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EXECUTIVE COMMITTEE

Agenda Item 17: Environmental protection

INTERNATIONAL AVIATION AND CLIMATE CHANGE – PROPOSAL FOR ASSEMBLY RESOLUTION

(Presented by the People's Republic of China)

EXECUTIVE SUMMARY

This paper presents a proposal by People's Republic of China for an Assembly Resolution that replaces Appendices I through L of Assembly Resolution A36-22, Consolidated statement of continuing ICAO policies and practices related to environmental protection, with a view to facilitating the deliberations during the Assembly.

Action: The Assembly is invited to consider the elements of an Assembly Resolution on international aviation and climate change, as presented in the Appendix, for the update of Appendices I through L of A 36-22.

<i>Strategic Objectives:</i>	This working paper relates to Strategic Objective C, <i>Environmental Protection - Minimize the adverse effect of global civil aviation on the environment.</i>
<i>Financial implications:</i>	The activities referred to in this paper will be undertaken subject to the resources available in the 2011-2013 Programme Budget and/or from extra-budgetary contributions.
<i>References:</i>	Strategy guiding international civil aviation into the 21 st century A36-22, <i>Consolidated statement of continuing ICAO policies and practices related to environmental protection</i> HLM-ENV Declaration & Recommendations CAAF Declaration & Recommendation CAEP/8 Report A37-WP/23, <i>Aviation and Alternative Fuels</i> A37-WP/25, <i>Consolidated statement of continuing ICAO policies and practices related to environmental protection - Climate change</i>

1. INTRODUCTION

1.1 At its 36th Session, the ICAO Assembly adopted Resolution A36-22, *Consolidated statement of continuing ICAO policies and practices related to environmental protection*. Since then, ICAO and its member States, working together with the aviation industry, have made significant progress on various aspects related to international aviation and climate change. This work led, *inter alia*, to the international aviation sector being the first and only sector that developed a globally-harmonized agreement on a goal to address its CO2 emissions.

1.2 The actions taken by the Organization in response to the requests by A36-22 on this subject are described in A37-WP/25 submitted by the Council. Substantial discussion took place in the Council for the preparation of a draft Resolution on international aviation and climate change, however, some states were rushing to establish new goals without taking into account the feasibility and impact of the goals on the development of international civil aviation, particularly that in developing countries, while leaving aside how to achieve the globally-harmonized goal of fuel efficiency improvement. As a result, it was not able to agree on the draft Resolution to be forwarded to the Assembly for its consideration.

1.3 This paper has been prepared for, and submitted to, the Assembly under the responsibility and right of the People's Republic of China. It contains elements for a Resolution that updates Appendix I through L of A36-22, in light of the progress made by ICAO on international aviation and climate change since the 36th Session of the Assembly as well as the recent discussions by some member states on this subject.

2. DEVELOPMENTS SINCE THE 36TH SESSION OF THE ASSEMBLY

2.1 Based on the mandate from the 36th Session of ICAO assembly, GIACC was organised and through 2 years' hard negotiations the Programme of Action was adopted by consensus in the field of international aviation and climate change. Regarding to the goal, the Programme states "Agreement was reached in GIACC on goals in the form of fuel efficiency for the medium and longer terms. ... 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."

2.2 In October 2009 the High-Level Meeting on International Aviation and Climate Change was convened by the ICAO at its Headquarters in Montreal and Ministers and other high-level officials representing 73 States and 26 international organizations attended the meeting. The HLM-ENV reiterates that the Organization acknowledges the principles and provisions on common but differentiated responsibilities and respective capabilities under the UNFCCC and the Kyoto Protocol to reduce or limit CO2 emissions from international aviation as well as the principles of non-discrimination and equal and fair opportunities to develop international aviation set forth in the Chicago Convention. It also reiterates goals in the form of fuel efficiency are adopted to deal with international aviation and climate change for the medium and longer terms, on which ICAO and its Member States, with relevant organizations will also keep working together in undertaking further work.

