



CONFERENCE ON AVIATION AND ALTERNATIVE FUELS

Rio de Janeiro, 16 to 18 November 2009

DECLARATION AND RECOMMENDATIONS

(Presented by the Secretariat)

SUMMARY

This paper proposes a Declaration and related Recommendations, based upon the discussions on Agenda Items 1 through 4, for the consideration of the CAAF/09.

Action by the CAAF/09 is in paragraph 2.

1. INTRODUCTION

1.1 A High-Level Meeting on International Aviation and Climate Change (HLM-ENV/09) was held at ICAO headquarters from 7 to 9 October 2009. The Meeting acknowledged that alternative fuels can be a key element toward reducing the impact of international aviation on climate change and recommended that States and international organizations actively participate in the Conference on Aviation and Alternative Fuels in November 2009 (CAAF/09) in order to share their efforts and strategies to promote such work, and to update the 15th meeting of the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC COP15) in December 2009 with the results of CAAF/09 on the development and deployment of aviation and sustainable alternative fuels. In addition, the results of CAAF/09 will be used to inform the 37th Session of the ICAO Assembly in September 2010.

2. ACTION BY THE CONFERENCE

2.1 The Conference is invited to:

- a) approve the Declaration provided in Appendix A;
- b) approve the Recommendations provided in Appendix B; and
- c) agree that the Declaration and Recommendations approved by the CAAF, in conjunction with the outcomes of the HLM-ENV/09 provide the basis for the input of ICAO to the on-going negotiations under the UNFCCC.

APPENDIX A

The Conference on Aviation and Alternative Fuels, convened by the International Civil Aviation Organization (ICAO) in Rio de Janeiro, Brazil from 16 to 18 November 2009 with the participation from States and industry adopted the following declaration and recommendations:

DECLARATION OF THE CONFERENCE ON AVIATION AND ALTERNATIVE FUELS Rio de Janeiro, Brazil, 18 November 2009

Welcoming the Decision of the ICAO Council to fully accept the Programme of Action on International Aviation and Climate Change, which includes global aspirational goals in the form of fuel efficiency, a basket of measures and the means to measure progress, as an important first step in the work of the Member States of ICAO to address greenhouse gas (GHG) emissions from international aviation;

Whereas the High-Level Meeting on International Aviation and Climate Change recommended inter alia that States and international organizations actively participate in the Conference on Aviation and Alternative Fuels to share their efforts and strategies to promote such work, and to update the 15th meeting of the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC COP15) in December 2009;

Noting that the introduction of sustainable alternative fuels for aviation will help to address issues of environment, economics, and supply security;

Noting the very limited availability of qualified alternative fuels for aviation;

Noting that sustainable alternative fuels for aircraft can be produced from a wide variety of feedstocks for use in global aviation, suggesting that many regions are candidate production locations;

Acknowledging that sustainable alternative fuels for aviation may offer reduced lifecycle CO₂ emissions compared to the lifecycle of conventional aviation fuels;

Acknowledging that sustainable alternative fuels for aviation may also offer benefits to surface and local air quality;

Acknowledging that the technology exists to produce substitute, sustainable fuels for aviation that take into consideration world's food security, energy and sustainable development needs;

Recognizing that the production of sustainable alternative fuels for aviation could promote new economic opportunities;

Recognizing the need for a common definition of sustainability requirements at the international level;

Recognizing that aviation is a highly technology driven industry that is responsive to the development and introduction of new technologies;

Recognizing that industry has successfully demonstrated the technological feasibility of using sustainable alternative jet fuel blends in flight tests without affecting safety;

Welcoming the progress achieved through regional initiatives as a result of the cooperation among the major aviation sustainable alternative fuel stakeholders;

Welcoming the activities of the Commercial Aviation Alternative Fuels Initiative (CAAFI), initiated by the United States and the Sustainable Way for Alternative Fuels and Energy in Aviation (SWAFEA), initiated by the European Commission;

Recognizing that sustainably-produced fuel derived from sugarcane is already being used in piston engine aircraft in Brazil;

Welcoming the pace at which new alternative fuels for aviation are being qualified and in particular, the qualification of aviation jet fuels containing synthesized hydrocarbons;

