



WORKING PAPER

GROUP ON INTERNATIONAL AVIATION AND CLIMATE CHANGE (GIACC)

SECOND MEETING

Montréal, 14 to 16 July 2008

**Agenda Item 2: Review of aviation emissions related activities within
ICAO and internationally**

RECENT ENVIRONMENTAL DEVELOPMENTS

(Presented by the Secretariat)

1. INTRODUCTION

1.1 Important environmental related meetings of UN agencies which could have implications on ICAO's work on aviation environmental protection have taken place since the first meeting of the GIACC. This paper presents information on recent developments, including the results from the United Nations Framework Convention on Climate Change (UNFCCC) Bangkok and Bonn Climate Talks, the International Maritime Organization (IMO) 57th Session of the Maritime Environmental Protection Committee (MEPC57) and the 16th Session of the UN Commission on Sustainable Development (CSD16), developments in ICAO including CAEP, in particular the Carbon Calculator and the upcoming Workshop on Aviation and Carbon Markets and other events and main challenges faced by the Organization. The Secretariat held an informal briefing of the Council on 20 May 2008 with a view to provide information on these developments and share views and proposals for action.

2. DEVELOPMENTS IN OTHER UN FORA

2.1 Bangkok Climate Talks

2.1.1 A comprehensive programme was launched at the UNFCCC Conference in Bali (December 2007) to enable the development of the future climate change agreement which will allow the effective and sustainable implementation of the Convention - the so called "Bali Road Map". In line with this programme, the First Session of the Ad Hoc Working Group on Long-Term Cooperative Action (AWG-LCA1) and the Fifth Session of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP5) also referred to as the "Bangkok Climate Talks", took place from 31 March to 4 April 2008. Approximately 1000 participants and over 100 media representatives attended the meeting.

2.1.2 The AWG-KP is a subsidiary body set up in late 2005 in Montreal by the first Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol (COP/MOP1), to consider Annex I parties' commitments beyond the Protocol's first commitment period ending in 2012. At its fifth

meeting, the AWG-KP convened an in-session workshop on analyzing the means for Annex I parties to reach their emission reduction targets. By invitation of the UNFCCC Secretariat, ICAO provided presentations to two sessions of the workshop, namely "Possible approaches targeting sectoral emissions" and "The greenhouse gases (GHG), sectors and source categories to be covered". The need to include aviation and maritime bunker emissions with specific targets in the commitments of Annex I countries post-2012 was a main subject of discussion at AWG-KP5. Parties were divided: while some expressed the need to maintain discussions related to bunkers in ICAO; others, referring to the lack of progress in ICAO, called for action under UNFCCC. After deliberations, it was agreed that discussions on this item should continue during the next meetings. It is noteworthy that discussions on bunker fuels were historically conducted under another subsidiary body of the Convention, SBSTA, where it had not progressed since SBSTA22, three years ago.

2.1.3 The AWG-LCA is a new subsidiary body established by Conference of the Parties (COP) of the UNFCCC in 2007 to launch a comprehensive process to enable the full, effective and sustained implementation of the Convention through long-term cooperative action up to and beyond 2012 (the Bali Action Plan). The AWG-LCA is required to complete its work by COP15 in Copenhagen in 2009. In Bangkok, AWG-LCA1 exchanged views on key elements of the Bali Action Plan including "a shared vision for long-term cooperative action," mitigation, adaptation, technology and finance. The main focus of AWG-LCA1 was the development of its work programme for 2008. It established a timetable and elements to be addressed, as well as in-session workshops to be held during 2008. Of main relevance to ICAO will be the workshop in the third session of AWG-LCA on "cooperative sectoral approaches and sector specific actions", to be held in Ghana from 21 to 27 August 2008.

2.1.4 ICAO provided a Statement to the AWG-LCA1, highlighting the ongoing work in ICAO to develop a Programme of Action on Aviation and Climate Change and the need to further strengthen the cooperation between the two organizations, building upon and making the best use of their expertise. Other AWG-LCA topics that would be of interest to ICAO are: the establishment of Long Term Global Goals (LTGG) and financing and technological transfer. The latter, was a main issue present in all discussions and will increase in importance as discussions go towards firm commitments. There are already many proposals on how to fund future action on climate change, some of which are considering funds generated by the aviation sector.

