

**54<sup>th</sup> CONFERENCE OF  
DIRECTORS GENERAL OF CIVIL AVIATION  
ASIA AND PACIFIC REGIONS**

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**AGENDA ITEM 5: AVIATION AND ENVIRONMENT**

**INTERNATIONAL CIVIL AVIATION AND THE ENVIRONMENT**

(Presented by the International Civil Aviation Organization)

**SUMMARY**

This paper reports on recent developments within ICAO in the field of aviation and the environment, including the results of the 39<sup>th</sup> Session of the ICAO Assembly, held from 27 September to 6 October 2016.

Action by the meeting is in paragraph 3.

## INTERNATIONAL CIVIL AVIATION AND THE ENVIRONMENT

### 1. INTRODUCTION

1.1 The 39<sup>th</sup> Session of the ICAO Assembly (A39), held from 27 September to 6 October 2016, in Montréal, Canada adopted Assembly Resolutions A39-1, *Consolidated statement of continuing ICAO policies and practices related to environmental protection – General provisions, noise and local air quality*, A39-2, *Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change*, and A39-3, *Consolidated statement of continuing ICAO policies and practices related to environmental protection – Global Market-based Measure (MBM) scheme*.

1.2 A39 recognized ICAO's substantial progress on environment during the last triennium, in particular in addressing CO<sub>2</sub> emissions from international aviation, by developing and facilitating the implementation of "a basket of mitigation measures" in order to achieve ICAO's global aspirational goals for the international aviation sector of improving fuel efficiency by 2 per cent per year and keeping its CO<sub>2</sub> emissions from 2020 at the same level (carbon neutral growth from 2020). This progress includes acceleration of the use of fuel-efficient aircraft technology, air traffic management modernization and other operational improvements, the development and deployment of sustainable alternative fuels, and the agreement on the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

1.3 In addition to this landmark agreement on CORSIA by A39, in terms of operational and technological improvements, in March 2017, the ICAO Council adopted the first-ever CO<sub>2</sub> emissions Standard for aeroplanes, and the first non-Volatile Particulate Matter (nvPM) Standard for aircraft engines. The CO<sub>2</sub> emissions Standard will ensure that the latest technologies are embedded into aircraft design, allowing for the deployment of a greener generation of aircraft entering service as of 2020. The nvPM Standard, will apply to turbofan and turbojet engines manufactured from 1 January 2020, and is for aircraft engines with rated thrust greater than 26.7kN.

### 2. DISCUSSION

#### 2.1 State Action Plans and Assistance to States

2.1.1 Pursuant to A39-2, ICAO was requested to undertake further capacity-building activities for its Member States, with respect to the development, update and implementation of voluntary State action plans to reduce aviation CO<sub>2</sub> emissions. In this regard, a series of five regional seminars on States' action plans were held throughout March and April 2017 in Brazil, Egypt, Germany, Indonesia, and Kenya. These seminars on State action plans were held in conjunction with the seminars on the CORSIA, in which the results are provided below.

2.1.2 In total, 431 participants from 92 States and 16 international organizations attended the seminars, representing 95 per cent of international aviation revenue tonne kilometres (RTK). Sixteen new States that had not previously been trained on States' actions plans attended the seminars, thus, a total of 132 States have now been trained on States' action plans since 2011.

2.1.3 The regional seminars provided national action plan focal points and aviation industry stakeholders with practical input on the calculation of the CO<sub>2</sub> emissions baseline and other quantification aspects related to States' action plans. Comments made by States during the seminars recognized the importance of making further progress in the ICAO Action Plan Buddy Programme, which invites States that have already prepared and submitted their action plans to share expertise and build partnerships with other Member States that have not yet prepared their action plans.