Recognizing that the ICAO Council will further elaborate on measures to assist developing States as well as to facilitate access to financial resources, technology transfer and capacity building including possible application of flexible mechanisms under UNFCCC, such as the Clean Development Mechanism (CDM), to international aviation;

Recognizing the urgent need for measures to facilitate access to financial resources, technology exchange, and capacity building specific to aviation alternative fuels;

Acknowledging that the demand for sustainable fuels extends beyond international aviation, but that aircraft have unique fuel specification requirements;

Recognizing the need to encourage supply chain stakeholders to ensure that sustainable alternative fuels are made available to aviation;

Acknowledging that with sufficient incentive and supply, international aviation could deliver a substantial CO₂ reduction benefit from the use of sustainable alternative fuels for aircraft; and

Recognizing that due to its small network of fuel distribution points and its predictable demand international aviation is well suited to becoming a global first adopter of sustainable alternative fuels.

Declares that:

1. ICAO and its Member States endorse the use of sustainable alternative fuels for aviation, particularly the use of drop-in fuels in the short to mid-term, as an important means of reducing aviation emissions;
2. ICAO establish a Global Framework for Aviation Alternative Fuels (GFAAF) on aviation and sustainable alternative fuels to communicate what individual and shared efforts expect to achieve with sustainable alternative fuels for aviation in the future for consideration by the 37th Session of the ICAO Assembly. The GFAAF will be continually updated;
3. Member States and stakeholders work together through ICAO and other relevant international bodies, to exchange information and best practices, and in particular to reach a common definition of sustainability requirements for alternative fuels;
4. Member States are encouraged to work together expeditiously with the industry to foster the research, development, deployment and usage of sustainable alternative fuels for aviation;
5. Funding efforts that support the study and development of sustainable alternative fuels and other measures to reduce GHG emissions, in addition to the funding for research and technology programmes to further improve the efficiency of air transport, be maintained or improved;

6. Member States are encouraged to establish policies that support the use of sustainable alternative aviation fuels, ensure that such fuels are available to aviation and avoid unwanted or negative side effects, which could compromise the environmental benefits of alternative fuels;
7. ICAO Council should further elaborate on measures to assist developing States as well as to facilitate access to financial resources, technology transfer and capacity building;
8. There is an urgent need for measures to facilitate access to financial resources, technology exchange, and capacity building specific to sustainable aviation alternative fuels;
9. ICAO takes the necessary steps with the aim of considering a framework for financing infrastructure development projects dedicated to sustainable aviation alternative fuels and incentives to overcome initial market hurdles;
10. ICAO continue to facilitate efforts to develop a lifecycle analysis framework for comparing the relative GHG emissions from sustainable alternative fuels to the lifecycle of conventional fuels for aviation; and
11. ICAO and its Member States should strongly encourage wider discussions on the development of alternative fuel technologies and support the use of sustainable alternative fuels, including biofuels, in aviation in accordance with national circumstances.

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APPENDIX B

RECOMMENDATIONS BY CAAF

The Conference on Aviation and Alternative Fuels has recommended, in order to progress the work leading to the upcoming 37th Session of the ICAO Assembly in 2010 and beyond, that the ICAO Council:

Present the CAAF2009 Declaration and Global Framework for Aviation Alternative Fuels (GFAAF) in conjunction with the outcomes of the High-level Meeting on International Aviation and Climate Change (HLM-ENV) as the ICAO input to COP15.

This input shall:

1. *Highlight* the significance of the CO₂ reduction potential from sustainable alternative aviation fuels in its position to COP15;
2. *Seek support* from States at COP15 for the development and implementation of these fuels;
3. *Encourage* Member States to inform ICAO of any plans to establish sustainable alternative aviation fuel production facilities in the short, medium, and long-term;
4. *Incorporate* those plans into the ICAO Global Framework for Aviation Alternative Fuels; and
5. *Promote* the production and use of sustainable alternative fuels for aviation.

Ensure that a programme for sustainable alternative fuels for aviation is presented for consideration during the next Assembly.

