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## **ASSEMBLY — 37TH SESSION**

### **REPORT OF THE EXECUTIVE COMMITTEE ON AGENDA ITEM 17 (Section on Climate Change)**

(Presented by the Chairman of the Executive Committee)

The attached report on Agenda Item 17 (Section on Climate Change) has been approved by the Executive Committee. Resolution 17/2 is recommended for adoption by the Plenary.

*Note.— After removal of this covering sheet, this paper should be inserted in the appropriate place in the report folder.*

(18 pages)

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**Agenda Item 17: Environmental protection**

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**17.3 CLIMATE CHANGE**

17.3.1 The Council submitted WP/23 and Corrigendum No. 1 on the progress in the development and deployment of sustainable alternative fuels for aviation. The 36th Session of the Assembly had encouraged the Council to promote improved understanding of the potential use and related emissions impacts of alternative aviation fuels. In response, ICAO organized the Workshop on Aviation and Alternative Fuels in February 2009 and the Conference on Aviation and Alternative Fuels (CAAF) in November 2009. CAAF approved a Declaration, Recommendations and the Global Framework for Aviation Alternative Fuels.

17.3.2 Drop-in alternative fuels have been proven to be a technically sound solution that could offer potentially significant environmental benefits. However, regulatory and financial frameworks are needed to ensure that such fuels are available in sufficient quantities and in a timely manner for use in aviation. Though not exclusive to aviation, the definition of sustainability criteria also remains a key issue. This was noted by several States and an Observer who also expressed the view that the focus on future work should be on those fuels that do not affect food security.

17.3.3 The Committee acknowledged the Organization's accomplishments in promoting the improved understanding of the potential use and emission effects of alternative fuels as requested by the last Assembly. It also supported the continued work of the Organization to facilitate, on a global basis, the promotion and harmonization of initiatives that encourage and support the development of sustainable alternative fuels for international aviation. It also agreed to consider the information in WP/23 and Corrigendum No.1, in particular the recommendations of the CAAF, for the update of Resolution A36-22.

17.3.4 In WP/27, the Council submitted a report on progress made since the 36th Session of the Assembly related to aviation environmental protection in other United Nations (UN) bodies. It contained information on developments emanating from the United Nations Framework Convention on Climate Change (UNFCCC) process, the International Maritime Organization (IMO), and the Intergovernmental Panel on Climate Change (IPCC).

17.3.5 Since the 36th Session of the Assembly, liaison has continued with other UN bodies, with a view to obtaining a better scientific understanding of aviation's impact on the environment as well as exploring cooperation and synergy in policy-making to limit or reduce aviation emissions. The Committee acknowledged the progress by the Organization in strengthening its cooperation with other UN bodies, and supported the continued cooperation of the Organization with these UN bodies. It also agreed to consider the information in WP/27 for the update of Resolution A36-22.

17.3.6 In WP/22, the Council submitted a report on ICAO's cooperation with other UN organizations involved in the Climate Neutral UN (CNUN) initiative, launched in 2007 by the UN Secretary General and endorsed by the UN Chief Executive Board.

17.3.7 In 2009, the UN system quantified its greenhouse gas (GHG) emissions for the first time. The inventory was prepared by using UNEP's Greenhouse Gas Calculator for emissions from facilities, operations and non-air travel, and ICAO's Carbon Emissions Calculator for aviation related emissions. ICAO tailored its Calculator to the special needs of the CNUN initiative and provided extensive support and training to all organizations involved in order to make the preparation of this emissions inventory possible. As air travel is responsible for nearly half of the total UN emissions, the improvement of the ICAO Calculator and the continued cooperation with other UN organizations is of paramount importance for the success of the CNUN initiative and for strengthening ICAO's leadership role on aviation related issues.

17.3.8 The Committee agreed to request the Council to continue to cooperate with the CNUN initiative and to remain at the forefront of developing methods and tools for quantifying aviation's GHG emissions. It also requested the Council to further develop and implement a strategy for reducing GHG emissions and enhancing in-house sustainability management practices, including the Emission Reduction Plan for 2011-2013 in line with the overall policy of the UN.

17.3.9 The Council submitted a report (WP/25) on progress made by ICAO in the field of international aviation and climate change since the 36th Session of the Assembly, as a reference for the revision and update of Appendices I through L of Resolution A36-22. In response to the request by the 36th Session of the Assembly to develop an ICAO Programme of Action on International Aviation and Climate Change, the Council convened the High-level Meeting on International Aviation and Climate Change (HLM-ENV) in October 2009 to review the Programme of Action developed by the Group on International Aviation and Climate Change (GIACC). HLM-ENV fully endorsed the GIACC's Programme of Action and approved a Declaration and Recommendations, which include:

- a) a global goal of 2 per cent annual improvement in fuel efficiency until the year 2050, and further exploration of the feasibility of more ambitious medium and long-term goals, including carbon-neutral growth and emissions reductions;
- b) development of a global CO<sub>2</sub> Standard for aircraft and facilitation of further operational changes to reduce aviation emissions;
- c) development of a framework for market-based measures in international aviation;
- d) further elaboration on measures to assist developing States and to facilitate access to financial resources, technology transfer and capacity building; and
- e) submission of States' action plans, outlining their policies and actions, and annual reporting of data to ICAO on their aviation fuel consumption.