2.3 In November 2009 the Conference on Aviation and Alternative Fuels (CAAF) was held and endorsed the use of sustainable alternative fuels for aviation, particularly the use of drop-in fuels in the short to medium term, as an important means to reduce aviation emissions, and it adopted a global framework on the development and deployment of such fuels for aviation. Six flight tests (by November 2009) and fuel qualification illustrated that drop-in alternative fuels are a technically sound solution that may not require changes to the aircraft or fuel delivery infrastructure. The future challenge is related to its

sustainability research, LULUC due to the feedstock plantation, transfer of relevant technologies to developing countries and countries with special needs, regulatory and financial frameworks that are needed to ensure that they are available in a timely manner and in sufficient quantities for the use of aviation (see A37-WP/23);

2.4 In February 2010 the eighth meeting of Committee on Aviation Environmental Protection (CAEP/8) was held and reviewed its work to quantify the environmental impacts of a global aviation system, and updated Standards and guidance for technological, operational and market-based measures to address the impacts. Due to its lack of data and quantified studies, CAEP commits that further work is necessary for developing convincing reports on MBMs. (see CAEP/8 Report)

2.5 ICAO Colloquium on Aviation and Climate Change held in May 2010, provided an opportunity to share information and exchange views on technological, operational and economic solutions, and it helped to pave the way towards successful discussions and decision-making at the Assembly. Participants presented potential impacts on the performance of aviation operations and airport-related infrastructure from climate change and emphasized the necessity of further studies to assess the potential impacts. Some representatives from the banking community presented the financing initiatives and opportunities for aviation.

2.6 As described in A37-WP/25, an informal group was created by the President of the Council to assist him in the preparation of a draft Assembly Resolution on international aviation and climate change. Originally, members were told to meet three times, namely in March, June and August, however, the President cancelled the third meeting for no reason at the start of the 2nd meeting. The group intended to focus on the following three key issues, but because of large amount of disagreements and limited time only the first one were through substantial discussions despite no agreements:

- a) establishment of another more ambitious medium goals of carbon-neutral growth and emissions reductions;
- b) development of a framework for market-based measures in international aviation; and
- c) elaboration on measures to assist developing States and to facilitate access to financial resources, technology transfer and capacity building.

2.7 In concluding the discussions of the informal group, the President emphasized that the work on international aviation and climate change under ICAO should be based on the following four key premises, among which consensus was on the 1st and 3rd ones as well as part of the 2nd one:

- a) 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) 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) 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) defining global solutions that will be applicable to all based on the principles and provisions of the Chicago Convention.

2.8 The Council met during the 12th, 13th and 14th meetings of its 190th Session to consider the draft text of the Resolution to the Assembly proposed by the Secretariat, focusing mainly on the provisions to establish another medium term goal of Carbon Neutral Growth (CNG) and market-based

measures. Although the four key premises in paragraph 2.4 above were reemphasized by the President, not all the Council members approved them, specifically the 2nd and 4th ones.

2.9 In relation to the goal of CNG, some studies with contrary conclusions on the feasibility of more ambitious goals for the international aviation sector have been circulated during the Council meetings. In the formal section of 12th Council meeting, a large number of members expressed their support for the use of both Secretariat's text and a member's amendments as the basis for further discussions while the President and some members indicated that only the Secretariat's text was based on. As a result, no consensus was reached on the establishment of another medium goal in the field of international aviation and climate change.

2.10 Regarding the market-based measures, the Council worked on the principles for market-based measures and on the provision relating to the development of a global scheme. Unfortunately, the Council was not able to come up with a compromise text on the majority of the principles, and the text it worked on was mostly in square brackets. The text proposed in operative paragraphs 13 of the Appendix is intended to serve as the basis for facilitating progress on developing agreeable text during the Assembly.

2.11 In relation to the rest parts of the Secretariat's text, members had no time to discuss it and some members illustrated that most of the text is different from HLM-DEC&REC, which the President emphasizes the Assembly resolution on climate change should be based on, and insisted that it was a totally new text without discussion in the Council meetings of the 190th Session.

3. **APPROACH**

3.1 In preparing the text of the draft Resolution contained in the Appendix, every effort was made to identify the reference information on the past agreements and the recent discussions. The reference information includes:

- a) Declaration and Recommendations of the HLM-ENV: referenced respectively as "*HLM-DEC*" and "*HLM-REC*" in the Appendix;
- b) Declaration and Recommendations of the CAAF: referenced respectively as "*CAAF-DEC*" and "*CAAF-REC*" in the Appendix; and
- c) Assembly Resolution A36-22: referenced as "*A36-22*" in the Appendix .