2.1.4 States' Voluntary Action Plans initiative has become an essential pillar of ICAO's activities on the environment. By 1 May 2017, 103 Member States, representing more than 90.11 per cent of international aviation RTK voluntarily submitted action plans to ICAO. Fifteen of these States

are from Asia and Pacific. These successful results demonstrate the high level of interest and engagement of Member States in this initiative, as well as the impact of ICAO's assistance and capacity-building activities.

2.1.5 Progress continues to be made under the two existing ICAO environmental partnerships with the European Union (EU), and with the United Nations Development Programme (UNDP) and Global Environmental Facility (GEF).

2.1.6 Regarding the ICAO-European Union (EU) Joint Assistance Project, ICAO is currently supporting the 14 selected States in the implementation of the mitigation measures in their action plans, including the installation of solar power systems and gate electrification equipment at international airports, and the improvement of air traffic management procedures. Furthermore, 5 feasibility studies on the mitigation measures are being undertaken, including the development of sustainable alternative fuels for aviation and the use of renewable energy to power airport operations. The results of these pilot projects, to be completed by the end of 2017, will become useful examples that could be replicated by other States in their efforts to address climate change and aviation.

2.1.7 Moreover, in order to further support the States involved in the ICAO-EU Joint Assistance Project and other States, ICAO is currently developing with the United Nations Institute for Training and Research (UNITAR), an online training course for the development of State Action Plans on Emissions Reduction. The training courses will be available at no cost for all the national action plan focal points through the UNITAR website (<https://unccelearn.org/>).

2.1.8 The objectives of the ICAO-UNDP-GEF Project include identifying and facilitating the implementation of measures to reduce international aviation emissions. To this end, a series of policy instruments will be developed, including guidance papers and studies on: regulatory and organizational measures to improve low emissions aviation; financing mechanisms to support implementation of aviation emissions reduction activities; and use of alternative jet fuels and renewable energy at airports. In addition, a one million USD practical pilot project at two airports in Jamaica consisting of the implementation of a CO<sub>2</sub> reduction measure could be replicated in other States. The project is ongoing and the implementation is expected to be finalized in the fourth quarter of 2017.

2.1.9 The Secretariat continues to receive requests for support from States in the preparation and implementation of action plans, and is currently exploring means and partnerships to support Small Islands Developing States (SIDS) in the Asia and Pacific region. New sources of funding to support action in this area is being explored with ICAO's application for the accreditation as an Implementation Entity under the Green Climate Fund (GCF).

## **2.2 Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)**

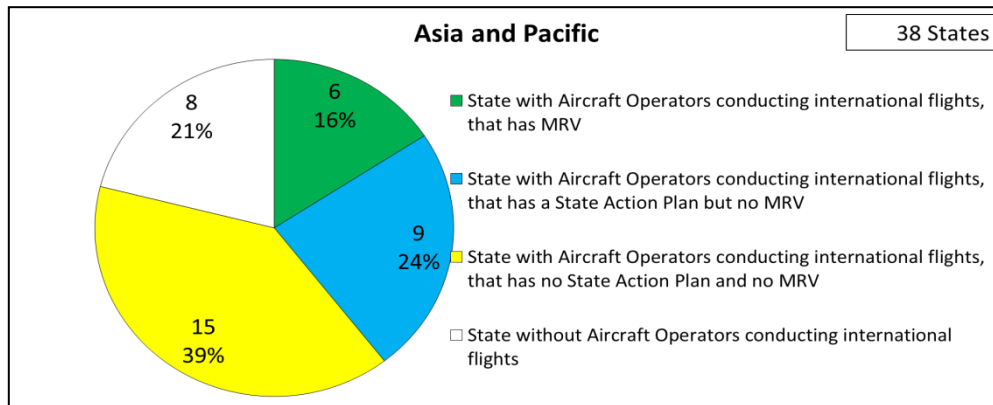
2.2.1 A39-3 on a global Market-Based Measure (MBM) scheme for international aviation, in the form of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA), reflects the spirit of cooperation and three years of intensive efforts by ICAO and its Member States, with the aviation industry and other stakeholders. It also represents the strong support for a global solution for the international aviation sector, as opposed to a possible patchwork of different measures.

