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WORKING PAPER

ASSEMBLY — 38TH SESSION

EXECUTIVE COMMITTEE

Agenda Item 17: Environmental Protection

A COMPREHENSIVE APPROACH TO REDUCING THE CLIMATE IMPACTS OF INTERNATIONAL AVIATION

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

EXECUTIVE SUMMARY

Europe underlines the importance of mitigating the climate impacts of international aviation and strongly supports the on-going efforts of ICAO to address this issue. In addition, Europe calls on all States and regions to adopt a comprehensive approach in order to achieve international goals for CO_2 reductions in international aviation.

Action: The Assembly is invited to:

a) agree to establish a long term global goal for emissions reductions from international aviation, to be agreed at the 2016 Assembly;
b) continue to prioritise work on a robust aircraft CO_2 standard;
c) encourage ICAO, in the ASBU context, to continue to promote and provide support for the implementation of operational improvements with environmental benefits;
d) support a continuing role for ICAO on sustainable alternative fuels as set out in paragraph 3.4.3;
e) agree to the application of a global MBM by 2020;
f) adopt a work programme and timetable for completing the design of the global MBM, including a set of tasks to deliver the key technical elements for endorsement at the 39th ICAO Assembly;
g) work towards an enabling framework for MBMs implemented by States or groups of States, pending the entry into force of the global MBM;
h) support ICAO's work to understand the impacts of climate change on international aviation; and
i) support the further development of State Action Plans and the annual reporting of CO_2 emissions in order for ICAO to be able to track progress towards the agreed goals.

Strategic Objectives:	This working paper relates to Strategic Objective C – *Environmental Protection and Sustainable Development of Air Transport*.
Financial implications:	Most of the ICAO activities referred to will be covered under the regular budget of the organisation.
References:	ICAO Assembly Resolution A37-19, *Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change*

[1] Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.

[2] Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Georgia, Iceland, the Republic of Moldova, Monaco, Montenegro, Norway, San Marino, Serbia, Switzerland, The former Yugoslav Republic of Macedonia, Turkey and Ukraine.

1. INTRODUCTION

1.1 The climate impacts of aviation remain a significant public policy issue for all States. The latest assessment of emissions trends by ICAO's Committee on Aviation Environmental Protection (CAEP) shows that international aviation CO_2 emissions are forecast to increase by a factor of between 4 and 6 by 2050 from the levels of 2010, even assuming further improvements in technology and flight operations. In order to limit the risk of dangerous climate change, the Intergovernmental Panel on Climate Change (IPCC) recognises that, globally, greenhouse emissions should be cut by 50% in 2050 from 1990 levels so as to prevent an average global temperature increase of more than 2^oC above pre-industrial levels. The forecast growth in international aviation emissions therefore needs to be addressed if aviation is to make its fair contribution to meeting global climate change goals.

2. GOALS

2.1 Deep cuts in emissions through to 2050 are required if we are to achieve the 2^oC objective. ICAO should therefore as a matter of priority establish a long-term global goal for reducing emissions from international aviation, to be agreed at the 2016 Assembly. In addition, work needs to continue on addressing the non-CO_2 climate impacts of aviation, which remain a significant scientific concern. ICAO should continue to cooperate with UNFCCC and IPCC in relation to these impacts.

3. A COMPREHENSIVE APPROACH TO MITIGATION

3.1 There is a general recognition that in order to address the climate impacts of aviation a broad range of policy measures under a "comprehensive approach" needs to be applied. The recent work of ICAO has demonstrated that in addition to aircraft technology and operational improvements, further measures will be needed to achieve ICAO's aspirational goals. The work of CAEP shows that alternative fuels could close some of the remaining gap in the long term. The use of additional measures, such as market-based measures (MBMs), will also be necessary to meet ICAO's emissions reduction goals. This assessment is shared by the aviation industry and civil society organisations.

3.2 Reduction at source

3.2.1 Reduction at source is a key path for the mitigation of aviation emissions. The achievements of the industry in terms of improving fuel efficiency are important, but not enough to offset the continued growth in emissions due to rising demand for air travel. Europe places a high priority on developing new technology to reduce aviation emissions as evidenced in its substantial investment in the "Clean Sky" research programme. Europe is also fully engaged with and supportive of CAEP work towards developing a robust CO_2 aircraft standard and welcomes the progress made to date in a short timeframe. This work should be maintained as a high priority.

3.3 Operational measures

3.3.1 On-going operational improvements are important for meeting ICAO’s fuel efficiency targets. In Europe, a major programme is under way through the Single European Sky ATM Research programme (SESAR). A key objective of SESAR is the move to performance-based operations. The intention is that each aircraft will fly an optimal routing which will contribute towards a European target of a 10% reduction in CO_2 emissions per flight by supporting the implementation of more fuel-efficient technologies and air traffic management procedures.