17.3.10 The Declaration and Recommendations by the HLM-ENV strike a balance between the views of all member States and represent their collective will and determination to act in a coherent and cooperative manner to address international aviation and climate change. It is the first and only globally-harmonized agreement from a sector on a goal to address its CO<sub>2</sub> emissions.

17.3.11 The outcome of the HLM-ENV, together with that of the CAAF, was provided to COP15 in December 2009. Although no specific decision was taken on how to address GHG emissions from

international aviation during COP15, it provided ICAO with an opportunity to make further progress on the recommendations from the HLM-ENV and the CAAF and to provide meaningful contribution to the negotiation process on a future climate change agreement.

17.3.12 The President of the Council created an informal group, composed mainly of Directors General of Civil Aviation from 19 States, which was tasked with assisting him in the preparation of a draft Resolution text on international aviation and climate change.

17.3.13 The group met in March and June 2010, and focused on three key issues, where further progress from the recommendations of the HLM-ENV could be achieved, namely: 1) exploration of more ambitious goals; 2) development of a framework for market-based measures; and 3) elaboration on measures to assist States. It also discussed the development and deployment of sustainable aviation alternative fuels, the potential impacts of climate change on international aviation operations, and ICAO's contribution to the CNUN initiative.

17.3.14 At its 190th session, the Council considered a draft Resolution text on climate change. After substantial exchange of views, it was not able to agree on a text to be forwarded to the Assembly.

17.3.15 In WP/188, the Kingdom of Bahrain expressed its concerns on expected negative effects of imposing taxes on all airlines, particularly those of developing countries, and requested States that intend to impose such actions to reconsider and postpone such actions until the subject is discussed and guidance is agreed in ICAO. It stressed that States should place priority on effective means to reduce aviation emissions, such as shortening air routes and encouraging the use of alternative fuels.

17.3.16 China presented WPs 181, 272 and 304, as a contribution toward reaching progress at this Assembly on international aviation and climate change. In particular, China highlighted four points which reflected the main message in these papers: ICAO should be guided by the principle of common but differentiated responsibilities (CBDR) under the UNFCCC; the next task for ICAO is to assist States to achieve the goal of 2 per cent annual fuel efficiency improvement; the goal of carbon neutral growth is not realistic and not fair for developing States; and no States should be allowed to take unilateral actions on market-based measures.

17.3.17 In WP/109, Colombia stressed the leadership role that ICAO should continue to play by seeking the cooperation of its member States in managing the impact of aviation emissions by means of technological and operational improvements. Colombia also supported the ICAO guidance on emissions trading for international aviation, so long as the airlines of other States become part of such a scheme by mutual consent, respecting each State's right to determine the best way to manage the aviation emissions of their airlines.

17.3.18 In WP/216, Indonesia provided information on its position and efforts on aviation and climate change. It supported the development and submission to ICAO of States' action plans on initiatives to be undertaken to manage aviation's impact on climate change, as well as annual updates on traffic data and fuel usage. Indonesia proposed that the Assembly consider the establishment of three or four pilot projects to help form the guidance to individual States or groups of States in developing action plans.

17.3.19 In WP/275, the Russian Federation highlighted problematic issues related to implementing market-based measures for international aviation and requested States to refrain from unilaterally introducing market-based measures before ICAO came to a global decision. The paper also included a proposal in relation to the provision of adequate funding for ICAO environmental programmes.

17.3.20 In WP/251, South Africa supported ICAO's leadership role in international aviation and climate change, with the successful development of the Programme of Action. The paper mentioned that opportunities continue to exist to address aviation emissions through technological and operational measures, and market-based measures must be based on the principle of CBDR and the principle of consensus without any unilateral action. It also introduced the actions undertaken by South Africa to reduce aviation emissions and supported the provision of assistance by ICAO to developing States in the area of financial resources, technology transfer and capacity building to strengthen their ability to implement the Programme of Action.

