



## INTERNATIONAL CIVIL AVIATION ORGANIZATION

**TWENTY SIXTH MEETING OF THE ASIA/PACIFIC AIR NAVIGATION  
PLANNING AND IMPLEMENTATION REGIONAL GROUP  
(APANPIRG/26)**

Bangkok, Thailand, 7 – 10 September 2015

- Agenda Item 3: Performance Framework for Regional Air Navigation Planning and Implementation**  
**3.6: Other Air Navigation Matters**

**RECENT DEVELOPMENTS IN ICAO  
ON INTERNATIONAL AVIATION AND CLIMATE CHANGE**

(Presented by the Secretariat)

**SUMMARY**

ICAO and its Member States are taking concrete steps to undertake coordinated and comprehensive actions to address CO<sub>2</sub> emissions from international aviation, in order to reach the ultimate goal of ensuring a sustainable future for international aviation.

This paper provides a summary of the main developments on the actions requested by the 38<sup>th</sup> Session of the ICAO Assembly in the field of international aviation and climate change, in particular those actions relating to the following key areas: 1) technological and operational measures; 2) sustainable alternative fuels for aviation; 3) market-based measures; 4) States' action plans; and 5) assistance to States

Action by APANPIRG is in paragraph 9.

*Strategic Objective E*: Environmental Protection — **minimize the adverse environment effects of civil aviation activities.**

**1. INTRODUCTION**

1.1 The 38<sup>th</sup> Session of the ICAO Assembly, held from 24 September to 4 October 2013, adopted Resolution A38-18: *Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change*. This paper presents an update on the actions requested by the Assembly.

**2. TECHNOLOGICAL AND OPERATIONAL MEASURES AND GLOBAL ASPIRATIONAL GOALS**

2.1 A major area of activity in the field of international aviation and climate change is the development of a technical CO<sub>2</sub> certification Standard for aircraft, being undertaken by ICAO's Committee on Aviation Environmental Protection (CAEP). Significant efforts were directed for the consensus agreement of certification requirements<sup>1</sup> at the ninth CAEP meeting in February 2013,

<sup>1</sup> ICAO Circular 337 (CAEP/9 Agreed Certification Requirement for the Aeroplane CO<sub>2</sub> Emissions Standard)

which allowed CAEP to move to the next stages on the analysis of an appropriate regulatory limit for the Standard, aiming for the full Standard by 2016.

2.2 Operational measures are also an important element in the basket of measures available to States to reduce aviation emissions. In order to continue informing States on the environmental benefits of implementing operational measures, CAEP has completed a preliminary analysis of fuel savings associated with Aviation System Block Upgrades (ASBU) Block 0 modules and has embarked on a more detailed evaluation that will be presented to the CAEP/10 meeting in February 2016. The results of the preliminary analysis are available in the 2014 Air Navigation Report and were used in the Rules of Thumb in the ICAO Guidance on the Development of States' Action Plans on CO<sub>2</sub> Emissions Reductions Activities (Doc 9988, see Paragraph 5) to assist States to estimate the benefits from the operational measures selected in their action plan.

2.3 The ICAO CAEP Working Group 2 (WG2) – Airports and Operations is preparing an update to the *Airport Planning Manual, Volume 2*. The update entailed the incorporation of two main aspects: 1) Eco-friendly airport planning (e.g., infrastructure decisions that facilitate environmentally-friendly airports); and 2) Best practices in land-use planning and management.

### **3. SUSTAINABLE ALTERNATIVE FUELS FOR AVIATION**

3.1 The 38<sup>th</sup> Assembly highlighted the progress achieved in facilitating the development and deployment of sustainable alternative fuels for aviation, including information sharing on best practices among States and other stakeholders through ICAO's online platform, the Global Framework for Aviation Alternative Fuels (GFAAF)<sup>2</sup>, which integrates data on hundreds of global activities and initiatives.

3.2 The Assembly also supported further work by ICAO and its Member States to address the challenges in the development and deployment of sustainable alternative fuels for aviation, including the work on sustainability criteria and the projection of future production and life-cycle environmental benefits of such fuels. Following the Assembly, a new CAEP Alternative Fuel Task Force (AFTF) has been undertaking these technical tasks.

### **4. MARKET-BASED MEASURES (MBMS)**

4.1 The Assembly acknowledged the work undertaken by the Organization on MBMs in responding to the requests of the last Assembly, including the development of a framework to guide the application of national or regional MBMs, and the exploration of the feasibility of a global MBM scheme for international aviation.

4.2 The 38<sup>th</sup> Assembly, a consensus agreement was reached on the development of a global MBM scheme for international aviation, which reflects the strong support of ICAO Member States for a global solution for the international aviation industry, as opposed to a possible patchwork of different measures. The Assembly also agreed that the Council, with support of Member States, would recommend a proposal for a global MBM scheme, and major efforts will need to be undertaken in order to address key design elements, including a means to take into account the special circumstances and respective capabilities of States, in particular developing States, and the implementation mechanisms of the scheme from 2020, for decision by the 39<sup>th</sup> Assembly in 2016.