3.2 Thus, the draft Resolution is intended to assist deliberations during the Assembly.

4. **FINANCIAL IMPACT OF THE PROPOSED ACTION**

4.1 Some of the proposed text in the Appendix will lead to new work for the Council and the Secretariat. The work involved for the Secretariat is expected to be undertaken within the resources available in the draft Programme Budget 2011-2013. However, since the extent to which the Secretariat would be called upon to undertake additional tasks is difficult to determine at present, extra-budgetary contributions might be required.

APPENDIX

FOCAL POINTS OF DRAFT RESOLUTION FOR ADOPTION BY THE 37TH SESSION OF THE ASSEMBLY

(Presented by the People's Republic of China)

Resolution 17/xx: Consolidated statement of continuing ICAO policies and practices related to environmental protection - Climate change

Whereas the preamble to the Convention on International Civil Aviation states that “the future development of international civil aviation can greatly help to create and preserve friendship and understanding among the nations and peoples of the world . . .” and Article 44 of that Convention states that ICAO should “develop the principles and techniques of international air navigation and . . . foster the planning and development of international air transport so as to . . . meet the needs of the peoples of the world for safe, regular, efficient and economical air transport”; {A36-22 Appendix A 1st preambular}

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; {HLM-DEC 6th preambular}

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, and the Kyoto Protocol which was adopted by the Conference of the Parties to the UNFCCC in December 1997 calls for developed countries (Annex I Parties) to pursue limitation or reduction of GHG emissions from —aviation bunker fuels (international aviation) working through ICAO (Article 2.2); {A36-22 Appendix J 1st, 3rd and 5th preambulars}

Whereas “General rule of interpretation” Paragraph 1, Article 31 of Vienna Convention on the Law of Treaties provides that “A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose” and Paragraph 5 provides that “There shall be taken into account, together with the context:...(c) any relevant rules of international law applicable in the relations between parties”. (Newly added)

Acknowledging the principles and provisions on common but differentiated responsibilities and respective capabilities, and with developed countries taking the lead under the UNFCCC, and recognizing that this Resolution does not prejudice the outcome of negotiations under the UNFCCC on a future global climate change agreement; {HLM-DEC 4th preambular, A36-22 Appendix J 2nd preambular, A36-22 Appendix K 3rd preambular and A36-22 Appendix L 3rd preambular}

Whereas the special report on Aviation and the Global Atmosphere published in 1999 by the Intergovernmental Panel on Climate Change (IPCC) and its Fourth Assessment Report published in 2007 contain the assessment of aviation's impact on global climate, which, inter alia, estimates that international aviation emissions currently account for less than 2 per cent of total global CO₂ emissions, and the IPCC reports identified a number of key areas of scientific uncertainty that limit the ability to project aviation's full impacts on global climate, therefore, ICAO requested the IPCC to include an update of the main findings in its Fifth Assessment Report to be published in 2014; {HLM-DEC 7th preambular and A36-22 Appendix I 1st, 2nd and 3rd preambulars}

Recognizing 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 which could be employed to reduce fuel consumption and the means to measure progress, and also recognizing that Member States are responsible for making decisions regarding the goals and most appropriate measures to address aviation's GHG emissions taking into account ICAO's guidance ; {HLM-DEC para 1., 2nd preambulars, and A36-22 Appendix L 2nd preambular }

Recognizing 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 and work to develop a Standard for CO₂ is already underway, and also recognizing that ICAO and its member States have some discussions on the development of a framework for market- based measures in international aviation, consistent with the Declaration of the HLM-ENV/09; {HLM- DEC para 5. and A36-22 Appendix K 5th preambular}

Reaffirming that measures applied by some Member States may be inappropriate and unwarranted economic and social cost to other countries, in particular developing countries; {HLM-DEC para 3., 4th preambular and 12th preambular }

Noting that the Conference on Aviation and Alternative Fuels in November 2009 supported 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, and it established an ICAO Global Framework for Aviation Alternative Fuels (GFAAF); {CAAF-DEC para 1. and para 2.}

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; {HLM-DEC 12th preambular}

Affirming that measures to assist developing States as well as to facilitate access to financial support, technology transfer and capacity building should be elaborated prioritized; {HLM-REC para 7.}

Recognizing the need to monitor and report the potential impacts of climate change on international aviation operations and related infrastructure; {Request from DGCIG} {Council-Approved CAEP/8 Report}