Input to the Assembly would:

6. *Encourage* Member States to develop policy actions to *accelerate* the appropriate development, deployment and use of such fuels;
7. *Encourage* Member States to work together through ICAO and other relevant international bodies, to exchange information and best practices, and in particular to reach a common definition of sustainability requirements;
8. *Encourage* Member States to work together expeditiously with the industry to foster the development and implementation of sustainable alternative fuels for aviation;
9. *Recommend* that policy recommendations and decisions considered by ICAO and individual States consider environmental, social and economic sustainability aspects, while also taking into account technical requirements including safety aspects;
10. *Encourage* Member States and *invite* industry to actively participate in further work on sustainable alternative fuels for aviation facilitated by ICAO; and

11. *Inform* the Assembly of initiatives by States and other organizations related to sustainable alternative fuels for aviation.

Promote the use of sustainable alternative fuels for aviation.

The ICAO Council:

12. *Resolves* that the use of sustainable alternative fuels for aviation is an important opportunity to reduce aviation CO₂ emissions;
13. While *noting* the past and ongoing efforts of the aviation sector in developing and deploying sustainable alternative fuels for aviation, and their potential for substantially reducing aviation's CO₂ emissions, *affirms* that the prospect of reduction in CO₂ emissions through sustainable alternative fuels should not lead to any relaxation or reduction of efforts related to other measures to reduce the environmental impact of aviation;
14. *Encourages* manufacturers to pursue fuel cell technology with the aim of providing energy for on-board electrical supply and/or on ground operations; and
15. *Encourages* relevant industry stakeholders to work with financial institutions and fuel producers to ensure that adequate supplies of sustainable alternative fuels for aviation are introduced expeditiously.

Facilitate exchange of information on financing and incentives for sustainable alternative fuels for aviation programmes working with the relevant UN bodies.

The ICAO Council:

16. *Commits* to further elaborate on measures to assist developing States as well as to facilitate access to financial resources, technology transfer and capacity building;
17. *Recognizes* the urgent need for measures to facilitate access to financial resources, technology exchange, and capacity building specific to aviation alternative fuels;
18. *Commits* to encouraging cooperation among stakeholders for the development and deployment of sustainable alternative fuels for aviation with the aim of ensuring adequate financing for the successful execution of those programs;
19. *Commits* to take the necessary steps with the aim of considering a framework for financing of infrastructure development projects dedicated to aviation alternative fuels and incentives to overcome initial market hurdles;
20. *Encourages* Member States to consider measures to support sustainable aviation alternative fuels research and development, investments in new feedstock cultivations and production facilities, as well as incentives to stimulate commercialisation and use of sustainable alternative fuels for aviation to accelerate the reduction of aviation CO₂ emissions; and
21. *Recommends* funding efforts that support the study and development of sustainable alternative fuels and other measures to reduce GHG emissions, in addition to the funding for research and technology programmes to further improve the efficiency of air transport, be maintained or improved.

Facilitate standardized definitions and processes to support the development of sustainable alternative fuels for aviation.

The ICAO Council:

22. *Recommends* the use of life cycle analysis according to internationally harmonized methodologies as the appropriate means for comparing the relative GHG emissions from sustainable alternative jet fuels to conventional jet fuel;
23. *Encourages* Member States, working with industry, to develop an agreed methodology for determining the characteristics of blended jet fuels at the point of fuel delivery to aircraft operators;
24. *Considers* the use of the global industry qualification process as the appropriate means for approving a new drop-in alternative jet fuel;
25. *Adopts* the Fuel Readiness Level (FRL) as a best practice to govern communication of technology maturity leading to qualification, production and, deployment readiness; and
26. *Encourages* Member States to continue the development of sustainability criteria for sustainable aviation fuels that are consistent with any general sustainability criteria for fuels.

Facilitate the exchange of information regarding sustainable alternative fuels for aviation.

The ICAO Council:

27. *Facilitate* the dissemination of best practices for cost benefit analysis methodology appropriate for evaluating sustainable alternative fuels for aircraft;
28. *Directs* the Secretariat to establish a web site to facilitate the exchange of information between States and International Organizations interested in advancing sustainable alternative fuels for aircraft; and
29. *Recommend* that Member States and International Organizations share best practices and techniques that can apply to the development and scale up of the production of sustainable alternative fuels for aircraft through ICAO.

Facilitate research activities to expand the global knowledge base on sustainable alternative fuels for aviation.

The ICAO Council:

30. *Recommends* that ICAO further explore the environmental benefits and trade-offs of sustainable alternative fuels with reference to surface and local air quality; and
31. *Recommends* that ICAO actively monitor the overall process already engaged in the study, development and approval of alternative fuels for aviation.