17.3.21 In WP/185, the United States provided an update on progress made and future plans for testing, qualifying for use and deploying sustainable alternative aviation fuels. The paper stressed the need to encourage States to collaborate on the development, testing and demonstration of advanced alternative aviation fuels. It reaffirmed the important role of ICAO to facilitate the international exchange of information among States regarding sustainable alternative aviation fuels research and development, qualification and financing and commercialization efforts. It also encouraged ICAO to stay apprised of efforts of experts from States and relevant international organizations engaged in activities to assess the lifecycle of GHG emissions and the sustainability of alternative aviation fuels.

17.3.22 In WP/186, Canada, Mexico and the United States expressed their position on a more ambitious global goal and a framework for market-based measures in international aviation. They recognized that the matter of identifying a more ambitious global goal beyond the fuel efficiency improvement and the issue of how States develop and consult on market-based measures applied to international aviation were the central points of discussion under the President's informal group, and underscored the need for an agreement on these matters as a package.

17.3.23 They proposed a more ambitious global goal of carbon neutral growth by 2020 compared to 2005 levels, serving as a concrete demonstration of the commitment of ICAO and its member States to contribute to efforts to limit the increase in global average temperature to 2°C. They also highlighted the need to recognize that, while all States would strive to meet this goal, emissions from some States may increase due to anticipated growth in their international air traffic until lower emitting technologies, fuels, and other measures are developed and deployed. It was also suggested that all States would be encouraged to submit action plans to ICAO by mid 2012 to contribute to achieving the collective goals, while those States below a *de minimis* threshold of international aviation activity would be welcomed, but not expected, to submit action plans.

17.3.24 Regarding the framework for market-based measures, in particular the issue of mutual agreement between States for the application of emissions trading to international aviation, they suggested that States seeking to apply emissions trading to international aviation engage other States whose carriers would be affected, with a view to seeking a mutually agreeable way forward, if possible. They also suggested that States receiving such proposals engage constructively with the proposing States.

17.3.25 In WP/240, Costa Rica expressed its interest in the development and implementation, in collaboration with Spain, of an action plan which would include a package of measurements and actions that would be implemented in the different processes of air transport to reduce its GHG emissions. It mentioned that the action plan to be established by Costa Rica would be presented in the near future to ICAO with the intention of benefiting other States with common interests and responsibilities to face the challenges of addressing climate change, from its initiative. It also supported WP/216 by Indonesia and suggested the initiative by Costa Rica be considered as one of the pilot projects for ICAO.

17.3.26 In WP/108, Belgium, on behalf of the European Union (EU) and its Member States and by the other States Members of the European Civil Aviation Conference (ECAC) and by Eurocontrol, supported ICAO's comprehensive approach to address aviation emissions, and called on all States to contribute to the global efforts by taking action without delay to bring about significant reductions in the climate impacts of aviation. The EU stressed the need to acknowledge that the increase in global average temperature above pre-industrial levels to no more than 2°C; recognize that 2% annual fuel efficiency improvements will not deliver the necessary emissions reductions; and adopt medium and long term goals for emissions reduction consistent with the 2°C target. Accordingly, the EU has advocated that the global reduction target for greenhouse gas emissions from international aviation should be a 10 per cent reduction by 2020 compared to 2005 levels.

17.3.27 As part of the comprehensive approach, the EU regards market-based measures as indispensable to the achievement of properly ambitious goals. The EU-ETS legislation foresees that, where a third country takes measures to reduce the climate change impact of flights departing from its airports, the EU will consider available options in order to provide for optimal interaction between the EU scheme and that country's measures. The EU therefore encourages other countries to adopt measures of their own and is ready to engage in bilateral discussions with any country that has done so. The legislation also makes it clear that if there is agreement at ICAO on global measures, the EU will consider adapting its ETS accordingly. The EU stressed that it is important for ICAO to develop a global framework for market-based measures which will facilitate and not impede effective action. A future global framework may well develop through the linking or mutual recognition of measures developed at a State and regional level, and these should therefore be welcomed, as contributing to the global framework.

17.3.28 In WP/316, Belgium, on behalf of the European Union (EU) and its Member States and by the other States Members of the European Civil Aviation Conference (ECAC) and by Eurocontrol, explained that some States have smaller aviation markets and make lower contributions to total GHG emissions from international aviation, and these States may be expected to contribute differently towards the global goal. European States were ready to have this recognized in the Resolution through the inclusion of the *de minimis* provision, which would make clear that States below a certain threshold would not be expected to take early action to contribute towards the global goal. They believed that such an approach can provide a basis for reaching an agreement at this Assembly, and urged States to endorse the inclusion of such a provision in the Resolution as part of an overall framework which would facilitate effective actions to address international aviation emissions.

17.3.29 In WP/271 (Revision No. 1), Cuba and 21 Member States of the Latin American Civil Aviation Commission requested that the environmental issue of aircraft engine emissions be addressed through a gradual and consensual process led by ICAO, without unilateralism, and that the cooperation between all parties be promoted. The paper also supported the principle of CBDR, insofar as it does not compromise the economic and social development of developing and third world countries.