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; {Council-Approved A37-WP/22}

The Assembly:

1. *Resolves* that this Resolution, together with Resolution 37/xx: 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; {Council-Approved A37-WP/24}
2. *Affirms* that the interpretation of Convention on International Civil Aviation shall be subordinate to the Vienna Convention on the Law of Treaties. (Newly added)
3. *Affirms* respective objectives of the ICAO and the UNFCCC as well as the relationship

between the two organizations in dealing with aviation emissions. The UNFCCC, the Kyoto Protocol and Bali Action Plan are the basic legal framework and premise to deal with GHG emission from international aviation and ICAO shall reduce emissions from international aviation under the UNFCCC while ICAO should be responsible for establishing international standards, recommended practices and procedures covering the technical, economic and legal fields of international civil aviation operations. (Strategy guiding international civil aviation into the 21st century)

4. *Reiterates* that:
 - a) ICAO should continue to exercise leadership on environmental issues relating to international civil aviation, and should be based on UNFCCC decisions when taking any action on GHG emissions from international civil aviation; {HLM-DEC 3rd preambular, A36-22 Appendix J para 1. a) and 6th preambular and A36-22 Appendix K 1st preambular}
 - b) ICAO should continue to promote information on scientific understanding of aviation's impact and action to address aviation emissions, and continue to provide the forum to facilitate discussions and identify solutions on this subject; {HLM-REC para 3. and para 4. and A36-22 Appendix I para 1. a)}
 - c) emphasis should be put on policy options that reduce emissions from aviation without adversely effecting the growth of air transport especially in developing economies; {A36 -22 Appendix K 6th preambular}
5. *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 (medium term) and an aspirational global fuel efficiency improvement rate of 2 per cent per annum from 2021 to 2050 (longer term), calculated on the basis of volume of fuel used per revenue tonne kilometre performed; {HLM-DEC para 2.}
6. *Reaffirms* that any ICAO emission reduction goals are aspirational and should not attribute specific obligations to individual States, in particular not to developing Member 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 contribute to achieving the global aspirational goals;
7. *Encourages* states to submit their action plans to achieve the goal mentioned in paragraph 5, outlining their respective policies and actions, challenges and special needs to ICAO.
8. *Requests* the developed Member States to expeditiously support the development and enhancement of endogenous capacities and technologies of developing Member States, and also urges ICAO to expeditiously facilitate the transfer of such technologies, the development and implementation of education and training programmes, including the strengthening of national institutions and the exchange or secondment of personnel to train experts in aviation for developing Member States to achieve the global aspirational goals.
9. *Agrees* that ICAO and its Member States, while the achievement of the mid-term goal mentioned in paragraph 5 can be ensured, will also work together in exploring the feasibility of other aspirational goals, including carbon neutral growth, in terms of economic and technical studies and best practices.
10. *Also agrees* that whether to establish goals of more ambition depends on substantial studies which follows the principles of equal participation, openness, transparency and majority

agreement.

11. *Recommends* the Council to consider a de-minimis exception for States which do not have substantial international aviation activity levels, in the submission of action plans and regular reports on aviation CO₂ emissions to ICAO; {HLM-REC para 11.}

12. *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.

13. *Urges* States to respect the guiding principles listed below, when designing new and implementing existing MBMs for international aviation, to engage in constructive negotiations with other States with a view to reaching an agreeable way forward, and to implement MBMs for international aviation following bilateral and /or multilateral consultations and agreements among States concerned:

- a) MBMs should help member states to achieve the global aspirational goal and stimulate actions to reduce emissions.
- b) MBMs should support sustainable development of the international aviation sector;
- c) MBMs should respect the principle of “common but differentiated responsibilities” and be phased in, recognizing different States’ needs, conditions and capabilities, including the growth potential, the population, average fuel efficiency of the fleet and historic responsibilities for the contribution to the concentration of international aviation GHG emissions in the atmosphere;
- d) MBMs should not impose extra economic burden on aviation sector in developing Member States;
- e) MBMs should be based on global and/or mutual agreements among all States concerned to ensure that the sovereignty of Member States are fully respected and that every Member State has a fair opportunity to operate international airlines;
- f) MBMs should be transparent and as simple as possible;
- g) MBMs should not be duplicative and international aviation CO₂ emissions should be accounted for only once;
- h) MBMs should consider special provisions to account for very small contributors to international aviation CO₂ emissions; and
- i) where revenues are generated from MBMs, they should be used for aviation sector only and be used to improve the capacities of the developing countries on their civil aviation.