2.2.2 To ensure the successful implementation of CORSIA by Member States, ICAO has initiated the implementation of a capacity building and assistance programme, including the convening of regional seminars (paragraph 2.1.1, refers), as well as a sixth Seminar on CORSIA held in Montréal, Canada in May 2017.

2.2.3 The regional seminars' objectives were to exchange information on CORSIA's design elements and implementation aspects, and to provide an opportunity for States to share their existing readiness for CORSIA implementation, with the assessment of further assistance needs. The objectives of the Seminar on CORSIA held in Montréal, Canada were expanded to discuss the outcome from the regional seminars and to seek commonality in terms of the next steps.

2.2.4 To further support Member States to prepare for the implementation of CORSIA, ICAO developed the CORSIA online tutorial<sup>1</sup>, and requested States to indicate their readiness to implement CORSIA, as well as areas where further assistance is required (State letter ENV 6/6–17/79, dated 20 June 2017, refers).

2.2.5 With respect to the state of readiness to implement CORSIA in the Asia Pacific region, Figure 1, extrapolated from the results obtained from the responses to the questionnaire circulated during the ICAO Regional Seminars on CORSIA<sup>2</sup>, illustrates the current situation and assesses the levels of States' experience and readiness in the MRV of aviation CO<sub>2</sub> emissions in order to plan ICAO's capacity building and assistance to States for CORSIA implementation.



Source: ICAO Seminar on CORSIA, Montréal, Canada, 10 to 11 May 2017

**Figure 1. States' Current Readiness - Monitoring, Reporting, Verification (MRV)**

2.2.6 Those States without State Action Plans and MRV are considered a priority in terms of providing additional support for CORSIA implementation, and will be the focus of future outreach activities in this regard. As of 5 July 2017, 15 of those States are in Asia and Pacific<sup>3</sup>.

2.2.7 In addition, the ICAO Committee on Aviation Environmental Protection (CAEP) is currently developing CORSIA-related Standards and Recommended Practices (SARPs) and corresponding guidance material, as well as an ICAO tool for the estimation and monitoring of CO<sub>2</sub> emissions under CORSIA, which taken together will establish a robust Monitoring, Reporting and Verification (MRV) system of CO<sub>2</sub> emissions from international aviation. The anticipated timeline for the adoption of the proposed SARPs is June 2018, with an applicability date of 1 January 2019. States will be able to calculate the CORSIA baseline emissions (2019/2020), and the offsetting requirements of individual airlines from 2021. ICAO will also determine eligible emissions units, or carbon credits, which airlines will have to purchase in order to meet the offsetting requirements under CORSIA.

2.2.8 As of 30 June 2017, 71 States, representing 87.7 per cent of international air traffic, have volunteered to participate in CORSIA from its outset. Eleven of those States are in Asia and Pacific. As States receive more information on the benefits of CORSIA, it is anticipated that additional States will voluntarily join CORSIA from its first phase. Outreach in this regard is therefore paramount. The recent ASEAN Aviation Summit, held in Langkwai, Malaysia, from 21 to 25 March 2017, is a key example of how regional events can serve as valuable opportunities to connect Member States with one another at a high-level, to promote a regional dialogue on CORSIA and its implementation, and encourage additional States to voluntarily participate in the scheme from its outset.

2.2.9 In order to ensure that sufficient resources continue to be available to support the various activities being undertaken relating to the implementation of CORSIA, Member States were

<sup>1</sup> <https://www.icao.int/environmental-protection/Pages/Online-CORSIA-Tutorial.aspx>

<sup>2</sup> During the ICAO Regional Seminar on CORSIA, held in the Asia and Pacific region in Jakarta, Indonesia, from 12 to 13 April 2017, 38 responses were received. Should any State that has not already done so wish to complete this questionnaire, it can be accessed on the ICAO webpage: <http://www.icao.int/Meetings/RS2017/Pages/RS17Questionnaire.aspx>

<sup>3</sup> Afghanistan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, Democratic People's Republic of Korea, Lao People's Democratic Republic, Mongolia, Myanmar, Nauru, Papua New Guinea, Philippines, Samoa, Solomon Islands, Vanuatu

requested to contribute for additional resources, through voluntary funding and/or other in-kind contributions, including secondments, to support the planned activities in this regard (State letter ENV1/1.1–17/52, dated 5 May 2017, refers).

