International Civil Aviation Organization

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WORKING PAPER

ASSEMBLY — 38TH SESSION

EXECUTIVE COMMITTEE

Agenda Item 17: Environmental Protection

MARKET-BASED MEASURES (MBMs)

(Presented by the Council of ICAO)

EXECUTIVE SUMMARY

This paper reports on developments of ICAO work related to market-based measures (MBMs) since the last Assembly which requested the Council to: develop a framework for MBMs, including further elaboration of the guiding principles; review the *de minimis* threshold to MBMs; explore the feasibility of a global MBM scheme; collect information on the volume of carbon offsets; and study the Clean Development Mechanism of the Kyoto Protocol for application to international aviation (Resolution A37-19, paragraphs13, 16, 18, 20 and 24. m), respectively).

Work by the Organization on MBMs was undertaken with the support of Member States and international organizations through MBM Experts and the High-level Group on International Aviation and Climate Change (HGCC).

Action: The Assembly is invited to:

a) acknowledge the work undertaken by the Organization on MBMs, as requested in Assembly Resolution A37-19; and
b) consider the information contained in this paper for the update of Assembly Resolution A37-19.

Strategic Objectives:	This working paper relates to Strategic Objective C – *Environmental Protection and Sustainable Development of Air Transport.*
Financial implications:	The activities referred to in this paper will be undertaken subject to the resources available in the 2014–2016 Regular Programme Budget and/or from extra-budgetary contributions.
References:	A38-WP/34, *Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change.* C-WP/13798, C-WP/13894, C-WP/13895, C-WP/13959, C-DEC 197/6

1. GLOBAL MBM SCHEME

1.1 Work on a global MBM scheme was undertaken pursuant to Assembly Resolution A37-19, paragraph 18 which "Requests the Council, with the support of member States and international organizations, to continue to explore the feasibility of a global MBM scheme by undertaking further studies on the technical aspects, environmental benefits, economic impacts and the modalities of such a scheme, taking into account the outcome of the negotiations under the UNFCCC and other international developments, as appropriate…". A number of steps were undertaken to address the request, and the ICAO Council provided direction throughout the triennium.

1.2 With the support of MBM Experts nominated by States and international organizations, options for a global MBM were reviewed and reduced to the following three during the 196th Session in June 2012:

- global mandatory offsetting, where participants acquire emissions units to offset emissions from international aviation above an agreed baseline;

- global mandatory offsetting complemented by a revenue generation mechanism would generally function 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; and

- global emissions trading scheme using a cap & trade approach, 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 CO_2) 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. At the end of each compliance period, participants would need to surrender sufficient aviation allowances, or other emissions units, such as offsets from other sectors, to cover all the emissions generated during that period. Revenues can be generated by auctioning aviation allowances.

1.3 The three options underwent a quantitative review using economic modelling which estimated industry impacts, environmental benefits and implications for regions and groups of States. Qualitative assessments were undertaken on design features including potential participants, the distribution of obligations between participants, reporting requirements, legal instruments and the accommodation of special circumstances and respective capabilities of States (C-WP/13894).

1.4 In November 2012, the Council "recognized that the results of qualitative and quantitative analysis of the three options … demonstrated that all three options were technically feasible and had the capacity to contribute to achieving ICAO's environmental goals" (C-DEC 197/6).

1.5 Further technical analysis of MBMs required policy decisions to support more refined assessment. The Council 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 Assembly Resolution. The HGCC considered various issues related to a global MBM scheme, including: participants in a scheme; means to accommodate special circumstances and respective capabilities; and generation of revenue from a scheme (C-WP/13959).

1.6 Further assessment on the feasibility of a global MBM scheme continued in 2013 on the most practical and effective design features for a global scheme, taking into consideration the direction from the HGCC. The quantitative analysis on the impacts of MBMs completed in 2012 was further refined using updated forecasts on traffic, fleet and emissions that were completed by the ICAO Committee on Aviation and Environmental Protection (CAEP) in 2013. The supplementary study confirmed the results of the 2012 study regarding the technical feasibility of the options. The results of both analyses related to the feasibility of a global MBM scheme have been compiled in a report[1].

