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WORKING PAPER

ASSEMBLY — 41ST SESSION

EXECUTIVE COMMITTEE

Agenda Item 17: Environmental Protection – International Aviation and Climate Change

PERSPECTIVES ON SUSTAINABLE AVIATION INCLUDING A LONG-TERM ASPIRATIONAL GOAL FOR INTERNATIONAL AVIATION CO_2 EMISSION REDUCTIONS

(Presented by Czechia on behalf of the European Union[1] and its Member States, the other Member States of the European Civil Aviation Conference[2], and EUROCONTROL)

EXECUTIVE SUMMARY

Significant CO_2 emissions reductions from international aviation in line with the temperature goals of the Paris Agreement are needed. An ambitious long-term aspirational CO_2 emission reduction goal (LTAG) should lead to net-zero CO_2 emissions aspiration by 2050.

A monitoring system should be developed, to be adopted by the Council by the end of 2023. It should take account of waypoints at least for 2030 and 2040.

The achievement of an ambitious LTAG will require various means of implementation, including investments to finance the necessary technological improvements, operational changes and greater uptake of sustainable aviation fuels. A number of States, notably those that have a less mature aviation system, will need help and support to bear related costs and to access the necessary funding.

Action: The Assembly is invited to approve the actions below and referred to in paragraph 6:

a) agree on an ambitious long-term aspirational CO_2 emission reduction goal (LTAG) of net-zero international aviation CO_2 emissions by 2050, in line with the temperature goals of the Paris Agreement;

b) agree on waypoints for 2030 and 2040;

c) agree to launch a process towards establishing, by the end of 2023, the means to monitor, and where appropriate, report and verify the progress for the achievement of the LTAG, while noting it is a collective global aspirational goal which does not attribute specific obligations or commitments in the form of emissions reduction goals to individual States; and

d) recognise the major role of sustainable aviation fuels in reducing the CO_2 emissions, and agree to set at CAAF/3 in 2023 a global framework for their deployment in a sustainable manner.

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1 Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden

2 Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Iceland, Republic of Moldova, Monaco, Montenegro, North Macedonia, Norway, San Marino, Serbia, Switzerland, Türkiye, Ukraine and the United Kingdom

Strategic Objectives:	This working paper relates to Strategic Objective – *Environmental Protection*.
Financial implications:	
References:	

1. INTRODUCTION

1.1 The Special Report *Global Warming of 1.5°C* of the Intergovernmental Panel on Climate Change (IPCC)[3] warned that without significant reductions in global emissions, the atmosphere might reach a temperature increase of 1.5°C as early as 2030. The IPCC recently identified aviation as one of "the fastest growing sources of sub-sector emissions from 2010 to 2019"[4] and found that "additional CO_2 emissions mitigation technologies for aviation and shipping will be required". It further found "emission reduction aspirations in international aviation and shipping lower than in many other sectors". This calls for the international aviation sector not only to meet ICAO's aspirational goal of Carbon Neutral Growth from 2020 onwards (CNG2020) but to achieve emissions reductions in line with the temperature goals of the Paris Agreement.

1.2 The authors of this paper strongly support the ICAO basket of measures as key means to achieving ICAO's CNG2020 target and the aspirational global fuel efficiency improvement rate of 2 per cent per annum from 2021 to 2050. These States and their aviation industries have taken action, as reported in the 2022 European Aviation and Environment Report (EAER)[5] and in State Action Plans.

1.3 ICAO works relentlessly towards securing global long-term sustainable development of aviation. Responding to Resolution A40-18, the ICAO Council explored the feasibility of a long-term global aspirational goal for international aviation CO_2 emissions reductions (LTAG). The Committee on Aviation Environmental Protection (CAEP) presented the LTAG report to the Council, which approved its publication and agreed that it serves as the basis for further consideration.

1.4 The report, widely acclaimed for its quality, thoroughness and depth, follows an analysis of scenarios on CO_2 emissions and associated costs and impacts on aviation growth, in all countries especially developing countries. Through its integrated scenarios, it shows that different levels of investment in research and development, in penetration of technologies, sustainable aviation fuels (SAF) and operational improvements lead to various long-term emission trajectories. All three integrated scenarios, based on a model of growing traffic (Trends) approved previously by the Council, are feasible at varying levels of effort. The report contains roadmaps corresponding to the different scenarios.

1.5 The report places the integrated scenarios in the context of latest consensus climate science, showing the share of international aviation emissions in relation to wider economy emissions reduction targets in different scenarios. It shows that international aviation can significantly reduce its emissions by the middle of this century using in-sector measures. It also shows that there will be residual emissions in any scenario based on in-sector measures alone, so aviation needs out-of-sector measures in the form of permanent removals of carbon to be in line with 1.5°C.

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3 https://www.ipcc.ch/sr15/
4 Climate change 2022 – Mitigation of Climate Change – IPCC, 04.04.2022.
5 www.easa.europa.eu/eaer

1.6 An "aspirational" goal is a global goal that all States should strive to achieve collectively, where the sum of actions, in light of different national circumstances, should lead to achieving the goal, while not setting specific obligations in the form of emission reduction goals on individual States. Different States may make varying progress in meeting the goal. Due to the cross-boundary nature of international aviation, the LTAG should be global and be addressed by ICAO.

1.7 The High-level Meeting that took place 19 to 22 July 2022 led to a better joint understanding of issues at stake and conclusions for further deliberations among ICAO States, encouraging them to strive to achieving a collective long-term global aspirational goal of net-zero carbon emissions by 2050, and recognised the need to put in place means of implementation.

