



## Note by the International Civil Aviation Organization (ICAO)

### UPDATE ON THE CONTINUING PROGRESS OF ICAO ON INTERNATIONAL AVIATION AND CLIMATE CHANGE

#### Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA) Intersessional Informal Consultations

10 to 14 August 2009 - Bonn, Germany

#### Background

1. The International Civil Aviation Organization (ICAO) is the global forum for all issues relating to international civil aviation and, as such, has been addressing the environmental aspects of the sector since the late 1960s. ICAO has developed Policies, Standards and Recommended Practices to effectively reduce emissions from aviation.

2. Ongoing efforts to further reduce aviation's contribution to climate change are based upon three approaches: reduction of emissions at source through technological innovation (cleaner and more efficient airframes and engines); reduction of emissions through operational measures (e.g. more efficient air traffic management); and through market-based measures. More recently, ICAO has also been exploring the use of alternative fuels to reduce aviation emissions.

3. The 36th Session of the ICAO Assembly in September 2007 recognized the urgency and critical importance of addressing aviation emissions that contribute to global climate change and re-emphasized the need for ICAO to continue to provide leadership in this area. Accordingly, it called for the formation of the Group on International Aviation and Climate Change (GIACC) to develop an *ICAO Programme of Action on International Aviation and Climate Change*, and requested the Organization to develop concrete proposals to the UNFCCC. The Assembly further requested the Organization to convene a High-level Meeting at which GIACC's recommendations would be considered.

4. The GIACC was formed in January 2008 and comprised of 15 senior government officials representative of all ICAO regions with the equitable participation of developing and developed States. The fourth and final meeting of the GIACC took place at the end of May 2009. Consistent with the Assembly Resolution, three key elements of the Programme of Action addressed by the GIACC were: 1) global aspirational goals for international aviation, 2) measures to achieve emissions reductions, and 3) means to measures progress.

#### Outcome of GIACC

5. The GIACC recommended a global aspirational goal of 2% annual improvement in fuel efficiency of the international civil aviation in-service fleet. This would represent a cumulative improvement of 13% in the short-term (2010 to 2012), 26% in the medium-term (2013 to 2020) and about 60% in the long-term (2021 to 2050), from a 2005 base level. It also considered the possibility of establishing goals of carbon neutral growth for the medium term and carbon emissions reduction for the

long term, and although it did not reach consensus on these issues, the GIACC recommended that further work be undertaken by ICAO on both medium and long-term goals .

6. The GIACC agreed that the goals should be collectively achieved by States without specific obligations to individual States. The different circumstances, respective capabilities and contribution of developing and developed States to the concentration of aviation GHG emissions in the atmosphere will determine how each State may contribute to achieving these global aspirational goals.

7. Moreover, the GIACC recommended a basket of measures from which States may choose to reduce international aviation emissions, covering aircraft-related technology development, improved air traffic management and infrastructure use, more efficient operations, economic/market-based measures, and regulatory measures. Each State would have the ultimate authority and responsibility to define a portfolio of measures appropriate to its circumstances, consistent with the global aspirational goals, and to develop and report to ICAO individual action plans. For developing countries, measures would be developed to facilitate their access to assistance (financial resources, technology, capacity building).

8. The GIACC expressed support for the development of a CO<sub>2</sub> standard for new aircraft types and the ICAO Council has tasked the Secretariat with pursuing work in this regard.

9. Given diverging views on the application of market-based measures across national borders, the GIACC recommended that the ICAO Council establish a process to develop, expeditiously, a framework for market-based measures in international aviation, taking into account the conclusions of the High-level Meeting, which is to be held in October 2009, and the outcome of the UNFCCC COP15 in December 2009.

10. The need for accurate and complete data on aviation traffic and fuel burn was recognized and further work by the Secretariat to develop and implement a mechanism under Article 67 of the Chicago Convention was recommended by the GIACC, which also recommended the provision of technical and financial support to developing countries to assist them in this regard.

11. The Programme of Action agreed by consensus in the GIACC (**Appendix**) was presented and fully accepted by the ICAO Council at the end of June 2009. These actions ensure that further progress on addressing aviation CO<sub>2</sub> emissions is forthcoming.

### **The Way Forward to COP15 – High-level Meeting on International Aviation and Climate Change**

12. The 36th Session of the ICAO Assembly requested the convening of a High-level Meeting to review the Programme of Action recommended by the GIACC, and to develop concrete proposals to be provided to the UNFCCC COP15 meeting. The Council has since decided to hold this meeting prior to COP15, from 7 to 9 October 2009, with a view to developing a well-structured, long-term, globally acceptable approach to address emissions from international aviation with the intention of providing information to COP15 in December 2009.

13. The High-level Meeting will offer a forum for States and international organizations to facilitate an exchange of views with the objective of reaching a consolidated agreement on how to best address emissions from international aviation. It will address the issues of aspirational goals and implementation option; strategies and measures to achieve emissions reductions; means to measures progress as well as financial resource aspects. The final conclusions and recommendations of the meeting are expected to ultimately reflect the shared vision and strong will of all 190 ICAO Contracting States on this matter.

14. Building upon the first steps taken by GIACC, ICAO will continue to work towards facilitating a more ambitious agreement at the High-level Meeting.

#### **Conference on Aviation and Alternative Fuels**

15. In addition to technical, operational and market-based measures, the use of alternative fuels offers a very promising option for reducing aviation emissions. Significant progress has been made by the alternative fuel producers in developing a fuel that meets aviation standards and by the airlines and manufacturers in demonstrating the viability of the fuel in actual, long-range flights in commercial aircraft.

16. In February 2009, an ICAO Workshop on Aviation and Alternative Fuels (<http://www.icao.int/waaf2009/>) explored potential options and examined challenges to development and deployment, as well as initiatives to promote international cooperation, related to aviation alternative fuels.