2. FRAMEWORK FOR MBMS

2.1 Assembly Resolution A37-19, paragraph 13, "Requests the Council … to undertake work to develop a framework for market-based measures (MBMs) in international aviation, including further elaboration of the guiding principles listed in the Annex". This work was undertaken in parallel with the work on the feasibility of a global MBM scheme with support provided by MBM Experts. Both the guiding principles and the design features developed for the options for a global scheme were used as the basis for the framework. A concept paper defining the role and purpose of the framework was considered by the Council in June 2012 and the relevant design elements were presented to the Council in November 2012 (C-WP/13895).

2.2 Similar to the work on a global scheme, progressing on the technical elements of the MBM framework raised a number of policy considerations. Through the deliberations of the HGCC and the technical work of Experts, the need for mutual consent between States implementing MBMs, the geographic scope to which MBMs would apply and the special circumstances and respective capabilities of States were discussed.

2.3 Technical information regarding the level of CO_2 emissions covered by different geographic scope approaches (i.e. national airspace, departing flights) was compiled in a report to support the policy discussion of the HGCC[2].

3. OTHER MBM WORK REQUESTED BY THE ASSEMBLY

3.1 *De Minimis* Study

3.1.1 Pursuant to Assembly Resolution A37-19, paragraph 16, the Council was requested to "review the *de minimis* threshold to MBMs … taking into account specific circumstances of States and potential impacts on the aviation industry and markets, and with regard to the guiding principles listed in the Annex, by the end of 2011". Operators falling within the *de minimis* threshold represented approximately 20 per cent of all operators. The analysis demonstrated that there would be substantive market distortions between operators subject to an MBM and operators not subject to an MBM.

3.1.2 The quantitative analysis concluded that under the *de minimis* threshold, all MBMs could suffer market distortion and reduced effectiveness. The impact of the *de minimis* threshold could also create incentives for airlines to fragment, create subsidiaries or split ownership in order to avoid MBMs. Conversely, carriers may avoid mergers or consolidations in order to avoid losing the *de minimis* status. This could result in the loss of efficiencies within the sector (C-WP/13798).

[1] http://www.icao.int/Meetings/a38/Pages/documentation-reference-documents.aspx
[2] http://www.icao.int/Meetings/a38/Pages/documentation-reference-documents.aspx

3.2 **Carbon Offsetting & Clean Development Mechanisms**

3.2.1 In relation to the use of carbon offsetting and information on the volume of offsetting credits (requested by Assembly Resolution A37-19, paragraph 20) related to air transport, an assessment was undertaken on the current and future availability and prices of credits generated under the Clean Development Mechanism (CDM) of the Kyoto Protocol[3]. It indicated that there would be sufficient levels of credits available for the international aviation sector.

3.2.2 In response to Assembly Resolution A37-19, paragraph 24. m), a study was undertaken on the possible application of the Clean Development Mechanism (CDM) established under the Kyoto Protocol to international aviation[4]. It confirmed that it is not possible for international aviation emissions to be accounted for under the CDM.

4. **CONCLUSION**

4.1 The Secretariat, with the support of Experts from States and international organizations has undertaken a substantial amount of work to respond to the requests made to the Council in Assembly Resolution A37-19. The qualitative and quantitative analysis of the three options for a global MBM scheme demonstrated that all three were technically feasible and had the capacity to contribute to achieving ICAO's environmental goals. An MBM framework for international aviation has been explored. The impact of the *de minimis* threshold exempting operators and States making up less than 1 per cent of international RTK was reviewed. Studies on the Kyoto Protocol CDM and the status of the carbon market were undertaken.

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[3] http://www.icao.int/Meetings/a38/Pages/documentation-reference-documents.aspx
[4] http://www.icao.int/Meetings/a38/Pages/documentation-reference-documents.aspx