2. SETTING AN AMBITIOUS LONG-TERM ASPIRATIONAL GOAL

2.1 As was concluded at the High-level Meeting, a long-term emissions reduction trajectory including an "aspirational" goal needs to be set at the 41st Session of the Assembly. Establishing a common aspiration will enhance certainty for the aviation industry and incentivise investment and innovation focused on this common goal which would benefit the sector. Further, it will strengthen ICAO's leadership in promoting sustainable aviation.

2.2 The States presenting this paper support the conclusions of the High-level Meeting that a collective aspirational goal of net-zero carbon emissions by 2050 is necessary for international aviation, consistent with the 1.5°C goal of the Paris Agreement and in line with the commitments of the industry.

2.3 An ambitious long-term aspirational goal should include the following elements:

— in-sector CO_2 emissions equivalent to one third of 2019 levels in 2050, in line with the LTAG report of the CAEP, which means around 200 $MtCO_2$;

— a net-zero CO_2 emissions aspiration by 2050 with a primary role of in-sector reductions and limited out-of-sector reductions through carbon sinks and permanent greenhouse gas removals, in line with the conclusions of the High-level Meeting on 19-22 July 2022.

3. MEANS OF MONITORING AND NEXT STEPS

3.1 A monitoring system should be set up, to be adopted by the Council by the end of 2023, making use of existing processes as much as possible. The Council should adapt the monitoring, and where appropriate, reporting and verification rules developed for the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) taking into account waypoints at least for 2030 and 2040 of around 500 $MtCO_2$ and around 400 $MtCO_2$ respectively.

3.2 The system to be established is to build upon the system successfully introduced under CORSIA, although not limited to fuel burn, but also cover changes in the aviation value chain: technology advances, deployment of new aircraft, sustainable aviation fuels, operational improvements should also be monitored. It should also take into account CORSIA rules such as CO_2 life-cycle values for CORSIA eligible fuels and consider out-of-sector measures while ensuring that no double counting may arise for emission reductions in the context of Nationally Determined Contributions under the Paris Agreement. The system should allow monitoring progress towards the achievement of the LTAG.

3.3 To achieve a global aspirational goal, the development and implementation of national and regional policies are indispensable. State Action Plans are the medium for communicating these to ICAO. Guidance on the format of the plans should be elaborated and communicated to States by end of 2023 building, as appropriate, on the information already provided in the plans. A global stocktake process on the updated plans received, and initial evaluation of their cumulated ambition and implementation needs should be carried out by the ICAO Secretariat on a regular basis.

3.4 While noting that the primary focus is on CO_2, given the status of knowledge, the authors recommend that ICAO keeps scientific developments under close review and considers how the important non-CO_2 effects of aviation on the climate could also be quantified and addressed as soon as the scientific knowledge is more certain. The current CAEP work programme includes analysis of non-CO_2 effects.

4. URGENTLY PROMOTING SUSTAINABLE AVIATION FUELS (SAF)

4.1 Each element of the basket of measures should be used, based on a decision on a LTAG. The most significant share of emission reductions through 2050 comes from the use of sustainable aviation fuels (SAF). This is supported by the fact that the use of drop-in SAF does not require an update to the current global fleet or aviation fuel distribution infrastructure, following approval against fuel standard specifications, while sustainability frameworks have been developed aiming to ensure the environmental benefits of SAF. Recent volatility in the availability and price of fossil-based resources is an additional incentive to take action on SAF.

4.2 The authors of this paper acknowledge the leading role of ICAO in SAF promotion. They welcome the progress made at the Second ICAO Conference on Aviation and Alternative Fuels (CAAF/2) and welcome the conclusion of the High-level Meeting to encourage the call to a third ICAO Conference on Aviation and Alternative Fuels (CAAF/3) in 2023 to define a SAF deployment framework, with waypoints in 2030 and 2040.

4.3 ICAO and its Member States must take stronger long-term policy actions to incentivize investments and contribute to the development of a cost-competitive SAF market. It is appropriate to establish a global quantitative SAF aspirational goal, based on comprehensive sustainability standards, no later than at the 42nd Assembly.

5. MEANS OF IMPLEMENTATION

5.1 Meeting the LTAG will require various means of implementation including emission standards, market-based measures and assistance to developing countries to ensure access to finance to help addressing investment needs and other costs in line with the *No Country Left Behind* initiative. In this respect, technical support will enable business and revenue generating opportunities in new innovative markets, such as SAF.

5.2 Decarbonisation of international civil aviation will also be dependent on the decarbonisation of the energy sector~~,~~ and will need to compete with other modes' and industries' own clean energy needs. At the same time, the decarbonisation of the energy sector also presents opportunities - green power and green fuels supply are a way to develop under-utilized land and to create jobs in different innovative activities everywhere on the planet. In this regard, developing countries have feedstock and natural conditions related to the production of renewable energy which constitute~~s~~ real assets.

6. ACTIONS

6.1 The Assembly is invited to:

a) agree on an ambitious long-term aspirational CO_2 emission reduction goal (LTAG) of net-zero international aviation CO_2 emissions by 2050, in line with the temperature goals of the Paris Agreement;

b) agree on waypoints for 2030 and 2040;

c) agree to launch a process towards establishing, by the end of 2023, the means to monitor, and where appropriate, report and verify the progress for the achievement of the LTAG, while noting it is a collective global aspirational goal which does not attribute specific obligations or commitments in the form of emissions reduction goals to individual States; and

d) recognise the major role of sustainable aviation fuels in reducing the CO_2 emissions, and agree to set at CAAF/3 in 2023 a global framework for their deployment in a sustainable manner.

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