4.3 Following the Assembly, the ICAO Council agreed in February 2014 a clear process and roadmap, with expected milestones and necessary governance structure, including the establishment of the Environment Advisory Group (EAG). The EAG has been working on a global

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<sup>2</sup> <http://www.icao.int/environmental-protection/GFAAF/Pages/default.aspx>

MBM scheme under the direction of the Council, using the approach of a “Strawman” which started with a simple and basic proposal for a global MBM scheme with a view to generating the discussion on advantages and disadvantages of its design elements and allowing for the improvements of the Strawman. This iterative approach will also ensure the full engagement of States and other stakeholders, taking into account inputs from different sources.

4.4 To support work on some design elements of the Strawman, a new Global Market-based Measure Technical Task Force (GMTF) was established under CAEP. Assembly Resolution A38-18 also requested the Council to organize seminars and workshops on a global scheme for international aviation. Global Aviation Dialogues (GLADs) were held to:

- share information regarding MBMs and their role in a basket of measures adopted to address CO<sub>2</sub> emissions from international aviation;
- provide up-to-date information on the work of ICAO on the development of a global MBM scheme;
- serve as an opportunity to receive feedback from Member States and relevant organizations on the development of the global MBM scheme.

The GLADs were held in Peru, Kenya, Egypt, Singapore, and Spain during the month of April 2015. Participation in the GLADs was by invitation only.

## 5. ACTION PLANS

5.1 The 38<sup>th</sup> Assembly acknowledged the successful outcome of the ICAO initiatives with respect to the development and submission of States’ action plans on CO<sub>2</sub> emissions reduction from international aviation by Member States that represent over 75 per cent of global international air traffic. The Assembly encouraged Member States to submit more complete and robust data in their action plans to facilitate the compilation of global emissions data by ICAO. It also encouraged the partnerships among ICAO, States and other organizations, and emphasized the need for the Secretariat to provide further guidance and other technical assistance.

5.2 In this regard, the ICAO Secretariat held a new series of seminars across the ICAO regions in 2013 and 2014. Moreover, in an effort to enhance States’ capacity to develop an action plan, ICAO Doc 9988, *Guidance on the Development of States’ Action Plans on CO<sub>2</sub> Emissions Reduction Activities* was revised to include new text on stakeholders’ involvement and organizational arrangements needed to support action plan-related activities. In addition, improvements were made to simplify the methodologies used to assess the emissions calculation and reporting, including the introduction of rules of thumb for estimating the environmental benefits from measures. The improved Doc 9988 is currently undergoing editorial review and translation. In the meantime, the unedited draft is available to action plan focal points. Additional support for the preparation of action plans is available from ICAO Doc 10031, *Guidance on Environmental Assessment of Proposed Air Traffic Management Operational Changes*, and the ICAO Fuel Savings Estimation Tool (IFSET)<sup>3</sup> that have been developed.

5.3 In order to assist States to submit more complete and robust data in their action plans in order to facilitate the compilation of global emissions data, the Secretariat developed a Microsoft Excel-based tool, known as the Environmental Benefits Tool (EBT) that automates the application of the rules of thumb included in Appendix C of the update to ICAO Doc 9988. EBT is available to all Action Plan focal points through the Action Plan on Emissions Reduction portal.

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<sup>3</sup><http://www.icao.int/environmental-protection/Pages/Tools.aspx>

5.4 The action plans are a key area of the Organization's work priorities, providing a unique opportunity for States to both showcase their initiatives to improve fuel efficiency and reduce emissions, and to articulate their assistance needs. The information included in the plans will allow for the assessment of potential future progress toward the achievement of global aspirational goals set forward by ICAO Assembly Resolution A38-18. The active involvement of Member States is therefore critical to the success of this initiative and to the ability of ICAO to effectively develop policies and practices toward the environmental sustainability of air transport.

## **6. ASSISTANCE TO STATES**

6.1 The high level of interest, cooperation and engagement of Member States and other stakeholders in the action plans initiative and the substantial progress made was due in large part to a robust capacity building programme. This programme needs to be continued and further strengthened.

6.2 As part of efforts to provide further assistance to States and facilitate access to financing for the development and implementation of States' action plans, ICAO established partnerships with the European Commission (EC), as well as with the United Nations Development Programme (UNDP) with the Global Environment Facility (GEF) financing.

### **6.3 *EC Project***

6.3.1 In December 2013, ICAO signed an agreement on the ICAO-EU joint assistance project, Capacity Building for CO<sub>2</sub> Mitigation from International Aviation, which is a Euro 6.5 million project with an estimated duration of 42 months.

6.3.2 The project involves 14 States from the African and Caribbean Regions, and encompasses three areas of activities: development of States' action plans; establishment of an aviation environmental system; and identification and implementation of measures to reduce aviation emissions. The project will also support the exchange of experiences and best practices amongst the participating States, allowing those with less expertise to learn from others, in the spirit of the ICAO initiative "No Country Left Behind".

6.3.3 "Kick-off" Seminars for the Caribbean States were held in the Dominican Republic in December 2014, and in Cameroon in February 2015 for African States, hosted by the Governments of the Dominican Republic and Cameroon, respectively.