3.3.2 ICAO is facilitating improvements in operational measures through the Aviation System Block Upgrades (ASBUs). Europe fully supports this work and participates actively in ICAO's assessment of the potential environmental benefits. Europe has submitted separately to the Assembly its recommendations to enable the timely delivery of the ASBU improvements[3]. ICAO should continue to promote and provide implementation guidance for other operational improvements with environmental benefits.

3.4 Sustainable alternative fuels

3.4.1 Sustainable alternative jet fuels with lower life-cycle emissions should contribute to reducing the net life cycle CO_2 emissions of aviation, but it is not yet possible to know the extent of this contribution. The price of alternative fuels is currently significantly higher than that of conventional jet fuel and the availability of sustainable biomass for aviation is limited, so there are significant uncertainties as to the long-term market potential. Moreover existing sustainability criteria and certification schemes have not yet addressed all sustainability aspects of alternative aviation fuels. In particular, indirect impacts such as potential land use change induced by the biomass production and the effect on the global food market need to be examined.

3.4.2 Research on biofuels for aviation in Europe is identified as a key area of the "Flightpath 2050" vision for aviation research. Among the European initiatives under way are the EC ITAKA project and the "European Advanced Biofuels Flightpath 2020" initiative. The latter is aimed at achieving an annual production of two million tonnes of sustainably produced biofuel for aviation by 2020, equivalent to around 1% of forecast kerosene consumption by global international aviation in that year.

3.4.3 ICAO has a role to play in relation to sustainable alternative fuels, in particular by gathering information, promoting the application of sound sustainability criteria, facilitating policy convergence on mechanisms to assure sustainability of the fuels and to account for the benefits in terms of life cycle GHG emissions, and participating in international forums on alternative fuels.

3.5 Market-based measures

3.5.1 Market-based measures (MBMs) are essential if international aviation is to mitigate its emissions in a cost-efficient manner. The other available measures, even taken together, are not capable of delivering the level of emissions reduction needed in a sufficiently short timeframe and cost-effective way.

3.5.2 Progress has been made in this area, since the recognition by the 2001 ICAO Assembly that MBMs are a cost-efficient means of mitigating aviation emissions, and the recognition by the ICAO Council (C-197) that global MBMs are technically feasible. The support for adoption of a global MBM by the global aviation industry and by civil society organisations are also very welcome developments.

3.5.3 The Assembly should agree to the implementation of a global MBM for application by 2020, and should therefore adopt a work programme and timetable for completing the design of the global MBM at the 38th ICAO Assembly. This work programme should consist of a set of tasks to deliver the key technical elements for endorsement at the 39th ICAO Assembly in 2016, including means to take into account the special circumstances and respective capabilities of States, in ways that are non-discriminatory between aircraft operators and minimise risks of market distortion.

[3] See A38-WP/79, TE/14 – *Work Programme Priorities*, and A38-WP/81, TE/16 – *Global Air Navigation Plan (GANP)*.

3.5.4 In the period preceding the implementation of a global MBM, national and regional MBMs can make cost-effective emissions reductions. Europe sees value in establishing an enabling framework for MBMs, as requested by the Assembly resolution A37-19.

4. ADAPTATION TO CLIMATE CHANGE

4.1 The impacts of climate change also pose an operational and financial risk to the global aviation sector itself. Europe fully supports the on-going work of the ICAO Impacts and Science Group to better understand this risk and how it can be addressed, and to disseminate information accordingly.

5. STATE ACTION PLANS

5.1 The encouragement given to States by ICAO Resolution A37-19 to submit to ICAO action plans outlining their policies and actions was a welcome development. 36 European States have submitted action plans, despite only 9 of them being above the threshold for doing so.

5.2 Creating partnerships between States for the development of action plans, such as those formed between some ECAC States, should be supported. Special efforts should be made to mobilise financial and technical support for developing countries willing to develop action plans. The submission process should be kept simple, enabling a broader range of States to develop action plans.

5.3 Improvements are needed in the reporting by States of CO_2 emissions and fuel consumption, so as to better track progress towards achieving global goals, preferably by using data and methodologies already available, including those being reported to other entities such as UNFCCC. At this stage, forecasting a measure's emissions reduction effect should remain optional.

6. CONCLUSION

6.1 Europe is fully committed to making progress on international aviation and climate change at the 38th Session of the ICAO Assembly. This issue is the key long-term strategic challenge facing the sector, and solutions are required. Operational and technical measures, and national or regional actions, on their own, will not be sufficient: a *global* approach encompassing market-based measures is required. This view is also shared by the aviation industry and ICAO should have a central role in the development of such a global approach. Europe wishes to see, and to work with its international partners to achieve, an agreement on meaningful international action at this Assembly.

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