17.3.30 In WP/187 (Revision No. 1), the 53 Contracting States, members of the African Civil Aviation Commission (AFCAC) supported the Programme of Action developed by GIACC and re-emphasized the need to address GHG emissions from international aviation by employing a basket of measures which would include measures to facilitate access to assistance for developing States. They stressed that the principle of CBDR should be applied in all ICAO's efforts in mitigating aviation emissions, and requested the provision of assistance by ICAO to developing States in the area of financing, technology transfer and capacity building for the implementation of the Programme of Action and other efforts to limit or reduce aircraft emissions.

17.3.31 The African States also expressed their objection to unilateral actions on market-based measures by States or regions across national borders, while ICAO should continue to be the vehicle for driving and resolving all civil aviation matters related to the environment, including market-based measures.

17.3.32 In WP/217, the International Air Transport Association (IATA), on behalf of the Airports Council International (ACI), the Civil Air Navigation Services Organization (CANSO), IATA, the International Business Aviation Council (IBAC) and the International Coordinating Council of Aerospace Industries Associations (ICCAIA), emphasized the urgent need for States to agree on a global framework, with principles established by ICAO, as the most appropriate means of addressing CO<sub>2</sub> emissions from international aviation and avoiding conflicting and unilateral policy measures which lead to inefficiency. The collective aviation industry's targets include a 1.5 per cent annual average fuel efficiency improvement through 2020, carbon-neutral growth from 2020 and a trajectory towards halving net CO<sub>2</sub> emissions by 2050 compared to 2005. Reaching these ambitious targets would require a multifaceted approach with strong commitment and investment from all aviation stakeholders, including governments. The aviation industry proposed, as part of this global framework, the principles for the use of market-based measures for international aviation.

17.3.33 In WP/174, the World Tourism Organization (UNWTO) explained that it was seeking ways for tourism to both adapt to climate change and to mitigate emissions while reinforcing the contribution of the sector to socioeconomic development. In this context, the UNWTO provided a position statement on air passenger transport for consideration in developing a policy framework on international aviation and climate change.

17.3.34 The Committee noted the information provided in WP/117 by India and WP/241 by ACI.

17.3.35 The Secretary General presented WP/262, which contained a proposal for an Assembly Resolution that replaces Appendices I through L of Resolution A36-22, aiming at facilitating the deliberations during the Assembly.

17.3.36 The paper presented the progress of the work of the Organization in this area since the HLM-ENV, including the CAAF in November 2009, CAEP/8 in February 2010, and the Colloquium on Aviation and Climate Change in May 2010. It also described the work undertaken by the informal group established by the President of the Council to support the preparation of a draft Resolution text on international aviation and climate change, which focused on three key issues, where further progress requested by the HLM-ENV could be achieved, namely: 1) exploration of more ambitious goals, 2) development of a framework for market-based measures, and 3) elaboration on measures to assist States. The group also discussed the inclusion of new provisions to reflect progress on sustainable aviation

alternative fuels; the need to explore climate change impacts on international aviation operations; and ICAO's work related to the CNUN initiative.

17.3.37 The Secretary General emphasized the four key premises which were acknowledged by the Council as those on which work on international aviation and climate change under ICAO should be based:

- a) first, no attribution of obligations to individual States. ICAO will address emissions from the international aviation sector as a whole and will not address any specific obligations for individual States or their domestic aviation;
- b) second, any decision taken by ICAO should not affect the principles or negotiations under the UNFCCC. There are very clear differences between what ICAO and the UNFCCC are tasked to do. ICAO is dealing solely with international aviation, which is of a global nature, while the UNFCCC has been addressing emissions from all other domestic sectors;
- c) third, no decision will be taken to limit or affect the sustainable development of international aviation pursuant to the provisions of the Chicago Convention; and
- d) fourth, defining global solutions that will be applicable to all, based on the principles and provisions of the Chicago Convention.

17.3.38 In this connection, the Secretary General proposed the text related to medium term goals in operative paragraphs 5, 6 and 7 of the Appendix to WP/262. Regarding market-based measures, the text proposed in operative paragraphs 14, 15 and 16 of the Appendix was intended to serve as the basis for initiating discussions and facilitating progress on developing agreeable text during the Assembly. In relation to the provisions on assistance to States, the proposed text in operative paragraphs 10, 11 and 12 of the Appendix included the provision of ICAO's guidance and other technical assistance for the preparation of States' action plans. A provision on assistance to States was also included in operative paragraph 20 of the Appendix.

17.3.39 In preparing the draft Resolution text, every effort had been made to reflect exact text from past agreements, as these were showcased in the Appendix as "*quoted*" for reference. Comments received from delegates were taken into account in the drafting of the remaining provisions.