17. Furthering the above-mentioned initiatives, ICAO will hold a Conference on Aviation and Alternative Fuels from 16 to 18 November 2009 in Rio de Janeiro, Brazil. The conference will consider establishing an internationally agreed roadmap to facilitate the implementation of alternative fuels for aviation. The results of the conference should also prove of interest to COP15.

#### **Concluding remarks**

18. All eyes are now turned to ICAO, as the UN body responsible for international aviation, to deliver concrete input to COP15 on how international aviation emissions should be treated in the new agreement. The Organization, building upon forty years of experience on setting policies, Standards and recommended practices on aviation and the environment, has set in motion a specific strategy to respond to this challenge. The Organization wants to ensure that States will be provided with sound information regarding the assessment of current and future aviation emissions and the policy options available to address it, so that decisions on international aviation emissions will be taken on solid grounds.

19. It established the GIACC to prepare the Programme of Action on Aviation and Climate Change and decided to hold a High Level meeting on Aviation and Climate Change from 7 to 9 October 2009, prior to COP/15, in order to facilitate the dialogue and agreement of Parties on a global approach to a sustainable aviation future.

20. ICAO remains committed to its close collaboration with the UNFCCC and its subsidiary bodies, and continues to make every effort to limit or reduce the impact of international aviation on climate change.

21. The next update ICAO provides to the UNFCCC will focus on the results of the October High-level Meeting on Aviation and Climate Change.

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## APPENDIX

### GIACC PROGRAMME OF ACTION

#### **This Programme of Action was adopted by consensus in GIACC**

1. GIACC recognizes the critical importance of addressing climate change, and thus recognizes the need to strive to find ways and means to limit or reduce the impact of greenhouse gas emissions from international civil aviation on the global climate.
2. GIACC agreed that decisions of this group shall not prejudge the outcome of the negotiations under the UNFCCC and Kyoto Protocol.
3. GIACC acknowledges the principles and provisions on common but differentiated responsibilities and respective capabilities, and with developed countries taking the lead under the UNFCCC and the Kyoto Protocol.
4. GIACC acknowledges the principles of non-discrimination and equal and fair opportunities to develop international aviation set forth in the Chicago Convention.
5. While there was no consensus, some GIACC Members are of the view that the Programme of Action does not address the commitments under article 2.2 of the Kyoto Protocol.
6. Notwithstanding the substantial fuel efficiency improvements achieved by the aviation sector and the impact of the current economic downturn, GIACC recognises that the projected growth of international air traffic will outweigh the gains made by currently projected fuel efficiency improvements resulting in an average year over year increase in total fuel burned.
7. GIACC recommends a strategy for efforts to achieve global aspirational goals.
8. The short term goal to 2012 agreed by the GIACC is for improvements in the in-service fleet average fuel efficiency of international aviation operations at the rate of 2% per year, calculated on the basis of volume of fuel used per Revenue Tonne Kilometre performed.
9. Agreement was reached in GIACC on goals in the form of fuel efficiency for the medium and longer terms. Specifically, the Group recommends an annual improvement of 2% over the medium term until 2020. For the long term, the GIACC recommends an aspirational global fuel efficiency improvement rate of 2 % per annum from 2021 to 2050.
10. These goals are established on the basis of forecasts and GIACC recommends that they be reviewed on a periodic basis in light of scientific and technological advances. To achieve these goals will require a significant investment in technological development.
11. In addition to fuel efficiency goals, the group considered goals that could indicate stronger ambition. For the medium term, the discussions focused on a goal of carbon neutral growth by 2020. For the long term, the GIACC discussed carbon emissions reductions. No consensus was reached in either case, and GIACC recommends further work on both medium and long term goals.
12. While there was no consensus, some GIACC members are of the view that it would be necessary and feasible to achieve carbon neutral growth in the medium term, relative to a baseline of 2005, and to achieve substantial CO<sub>2</sub> emissions reduction for the long term for global international aviation.

13. Under the recommended strategy, goals would not attribute specific obligations to individual States. The different circumstances, respective capabilities and contribution of developing and developed States to the concentration of aviation GHG emissions in the atmosphere will determine how each State may contribute to achieving the global aspirational goals.
14. GIACC recommends that the Council should adopt the basket of measures developed by GIACC, from which States may choose (<http://www.icao.int/>), covering aircraft-related technology development, improved air traffic management and infrastructure use, more efficient operations, economic/market-based measures, and regulatory measures. The basket includes measures to facilitate access to assistance, particularly for developing countries.
15. GIACC has provided an initial table showing the basket of measures, which can be further developed through ICAO. GIACC also recommends that ICAO should continue to develop, and update as necessary, guidance to States on the adoption of those measures, including measures to assist developing countries, as well as access to financial resources, technology transfer and capacity building.
16. GIACC acknowledges that there remains disagreement on the application of market-based measures across national borders. GIACC recommends that the ICAO Council establish a process to develop a framework for market-based measures in international aviation, taking into account the conclusions of the High-Level Meeting and the outcome of the UNFCCC COP-15 with a view to complete this process expeditiously.
17. GIACC recommends that Council should encourage States, to develop action plans which articulate the proposed approach in that State, and file those plans with ICAO.
18. GIACC recommends that Council direct the Secretariat to develop and implement a mechanism under Article 67 of the Convention to collect annually from States data on traffic and fuel consumption.
19. GIACC also recommends that Council seek to develop approaches for providing technical and financial assistance in the reporting process to developing countries.
20. GIACC also recommends that the Council seek to develop a CO<sub>2</sub> standard for new aircraft types.
21. The cumulative progress achieved by States on a global level should be reported by ICAO on a triennial basis to the Assembly.