii) biofuels, and iii) the extension of current regional market-based measures to 2050 based on low, central and high traffic growth projections. In the central growth scenario, forecast improvements from technology and operations total 332MtCO2 per annum by 2050, potentially reducing emissions from international aviation to a level of 1,306MtCO2 and reinforcing the importance of measures to deliver in-sector reductions. Factoring in the likely contribution of alternative fuels (based on an assumed life-cycle carbon reduction of 50%) and of regional MBMs (assuming the scope of current schemes is extended to 2050), provides further potential to reduce emissions from international aviation down to 1,110MtCO2 and 774MtCO2 respectively in 2050.

2.2 The report identified that none of the measures, or their combinations, for any growth scenario would achieve ICAO's aspirational 2020 carbon-neutral goal by 2050, or alternative goals stabilising emissions at either 2005 or 2005-10% levels. ICAO's 2% per annum efficiency goal would only just be met in 2050 by assuming maximum reductions from technology, operations, and a "speculative" availability of bio-fuels. The resulting "emissions gap" in 2050 was put at between 153MtCO2 and 387MtCO2 (or approximately 15-38% of the total emissions reduction effort required to achieve a no net increase in emissions from international aviation from 2020). ICAO's more recent publication of forecasts based on work by CAEP MDG and FESG confirms that the sector will need to rely on alternative fuels and MBMs to meet its goals.

2.3 A global MBM is the only feasible mechanism to close this gap, and should therefore be incorporated now as an integral component of ICAO's approach. Early action is essential: another recent study by MMU highlights the critical importance of taking early action when implementing measures to reduce the climate impact of rapidly increasing emissions from aviation. The report shows that the real climate benefit of any action depends on the cumulative emission reductions between now and a future date, and not just on achieving a certain amount of emission reductions by a specific year. Early reductions result in a lower emissions trajectory than equivalent annual savings made at a later date. A

global MBM such as emissions trading introduced in 2012 provides the largest single incremental improvements in radiative forcing (RF) by 2050 when compared to other measures (a 30.1% improvement in RF over a business as usual scenario). Based on best estimates of likely future uptake, biofuels would have a minimal climate impact by 2050.

3. MARKET-BASED MEASURES

3.1 Viewed from the perspective of environmental protection, MBMs provide certainty that environmental targets will be met. In the context of ICAO, this approach can ensure effective and efficient delivery of goals, and, in response to Assembly Resolution A37-19 that requested further work on the attainability and other issues associated with longer-term goals, provides the confidence to set binding, ambitious medium and long-term goals. There is also a strong economic rationale for using MBMs. There are practical limits to how aggressively technology improvements or accelerated fleet replacement can be pursued, and overly ambitious fuel efficiency goals could lead to high abatement costs per tonne of CO2 reduced relative to other sectors (which would negatively impact costs and thus growth). Access to the carbon markets therefore provides a more cost-effective means of bridging the gap between in-sector reductions and ICAO's own environmental objectives for the sector, while introducing a carbon price that will further encourage airlines to speed up deployment of technical, operational and alternative fuel measures.

3.2 Environmental integrity must be a central priority in this regard. The quality of emission reduction units available to aviation is a key design issue affecting the environmental integrity of a MBM, and demonstrating measurement, transparency, additionality and permanence will be essential. At the same time, the carbon markets are expanding within States and at national levels, and there is no reason to assume that a healthy market will not exist in the future, sufficient to meet both aviation's needs and robust sustainability criteria.

3.3 A MBM should be viewed as a necessary and complementary measure to other approaches in the ICAO basket and should be designed in such a way that it incentivises, rather than detracts from, in-sector reductions. ICSA also believes that a global MBM must be fair and avoid any competitive distortions (through equal treatment of all carriers operating on a given route), and that it can, and should, reflect the special circumstances and respective capabilities of developing countries (SCRCDC). This recognises that a MBM must be flexible enough to address not only overall growth in the sector, but differential growth rates in regions and differential growth rates over time. As well as the practical options identified in the MBM Expert Group to accommodate these concerns, ICSA suggests there is further merit in considering route-based allocation tools (differentiation between routes rather than between States or nationality of carrier).