17.3.40 The Committee noted the significant progress made by ICAO in the field of international aviation and climate change since the 36th Session of the Assembly.

17.3.41 The Chair of the Executive Committee noted that there were different views among States and suggested that an informal group would assist the Chair in developing the best way forward. The informal group, with appropriate geographical representation (Australia, Belgium, Brazil, Canada, China, France, Germany, India, Japan, Mexico, Nigeria, Republic of Korea, Russian Federation, Saudi Arabia, Singapore, South Africa, United Arab Emirates, United Kingdom and United States), was established by the Chair of the Executive Committee to make progress on the drafting of the Resolution attached to WP/262, keeping in mind that all other WPs would remain on the table. The Committee noted that other States, namely Argentina, Barbados, Cuba and Egypt, could participate in the informal group.



17.3.42 In the closing of its fourth meeting, a video message from the Executive Secretary of the UNFCCC was presented to the Committee. It highlighted that ICAO has led the way by developing a global plan of action on international aviation and climate change that includes a global 2 per cent annual fuel efficiency improvement goal until 2050. The UNFCCC indicated that synergies between ICAO and the UNFCCC should be explored while respecting the independence and distinct decision-making process of the two organizations. It also noted that reconciling the principles of CBDR under the UNFCCC and non-discrimination under ICAO would require mutual respect between the two processes, political leadership and innovative thinking. The UNFCCC encouraged the Assembly to act by taking bold action and adopting a strong Resolution on international aviation and climate change. It also noted that informing the UNFCCC process on practical actions to regulate emissions would be a significant contribution from the sector to the outcome of Cancun.

17.3.43 The Chair of the Executive Committee presented on the results of the informal working group and the report on this item. The Chair reported that the informal group met several times and undertook substantive discussions in a true spirit of cooperation. The group was able to make substantial progress and to bridge most of the gaps. However, there still remained areas of disagreement and the text proposed in Resolution 17/2: Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change reflects the best compromise text by the Chair.

17.3.44 Resolution 17/2, which resulted from the update of information contained in Appendices I, J, K and L of Resolution A36-22 was therefore presented for adoption.

**Resolution 17/2: Consolidated statement of continuing ICAO policies and practices related to environmental protection – Climate change**

*Whereas* ICAO and its member States recognize the critical importance of providing continuous leadership to international civil aviation in limiting or reducing its emissions that contribute to global climate change;

*Reemphasizing* the vital role which international aviation plays in global economic and social development and the need to ensure that international aviation continues to develop in a sustainable manner;

*Whereas* the ultimate objective of the United Nations Framework Convention on Climate Change (UNFCCC) is to achieve stabilization of greenhouse gas (GHG) concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system;

*Whereas* the Kyoto Protocol, which was adopted by the Conference of the Parties to the UNFCCC in December 1997 and entered into force on 16 February 2005, calls for developed countries (Annex I Parties) to pursue limitation or reduction of greenhouse gases from “aviation bunker fuels” (international aviation) working through ICAO (Article 2.2);

*Acknowledging* that international aviation emissions, currently accounting for less than 2 per cent of total global CO<sub>2</sub> emissions, are projected to grow as a result of the continued development of the sector;

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*Whereas* a comprehensive assessment of aviation's impact on the atmosphere is contained in the special report on *Aviation and the Global Atmosphere*, published in 1999, which was prepared at ICAO's request by the Intergovernmental Panel on Climate Change (IPCC) in collaboration with the Scientific Assessment Panel to the Montreal Protocol on Substances that Deplete the Ozone Layer;

*Whereas* the IPCC special report recognized that the effects of some types of aircraft emissions are well understood, it revealed that the effects of others are not, and identified a number of key areas of scientific uncertainty that limit the ability to project aviation's full impacts on climate and ozone;

*Whereas* ICAO requested that the IPCC include an update of the main findings of the special report in its Fourth Assessment Report, published in 2007 and its Fifth Assessment Report to be published in 2014;

*Noting* the scientific view that the increase in global average temperature above pre-industrial levels ought not to exceed 2°C;

*Acknowledging* 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;

*Also acknowledging* the principles of non-discrimination and equal and fair opportunities to develop international aviation set forth in the Chicago Convention;

*Recognizing* that this Resolution does not set a precedent for or prejudice the outcome of negotiations under the UNFCCC and its Kyoto Protocol nor represent the position of the Parties to the UNFCCC and its Kyoto Protocol;

*Noting* that, consistent with Assembly Resolution A36-22, the High-level Meeting on International Aviation and Climate Change in October 2009 (HLM-ENV/09) endorsed the Programme of Action on International Aviation and Climate Change which included global aspirational goals in the form of fuel efficiency, a basket of measures and the means to measure progress;

