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WORKING PAPER

ASSEMBLY — 38TH SESSION

EXECUTIVE COMMITTEE

Agenda Item 17: Environmental Protection

ADDRESSING THE CLIMATE IMPACTS OF AVIATION

(Presented by the United States)

EXECUTIVE SUMMARY

Reducing the climate impacts of international aviation is a critical element of achieving ICAO's strategic objective of environmental protection and sustainable development of air transport. To meet ICAO climate goals to reduce aviation's climate impact, ICAO should continue to pursue a comprehensive approach, including efforts to encourage development of new aircraft technology, implement operational improvements, to assist states in the development and deployment sustainable alternative jet fuels, to complete development and adoption of an aircraft CO_2 standard, and to conduct work towards the development of a global market-based measure scheme for aviation. The actions of individual States should be documented in State Action Plans.

Action: The Assembly is invited to recommend a comprehensive approach to address the impacts of aviation on climate, including:

a) continued support for efforts to develop new aircraft technology;
b) completion of development and adoption of an aircraft CO_2 standard;
c) implementation of operational improvements, including Aviation System Block Upgrades (ASBUs);
d) support States in the development and deployment of sustainable alternative fuels;
e) work towards the development of a global market-based measure with the Council making a recommendation in 2016; and
f) reaffirm commitment to submit State action plans and recommend enhancement of those plans, including providing periodic updates.

Strategic Objectives:	This working paper relates to Strategic Objective C: Environmental Protection and Sustainable Development of Air Transport.
Financial implications:	No additional resources required.
References:	Assembly Resolution A37-19, Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change.

1. INTRODUCTION

1.1 The United States is committed to fostering the sustainable growth of aviation while also ensuring the protection of the environment. As part of our commitment to protect the environment, the United States has a comprehensive approach to addressing the climate impacts of aviation, and supports further progress on a global approach in ICAO. In June 2013, President Obama laid out a detailed climate action plan for the United States, which included a commitment to developing a global approach in ICAO to address the impacts of aviation on climate.

1.2 Consistent with U.S. objectives, ICAO has a strategic objective of environmental protection and sustainable development of air transport, and has a strong track record of developing policy, standards and guidance to address the environmental impacts of aviation, including the effects of noise, emissions that impact local air quality, and climate change impacts.

1.3 In 2010, the 37th ICAO Assembly took a significant step forward on climate with the adoption of Resolution A37-19, which set forth two goals for aviation: 1) to achieve a global annual average fuel efficiency improvement of 2 per cent until 2020 and an aspirational global fuel efficiency improvement rate of 2 per cent per annum from 2021 to 2050; and 2) a collective medium term global aspirational goal of keeping the global net carbon emissions from international aviation from 2020 at the same level.

1.4 The United States has committed to similar goals for U.S. aviation including an aspirational goal of carbon neutral growth in 2020 relative to a 2005 baseline (which is a more ambitious baseline than the ICAO goal), 2 per cent annual fuel efficiency improvement, and the use of 1 billion gallons of sustainable alternative aviation jet fuels in 2018.

1.5 ICAO, through Resolution A37-19, and the United States, through our action plan, set ambitious targets for reducing the climate impacts of aviation. These targets must be met through a comprehensive approach, undertaken by member States in collaboration with non-Government stakeholders, to reduce aviation emissions. Actions include the development of new aircraft technology and technology standards, operational improvements, development and deployment of sustainable alternative jet fuels, and further consideration of and work towards the development of market-based measures (MBMs). State action plans that identify climate goals and actions of member States are also vital to demonstrating progress towards the ICAO goals. The work conducted to-date should be considered as the basis for moving forward and making further progress toward the ICAO goals.

2. DISCUSSION

2.1 ICAO has achieved substantial progress in pursuing efforts to address the impacts of aviation on climate, but further work is necessary to achieve ICAO's goals. ICAO should continue to pursue a comprehensive approach to reducing greenhouse gas emissions from aviation including through encouraging aircraft technology development, implementing operational improvements, assisting States in the development and deployment of sustainable alternative fuels, completing development and adoption of an aircraft CO_2 standard, conducting further work towards the development of a global market-based measure scheme, and enhancing State action plans.