4. PREFERENCE FOR A GLOBAL MBM

4.1 ICSA continues to press the need for the early introduction of a global MBM for international aviation, and requests states at the 38th Assembly to formally commit to adopt a global MBM scheme for international aviation for implementation in 2016. The Resolution should direct the Council to request the Committee on Aviation Environmental Protection (CAEP) to develop and agree the many crucial details necessary to the proper functioning of a global MBM. This process should conclude in a set of standards. CAEP should be duly authorized and resourced with proper funding to complete the work in time for an extraordinary General Assembly in 2015 which would pave the way for implementation in 2016.

4.2 ICSA reiterates the urgency for ICAO to agree and implement a global MBM but, recalling that Assembly Resolution A37-19 recognised that some States may take more ambitious actions prior to 2020, believes that national and regional MBMs are essential tools in the interim period until the emissions limits under a global MBM take effect, or beyond in the absence of a global MBM. The alternative , namely neither action at a State level nor a global MBM taking effect, cannot be supported. Similarly, limiting MBMs to sovereign airspace leads to unacceptably low coverage of emissions, with a maximum coverage of 22% of international aviation emissions if implemented by all states. If there is to be any reference to national or regional MBMs, then from an environmental perspective it must be based on either departing flights or a "50:50" approach representing 50% of arriving flights and 50% of departing flights. For the 38th Assembly to conclude that states could only act within their airspace nine years after it had already recommended that states could implement emissions trading systems represents no progress on this issue.

4.3 ICSA understands and accepts that there could be provisions for the phase-in of routes on a de minimis basis as one means of addressing Special Circumstances and Respective Capabilities (SCRC), particularly for developing countries, but we believe that the Assembly should not, at this juncture, specify a percentage threshold for the de minimis treatment in regional MBMs. Applying a de minimis threshold of 1% of global RTK on the basis of states or carriers when determining exempt routes for a global MBM has not been studied and could risk creating market distortions and give rise to significant carbon leakage. We believe that with further analysis, which could readily be completed in one year or less, a route-based de minimis provision could be crafted which will yield an equitable and environmentally effective approach for implementing SCRC while taking into account route based traffic levels and O&D traffic and while avoiding market distortions.

5. THE NEED TO ACHIEVE PROGRESS IN 2013

5.1 Addressing the climate challenge is a common goal of all States and sectors and can only be realised through co-ordinated action. Achieving the objective of stabilising atmospheric concentrations of greenhouse gas emissions at a level that limits temperature rises to no more than 2 degrees Celsius above preindustrial levels depends not only on agreeing goals and measures, but on timely action. Aviation is predicting strong growth out to 2050, and the public visibility of the associated increase in greenhouse gas emissions makes an agreement now in ICAO essential. Industry support for agreement this year to implement a global MBM is recognition that concerted action to secure a sustainable future for aviation is vital to the sector's health. While opposing political perspectives have prevented an ICAO agreement on MBMs over the past 15 years, ICSA believes that the development of a global MBM is capable of reconciling such differences in practical ways, noting that MBMs are cost-effective, technically feasible and will have only marginal impacts on the future growth projections of the industry even with the generation of revenues (which warrant serious consideration, both as a step towards full carbon pricing and as a potential means to address special circumstances and respective capabilities).

6. ACTION BY THE ASSEMBLY

6.1 ICSA calls on states at the 38th Assembly to agree to develop a global MBM for adoption in 2015 and implementation in 2016 which is effective in reducing emissions, which is non-discriminatory, non distortive and accommodates SCRC concerns; and recognises that national and

regional MBMs are essential tools in the interim if the sector is to make its fair contribution to ensure global warming remains below 2 degrees.

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