14. *Recognizes* that in the short term voluntary carbon offsetting schemes constitute a practical way to offset CO₂ 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 Clean Development Mechanism (CDM); {A36-22 Appendix L para 1. c) and d)}

15. *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; {A36-22 Appendix L para 1. c)}
16. *Encourages* States to voluntarily submit their annual reporting on international aviation CO₂ emissions to ICAO; {HLM-DEC para 7.}
17. *Requests* States to support and accelerate investments on research and development to update information on aircraft-induced effects on global climate and to foster the development and implementation of more energy efficient aircraft technologies; {HLM-REC para 1., A36-22 Appendix I para 2. a) and b) and A36-22 Appendix K para 7. and para 14. a)}
18. *Requests* States to accelerate the implementation of fuel efficient routings and procedures to reduce aviation emissions, including the application of satellite-based technologies, and the reduction of legal, security, economic and other institutional barriers to enable implementation of the new ATM operating concepts for the environmentally efficient use of airspace; {HLM-REC para 6. and A36-22 Appendix K para 14. b), c) and e)}
19. *Requests* States to:
 - a) accelerate the research on the sustainable aviation alternative fuels and their availability for use in future aviation operations; {CAAF-DEC para 6. and CAAF-REC para 6. }
 - b) work together through ICAO and other relevant international organizations to exchange information and best practices on the development and deployment of sustainable aviation alternative fuels, including the continuous update of the GFAAF; and {CAAF-DEC para 3. and CAAF-REC para 7. }
 - c) 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 commercialization and use of sustainable aviation alternative fuels to accelerate the reduction of aviation CO₂ emissions; {CAAF-REC para 20. }
 - d) evaluate national capabilities to achieve the global goal of annual average fuel efficiency improvement of 2 per cent until 2020 (medium term) including respective policies and actions, challenges and special needs in terms of technology, operation, infrastructure, human resources and to submit report on needs with regard to finance, technology transfer and capabilities building to ICAO.
20. *Requests* the Council to:
 - a) regularly report CO₂ emissions from the international aviation sector in Annex I Parties to the UNFCCC; {quoted from HLM-DEC para 6.}
 - b) continue to develop and keep up-to-date the guidance for Member States on the application of policies and measures aimed at the aspirational goal mentioned in paragraph 5, and conduct further studies with respect to mitigating the impact of aviation on climate change; {HLM-REC para 5. and A36-22 Appendix K para 3.}

- c) develop, with the equitable participation of States, predictive analytical models for the assessment of aviation impacts on the economy growth as well as the climate; {A36-22 Appendix I para 4.}
- d) continue evaluating the costs and benefits of the various measures, including existing measures, with the goal of addressing emissions from aviation in the most cost-effective manner, taking into account the interests of all parties concerned, particularly potential impacts on developing country economies; {A36-22 Appendix K para 4.}
- e) prioritize establishing mechanism by the end of 2012 for developed Member States to provide finance, technology and capacity building support to developing Member States, and to make aggressive reductions in their aviation emissions reduction; {HLM-REC para 7, HLM-DEL 4th preambular, A36-22 Appendix J 2nd preambular, A36-22 Appendix K 3rd preambular and A36-22 Appendix L 3rd preambular.}
- f) support and promote further efforts by member States and the industry and their cooperation to facilitate the development and deployment of sustainable aviation alternative fuels; {CAAF-REC para 10.}
- g) take a leadership role in working with global financing institutions to facilitate access to financing for infrastructure development projects dedicated to sustainable aviation alternative fuels with emissions reduction benefits and incentives to overcome initial market hurdles; {CAAF-DEC para 9. and CAAF-REC para 19.}
- h) develop the necessary tools to assess the benefits associated with ATM improvements, and to promote the use of ICAO guidance on operational measures to reduce aviation emissions; {Council-Approved CAEP/8 Report, HLM-REC para 5. and A36-22 Appendix K para 11. b)}
- i) place 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; {HLM-REC para 6. and A36-22 Appendix K para 11. c), para 12. and para 13.}
- j) 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 {Request from DGCIG}{Council-Approved CAEP/8 Report}
- k) 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. {Council-Approved A37-WP/22}