*Recognizing* that the aspirational goal of 2 per cent annual fuel efficiency improvement is unlikely to deliver the level of reduction necessary to stabilize and then reduce aviation's absolute emissions contribution to climate change, and that goals of more ambition will need to be considered to deliver a sustainable path for aviation;

*Noting* that, to promote sustainable growth of aviation, a comprehensive approach, consisting of work on technology and standards, and on operational and market-based measures to reduce emissions is necessary;

*Noting* that the HLM-ENV/09 declared that ICAO would establish a process to develop a framework for market based measures in international aviation, taking into account the conclusions of the HLM-ENV/9 and outcome of the UNFCCC COP 15 and bearing in mind relevant ICAO Assembly resolutions and the appendices with a view to complete this process expeditiously;

*Noting* that the Conference on Aviation and Alternative Fuels in November 2009 (CAAF/09) endorsed 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;

*Also noting* that the CAAF/09 established an ICAO Global Framework for Aviation Alternative Fuels (GFAAF);

*Recognizing* the different circumstances among States in their capacity to respond to the challenges associated with climate change and the need to provide necessary support, in particular to developing countries and States having particular needs;

*Affirming* that specific measures to assist developing States as well as to facilitate access to financial support, technology transfer and capacity building should be initiated;

*Whereas* the Kyoto Protocol provides for different flexible instruments (such as the Clean Development Mechanism — CDM) which would benefit projects involving developing States;

*Affirming* that addressing GHG emissions from international aviation requires the active engagement and cooperation of States and the industry, and *noting* the collective commitments announced by Airports Council International (ACI), Civil Air Navigation Services Organisation (CANSO), International Air Transport Association (IATA), and International Coordinating Council of Aerospace Industries Associations (ICCAIA) on behalf of the international air transport industry to continuously improve CO<sub>2</sub> efficiency by an average of 1.5 per cent per annum from 2009 until 2020, to achieve carbon neutral growth from 2020 and reducing its carbon emissions by 50 per cent by 2050 compared to 2005 levels;

*Recognizing* the need to monitor and report the potential impacts of climate change on international aviation operations and related infrastructure;

*Recognizing* the progress made by ICAO in its implementation of the Climate Neutral UN initiative and the significant support provided by ICAO to the initiative, in particular through the development of a common methodology for calculating GHG emissions from air travel;

*The Assembly:*

1. *Resolves* that this Resolution, together with Resolution 17/1: Consolidated statement of continuing ICAO policies and practices related to environmental protection - General provisions, noise and local air quality, supersede Resolution A36-22 and constitute the consolidated statement of continuing ICAO policies and practices related to environmental protection;

2. *Requests* the Council to:

- a) ensure that ICAO exercise continuous leadership on environmental issues relating to international civil aviation, including GHG emissions;
- b) continue to study policy options to limit or reduce the environmental impact of aircraft engine emissions and to develop concrete proposals and provide advice as

soon as possible to the Conference of the Parties of the UNFCCC, encompassing technical solutions and market-based measures, and taking into account potential implications of such measures for developing as well as developed countries; and

- c) continue to cooperate with organizations involved in policy-making in this field, notably with the Conference of the Parties to the UNFCCC;

3. *Reiterates* that:

- a) ICAO should continue to take initiatives to promote information on scientific understanding of aviation's impact and action undertaken to address aviation emissions and continue to provide the forum to facilitate discussions on solutions to address aviation emissions; and
- b) emphasis should be on those policy options that will reduce aircraft engine emissions without negatively impacting the growth of air transport especially in developing economies;

4. *Resolves* that States and relevant organizations will work through ICAO 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, calculated on the basis of volume of fuel used per revenue tonne kilometre performed;

5. *Agrees* that the goals mentioned in paragraph 4 above would not attribute specific obligations to individual States, and 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 voluntarily contribute to achieving the global aspirational goals;

6. *Also resolves* that, without any attribution of specific obligations to individual States, ICAO and its member States with relevant organizations will work together to strive to achieve a collective medium term global aspirational goal of keeping the global net carbon emissions from international aviation from 2020 at the same level, taking into account:

- a) the special circumstances and respective capabilities of developing countries;
- b) that the different circumstances, respective capabilities and contribution of States to the concentration of aviation GHG emissions in the atmosphere will determine how each State may contribute to achieving the global aspirational goals;
- c) that some States may take more ambitious actions prior to 2020, which may offset an increase in emissions from the growth of air transport in developing States;
- d) the maturity of aviation markets;
- e) the sustainable growth of the international aviation industry; and

- f) that emissions may increase due to the expected growth in international air traffic until lower emitting technologies and fuels and other mitigating measures are developed and deployed;

7. *Agrees* to review, at its 38th Session, the goal mentioned in paragraph 6 above in light of progress towards the goal, new studies regarding the feasibility of achieving the goal, and relevant information from States;

8. *Requests* the Council to explore the feasibility of a long term global aspirational goal for international aviation, through conducting detailed studies assessing the attainability and impacts of any goals proposed, including the impact on growth as well as costs in all countries, especially developing countries, for the progress of the work to be presented to the 38th Session of the ICAO Assembly. Assessment of long term goals should include information from member States on their experiences working towards the medium term goal.