### 2.3 Sustainable Aviation Alternative Fuels

2.3.1 The second ICAO Conference on Aviation and Alternative Fuels (CAAF2) will be held from 11 to 13 October 2017 in Mexico City, Mexico. As part of the preparations for the Conference, the ICAO Alternative Fuels Seminar was held in Montréal, Canada, from 8 to 9 February 2017. In total, 238 participants from 48 Member States, and 8 international organizations attended the event.

2.3.2 The seminar addressed the state of worldwide activities on the use of aviation alternative fuels, life-cycle analysis methodologies and sustainability criteria, financing and assistance programmes, and the legal and regulatory frameworks that support the development and deployment of these fuels in aviation. Moreover, the role of aviation alternative fuels in States' voluntary action plans, and the implementation of CORSIA were also discussed. These discussions will serve as a basis for CAAF2.

2.3.3 CAAF2 seeks to bring together delegates from States and international organizations with the aim of developing specific recommendations on an ICAO Vision on Aviation Alternative Fuels, which will be crucial to further facilitating the progress on aviation alternative fuels. Delegates should therefore be at the level at which they are duly authorized by their respective States and organizations to make decisions in order to formally adopt recommendations made by the Conference. Additional information related to the Conference is available at: <http://www.icao.int/Meetings/CAAF2>.

### 2.4 Green Airports

2.4.1 The ICAO Seminar on Green Airports will be at ICAO HQ on 29 and 30 November 2017 (State letter ENV 5/1.10 – SL 17/39, dated 20 June 2017, refers). Pursuant to A39-1 and A39-2, the Seminar on Green Airports will seek to facilitate discussions and encourage the exchange of best practices. The topics will reflect the diverse range of airport activities including ground handling, land/air-side mobility, renewable energy, community engagement and sustainability reporting, always focusing on best practices to reduce environmental impacts. New business models and financing of environmental projects and mitigation measures will also be explored, in line with the *No Country Left Behind* initiative. Additional information related to the Seminar is available at: <https://www.icao.int/Meetings/greenairports/Pages/default.aspx>

### 2.5 Coordination with other UN organizations

2.5.1 Cooperation has continued with other international organizations involved in policy making in this field, notably with the United Nations Framework Convention on Climate Change (UNFCCC).

2.5.2 The UNFCCC process will continue its discussion on the establishment of a new market mechanism as per the Paris Agreement. In this regard, ICAO and its Member States, in particular aviation experts as part of delegations of Parties to the UNFCCC process, need to closely follow up the evolution of the relevant discussion on such a new market mechanism and its possible implication to ICAO's work on CORSIA.

2.5.3 Likewise, States should coordinate to ensure that the UNFCCC process remains well-informed of the activities being pursued by ICAO and its Member States to address the impact of international civil aviation on climate change.

2.5.4 In addition, as requested by A39-2, paragraph 16, ICAO and its Member States need to continue to “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”.

### **3. ACTION BY THE CONFERENCE**

3.1 The Conference is invited to:

- a) encourage States to develop, update and submit their action plans as soon as possible;
- b) promote the use of regional events as valuable opportunities to connect Member States in order to establish a regional dialogue on CORSIA and its implementation, as well as encourage States to voluntarily participate in CORSIA from its outset; and
- c) request States to continue to inform the UNFCCC process of the work being undertaken by ICAO to address emissions from international civil aviation.

— END —