2.2 Technology: The Committee on Aviation Environmental Protection has made substantial progress toward the development of a CO_2 standard for aircraft, including the recommendation of a metric system that will form the basis of the standard. The United States is committed to completing the aircraft

CO_2 standard and believes that it will serve as an important element of the comprehensive approach to reducing greenhouse gas emissions. The United States is also focused on stimulating the introduction of new and more efficient technologies, such as through programs like the Federal Aviation Administration's Continuous Lower Energy Emissions and Noise Reduction (CLEEN) Program and NASA's Environmentally Responsible Aviation (ERA) Project. The CLEEN program is a collaborative partnership with five aviation manufacturers to develop technologies that will reduce emissions and fuel burn, and expedite the integration of these technologies into current aircraft. Created in 2010, ERA is a six-year effort with the aim of reducing mission fuel burn by 50 per cent. The United States encourages other countries to undertake similar programs to stimulate the development and introduction of new aircraft technology.

2.3 Operational Measures: Improved air traffic management and operational measures are key elements to reducing aviation emissions. In the United States, we are implementing our Next Generation Air Transportation System plan to overhaul and update our air traffic system, which will result in a number of improvements for the aviation system, including increased efficiency and reduced emissions. Through the Global Air Navigation Plan, ICAO is pursuing system-wide improvements through the Aviation System Block Upgrades. While recognizing that initiatives to improve and enhance operations have many benefits beyond just environment, it is important to pursue and account for the emissions reductions associated with these efforts.

2.4 Sustainable Alternative Jet Fuels: The development and deployment of sustainable alternative fuels is another area that has potential for emissions reductions and where the United States has undertaken noteworthy action. The United States has submitted a separate paper to this Assembly describing some of our recent work on sustainable alternative jet fuels. ICAO has played a complementary role in facilitating States' efforts and sharing information regarding best practices. The United States welcomes the continued supporting role of ICAO in assisting States in their efforts to develop and deploy sustainable alternative fuels for aviation.

2.5 Market-Based Measures: MBMs are another important complementary element for consideration in reducing greenhouse gas emissions from aviation and achieving ICAO goals. Resolution A37-19 called for assessment of the feasibility of a global MBM scheme, as well as development of a framework for market-based measures. The United States, along with a number of other countries and observers, supported technical work led by the ICAO Secretariat to assess the feasibility of a global MBM scheme and consider elements of a framework. The United States supports the results of the expert work, and in particular, the finding that MBMs are technically feasible.

2.5.1 Moving forward, the United States believes that it is necessary and appropriate to build on the work already completed and to work towards the development of a global MBM scheme with the Council making a recommendation on such a scheme at the 39th Assembly in 2016. Future work would include, but not be limited to, development of a common approach to the monitoring, reporting and verification of emissions, establishment of acceptable types of carbon credits that would be eligible for compliance with a market-based measure, and development of approaches to address special circumstances and respective capabilities.

2.5.2 Regarding a framework for market-based measures, the United States supports the adoption of a framework. This framework should provide guidance to States and Regions for the implementation of MBMs in the absence of a global MBM scheme.

2.6 Action Plans: In 2010, States made a voluntary commitment to prepare and submit action plans to ICAO detailing actions taken by states to reduce greenhouse gas emissions and achieve the ICAO

goals. The United States strongly supported the action plan commitment and, along with many other States, submitted our action plan to ICAO in June 2012. Action plans serve as an effective tool to highlight the ongoing efforts and future plans of individual ICAO States to address the climate impacts of aviation and to make progress toward the ICAO goals. The United States supports building on and improving the action plan commitment by recommending that States submit and update their plans every three years from June 2012, and in order to be most effective, the action plans should be made public by States.

3. CONCLUSION

3.1 Reducing the climate impacts of international aviation is a critical element of achieving ICAO's strategic objective of environmental protection and sustainable development of air transport. To meet ICAO goals and achieve climate reductions, ICAO should continue to pursue a comprehensive approach, including efforts to encourage development of new aircraft technology, implement operational improvements, complete development and adoption of an aircraft CO_2 standard, develop and deploy sustainable alternative fuels, and work towards the development of a global MBM scheme for aviation, and enhancing State action plans.

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