9. *Encourages* States to submit their action plans outlining their respective policies and actions, and annual reporting on international aviation CO<sub>2</sub> emissions to ICAO;

10. *Invites* those States that choose to prepare their action plans to submit them to ICAO as soon as possible preferably by the end of June 2012 in order that ICAO can compile the information in relation to achieving the global aspirational goals, and the action plans should include information on the basket of measures considered by States, reflecting their respective national capacities and circumstances, and information on any specific assistance needs;

11. *Requests* the Council to facilitate the dissemination of economic and technical studies and best practices related to aspirational goals and to provide guidance and other technical assistance for the preparation of States' action plans prior to the end of June 2012, in order for States to conduct their necessary studies and to voluntarily submit their action plans to ICAO;

12. *Resolves* that a *de minimis* threshold of international aviation activity of 1 per cent of total revenue ton kilometres should apply to the submission of States' action plans as follows:

- a) States below the threshold are not expected to submit action plans towards achieving the global goals; and
- b) States below the threshold but that otherwise have agreed to voluntarily contribute to achieving the global goals are expected to submit action plans;

13. *Requests* the Council, with the support of member States, to undertake work to develop a framework for market-based measures (MBMs) in international aviation, including further elaboration of the guiding principles listed in the Annex, for consideration by the 38th Session of the ICAO Assembly;

14. *Urges* States to respect the guiding principles listed in the Annex, when designing new and implementing existing MBMs for international aviation, and to engage in constructive bilateral and/or multilateral consultations and negotiations with other States to reach an agreement;

15. *Resolves* on a *de minimis* threshold of international aviation activity, consistent with the guiding principles in the Annex, of 1 per cent of total revenue ton kilometres to MBMs as follows:

- a) commercial aircraft operators of States below the threshold should qualify for exemption for application of MBMs that are established on national, regional and global levels; and
- b) States and regions implementing MBMs may wish to also consider an exemption for other small aircraft operators;

16. *Requests* the Council to review the *de minimis* threshold to MBMs in paragraph 15, taking into account specific circumstances of States and potential impacts on the aviation industry and markets, and with regard to the guiding principles listed in the Annex, by the end of 2011;

17. *Urges* States to review existing and planned MBMs for international aviation to ensure their consistency with the guiding principles listed in the Annex and the provisions in paragraphs 15 and 16 above;

18. *Requests* the Council, with the support of member States and international organizations, to continue to explore the feasibility of a global MBM scheme by undertaking further studies on the technical aspects, environmental benefits, economic impacts and the modalities of such a scheme, taking into account the outcome of the negotiations under the UNFCCC and other international developments, as appropriate, and report the progress for consideration by the 38th Session of the ICAO Assembly;

19. *Recognizes* that in the short term voluntary carbon offsetting schemes constitute a practical way to offset CO<sub>2</sub> emissions, and *invites* States to encourage their operators wishing to take early actions to use carbon offsetting, particularly through the use of credits generated from internationally recognized schemes such as the CDM;

20. *Requests* the Council to collect information on the volume of carbon offsets purchased in relation to air transport, and to continue to develop and disseminate best practices and tools, such as the ICAO Carbon Emissions Calculator, that will help harmonize the implementation of carbon offset programmes;

21. *Requests* the Council to regularly report CO<sub>2</sub> emissions from international aviation to the UNFCCC, as part of its contribution to assessing progress made in the implementation actions in the sector based on information approved by its member States;

22. *Requests* the Council to:

- a) study, identify and develop processes and mechanisms to facilitate the provision of technical and financial assistance, as well as facilitate access to existing and new financial resources, technology transfer and capacity building, to developing countries and report on its progress, including processes and mechanisms developed, results achieved as well as further recommendations, preliminarily by the end of 2012 and at the 38th Session of the Assembly; and
- b) initiate specific measures to assist developing States as well as to facilitate access to financial resources, technology transfer and capacity building;

23. *Requests* States to:

- a) promote scientific research aimed at continuing to address the uncertainties identified in the IPCC special report on Aviation and the Global Atmosphere and in the Fourth Assessment report;
- b) ensure that future international assessments of climate change undertaken by IPCC and other relevant United Nations bodies include updated information, if any, on aircraft-induced effects on the atmosphere;
- c) accelerate investments on research and development to bring to market even more efficient technology by 2020;
- d) accelerate the development and implementation of fuel efficient routings and procedures to reduce aviation emissions;
- e) accelerate efforts to achieve environmental benefits through the application of satellite-based technologies that improve the efficiency of air navigation and work with ICAO to bring these benefits to all regions and States;
- f) reduce legal, security, economic and other institutional barriers to enable implementation of the new ATM operating concepts for the environmentally efficient use of airspace;
- g) develop policy actions to accelerate the appropriate development, deployment and use of sustainable alternative fuels for aviation;
- h) work together through ICAO and other relevant international bodies, to exchange information and best practices; and
- i) 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 CO<sub>2</sub> emissions;

24. *Requests* the Council to:

- a) continue to develop and keep up-to-date the guidance for member States on the application of policies and measures aimed at reducing or limiting the environmental impact of emissions from aviation, and conduct further studies with respect to mitigating the impact of aviation on climate change;
- b) encourage States to cooperate in the development of predictive analytical models for the assessment of aviation impacts;
- c) continue evaluating the costs and benefits of the various measures, including existing measures, with the goal of addressing aircraft engine emissions in the most cost-effective manner, taking into account the interests of all parties concerned, including potential impacts on developing world;

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- d) provide the necessary guidance and direction to ICAO's Regional Offices to assist member States with studies, evaluations and development of procedures, in collaboration with other States in the region, to limit or reduce GHG emissions on a global basis and work together collaboratively to optimize the environmental benefits that can be achieved through their various programmes;
  - e) develop a global CO<sub>2</sub> Standard for aircraft aiming for 2013;
  - f) further elaborate on relevant fuel efficiency metrics, including for international business aviation, and develop medium and long term technological and operational goals for aircraft fuel burn;
  - g) encourage member States and invite industry to actively participate in further work on sustainable alternative fuels for aviation;
  - h) work with financial institutions to facilitate access to financing infrastructure development projects dedicated to sustainable aviation alternative fuels and incentives to overcome initial market hurdles;
  - i) continue to develop the necessary tools to assess the benefits associated with ATM improvements, and intensify its efforts on the development of new guidance on operational measures to reduce international aviation emissions;
  - j) implement an emphasis on increasing fuel efficiency in all aspects of the ICAO's Global Air Navigation Plan, and encourage States and stakeholders to develop air traffic management that optimize environmental benefits and to promote and share best practices applied at airports in reducing the adverse effects of GHG emissions of civil aviation;
  - k) identify appropriate standard methodologies and a mechanism to measure/estimate, monitor and verify global GHG emissions from international aviation, and States support the work of ICAO on measuring progress through the reporting of annual data on traffic and fuel consumption;
  - l) request States to continue to support the efforts of ICAO on enhancing the reliability of measuring/estimating global GHG emissions from international aviation;
  - m) undertake a study on the possible application of CDM of the Kyoto Protocol to international aviation;
  - n) monitor and disseminate relevant information on the potential impacts of climate change on international aviation operations and related infrastructure, in cooperation with other relevant international organizations and the industry; and
  - o) continue to cooperate with the Climate Neutral UN initiative, remain at the forefront of developing methods and tools for quantifying aviation's GHG emissions with respect to the initiative, and further develop and implement the strategy for reducing



GHG emissions and enhancing in-house sustainability management practices of the Organization.

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**Annex**

The guiding principles for the design and implementation of market-based measures (MBMs) for international aviation:

- a) MBMs should support sustainable development of the international aviation sector;
- b) MBMs should support the mitigation of GHG emissions from international aviation;
- c) MBMs should contribute towards achieving global aspirational goals;
- d) MBMs should be transparent and administratively simple;
- e) MBMs should be cost-effective;
- f) MBMs should not be duplicative and international aviation CO<sub>2</sub> emissions should be accounted for only once;
- g) MBMs should minimize carbon leakage and market distortions;
- h) MBMs should ensure the fair treatment of the international aviation sector in relation to other sectors;
- i) MBMs should recognize past and future achievements and investments in aviation fuel efficiency and in other measures to reduce aviation emissions;
- j) MBMs should not impose inappropriate economic burden on international aviation;
- k) MBMs should facilitate appropriate access to all carbon markets;
- l) MBMs should be assessed in relation to various measures on the basis of performance measured in terms of CO<sub>2</sub> emissions reductions or avoidance, where appropriate;
- m) MBMs should include *de minimis* provisions;
- n) where revenues are generated from MBMs, it is strongly recommended that they should be applied in the first instance to mitigating the environmental impact of aircraft engine emissions, including mitigation and adaptation, as well as assistance to and support for developing States; and
- o) where emissions reductions are achieved through MBMs, they should be identified in States' emissions reporting.