6.3.4 Following these kick-off seminars, national action plan teams were established in all the selected States to start developing their action plans, with the support of local consultants. Sixty two States have submitted their action plan to ICAO in July 2015, 5 States have targeted to submit their action plans to ICAO by June September 2015, another six States will submit by September 2015 and the remaining seventy two States will submit by December 2015. ICT Equipment has been purchased with the project funds and installed in the beneficiary States to support their national capacities to monitor and report their CO<sub>2</sub> emissions from international aviation. In addition, the Aviation Environmental Systems (AES) have been developed and successfully implemented already in five States in Africa, and it is planned that the systems will be implemented at least in ten selected States by the end of December 2015 to enable the monitoring of CO<sub>2</sub> emissions and other environmental relevant data. From 2016, assistance will be provided to the identification and implementation of mitigation measures in the selected States.

### **6.4 *UNDP-GEF Project***

6.4.1 In November 2014, GEF approved the joint ICAO- UNDP assistance project, Transforming the Global Aviation Sector: Emission Reduction from International Aviation.

6.4.2 ICAO-UNDP's joint project with the GEF financing includes identifying and facilitating the implementation of measures to reduce international aviation CO<sub>2</sub> emissions. An important element of this 2 million USD project is a practical pilot project in Jamaica, consisting of the implementation of a CO<sub>2</sub> reduction measure that could be replicated in other Developing States. All administrative and practical arrangements to implement this joint assistance project with the UNDP-GEF are well underway. The post for the Project Manager Consultant has been advertised and the Consultant is expected to be selected in the upcoming month, while waiting for the availability of funds.

## **7. GLOBAL AVIATION PARTNERSHIPS ON EMISSIONS REDUCTIONS (E-GAP) SEMINAR**

7.1 The ICAO *Global Aviation Partnerships on Emissions Reductions (E-GAP): Multiplying Environmental Action* Seminar, with exhibition, will be held in Montréal, Canada from 16 to 17 September 2015.

7.2 This Seminar will provide a forum to showcase the synergistic effects of ongoing partnerships between ICAO, governments and other organizations to deliver actions that reduce emissions from international aviation. This includes, in particular, the results achieved through high-level engagement of Member States, in cooperation with other stakeholders, under the ICAO State Action Plans capacity building and assistance strategy. Such partnerships are multiplying environmental action by stakeholders, encouraging resource mobilization, and facilitating further cooperation in new areas. The Seminar will address current and foreseen action in the areas of: aircraft technology and research programmes; recycling of aircraft; next generation air navigation and green operations; renewable energy; sustainable alternative fuels; financing for aviation environmental activities and carbon markets.

## **8. UNFCCC COP21**

8.1 Parties to the United Nations Framework Convention on Climate Change (UNFCCC) have been undertaking critically important negotiations, with a view to reaching a legally-binding agreement on climate change applicable to all Parties for implementation from 2020, to be adopted at the 21<sup>st</sup> session of the Conference of Parties to the UNFCCC (COP21) in Paris, France from 30 November to 11 December 2015. In the negotiating text being discussed by Parties, international aviation is included under two aspects:

- 1) a proposal regarding setting global sectoral emission-reduction targets for international aviation and maritime sectors, and for all Parties to work through ICAO and IMO, respectively, to develop global policy frameworks to achieve these targets; and
- 2) a proposal on the use of international aviation and maritime sectors as a source of financing for adaptation, and encouraging ICAO and IMO to develop a levy scheme to provide financing support for the Adaptation Fund.

8.2 Regarding the second proposal on the use of international aviation as a source of financing for adaptation, following the Assembly Resolution A38-18, paragraph 30 and the request by the 204th Session of the Council, a State Letter (E 2/58 – 15/37) was issued on 27 May 2015 to convey a serious concern of such a proposal by ICAO and the international aviation community, as well as to ensure that positions on aviation and climate change agreed at ICAO be coordinated with delegations to COP21, including through the inclusion of aviation experts in the delegations.

8.3 At the COP21, ICAO will provide a statement to its opening session on the recent ICAO developments in addressing emissions from international aviation. The ICAO/IMO joint side event will also be held, where ICAO plans to showcase the partnerships to reduce aviation emissions as recognized at the ICAO *Global Aviation Partnerships on Emissions Reduction (E-GAP)* Seminar in September 2015.

## 9. ACTION BY THE APANPIRG

9.1 The APANPIRG is invited to:

- a) note the information presented in this paper;
- b) continue to consider environmental issues in the planning and implementation of regional air navigation systems;
- c) bring to the attention of the ICAO Secretariat specific areas where additional guidance on environmental benefits would be valuable;
- d) promote further collaboration with State action plan national focal points for all the operational measures that States wish to develop, implement and/or include in their action plans;
- e) inform State action plan national focal points of the availability of further assistance, to be provided by the ICAO Secretariat, related to the preparation and submission of States' action plans; and
- f) note that the ICAO Secretariat will keep PIRGs informed of its future activities and developments related to environmental protection.

— END —