2.1.5 A general concern during the meeting was the linkage amongst the work of the two bodies (AWG-KP and AWG-LCA) and crosscutting issues that needed to be considered.

2.2 Fifty-seventh session of the IMO Marine Environment Protection Committee (MEPC 57)

2.2.1 The MEPC 57 was held in London from 31 March to 4 April 2008. It endorsed a proposal from the IMO Secretary-General to expedite the organization's work on GHG emissions and agreed practical next steps covering the development of short, medium and long-term measures to address CO₂ emissions from ships. It also endorsed the view of their GHG Working Group (WG) that a resolution urging industry and other related entities to reduce GHG emissions from shipping should be developed at an upcoming intersessional meeting of the GHG WG.

2.2.2 MEPC 57 agreed on basic principles (see Appendix A) as its reference for further debate on GHG emissions from international shipping and also for further reflection when the nature and form of the measures to be taken become clearer. The delegations of Barbados, Brazil, China, India, Iran (Islamic Republic of), Mexico, South Africa and Venezuela could not support the decision and reserved their position regarding the second principle which states that "a coherent and comprehensive future IMO framework should be binding and equally applicable to all flag States in order to avoid evasion".

2.2.3 It approved Terms of Reference for the First Intersessional Meeting of the Working Group on GHG Emissions from Ships to be held in Oslo, Norway from 23 to 27 June 2008, and instructed the meeting, amongst others, to develop a mandatory CO₂ Design Index for New Ships and a CO₂ baseline methodology, and review the CO₂ Operational Index and requested IMO to present progress reports on the MEPC achievements to the relevant UNFCCC subsidiary bodies at their sessions during 2008.

2.3 **16th Session of the UN Commission on Sustainable Development – CSD 16**

2.3.1 CSD 16 took place from 5 to 16 May 2008. It was the first meeting with a focus on the 2008/2009 thematic cluster which is agriculture, rural development, land use, drought, desertification and Africa. Although this agenda could not have been better timed to respond to the world food crisis, it has less relevance to the work of ICAO.

2.4 **Bonn Climate Talks**

2.4.1 Over 2000 people participated in the Bonn Climate Talks which were held from 2 to 13 June 2008 meetings in Bonn. This was the first time that the four subsidiary bodies – AWG-LCA, AWG-KP, SBI and SBSTA¹ – had all met in parallel, presenting challenges in terms of the coordination of the work, proliferation of issues and contact groups. The Bonn meetings had no major deadlines on substantive issues, however, collectively, these meetings resulted in the adoption of many conclusions and draft decisions that will be forwarded to their COP or COP/MOP in December 2008, in Poznan, Poland, for consideration.

2.4.2 There remains a lot of criticism in the Framework Convention Process to the lack of progress from ICAO to reduce emissions from the international aviation. As a means of ensuring that the views and the course of action agreed by Parties in ICAO were reflected in the UNFCCC discussions, State Letter ENV 1/1-08/44 was sent to States to remind them of the decisions from the 36th Assembly and requesting them to adequately inform and coordinate with their representatives in other UN fora, and in particular, the UNFCCC, of the developments and positions agreed in ICAO. Aviation was mentioned in the discussions of the four subsidiary bodies but mainly in SBSTA and AWG KP .

2.4.3 Regarding the AWG-KP, the main issue was the possible inclusion of international aviation in the Annex I countries targets. Under the item “sectors and source categories”, Parties discussed possible actions under the UNFCCC, IMO, and ICAO. Most of the focus during this session was on IMO this time and many developing countries expressed their concern with the recent decisions in the IMO’s environmental committee.

2.4.4 Some Parties supported controlling maritime and aviation emissions under the UNFCCC, while others preferred addressing them through the IMO and ICAO. The EU stressed significant growth in these emissions and their importance to mitigating climate change. Some Arab countries argued against addressing emissions from aviation and maritime bunker fuels, in their view Article 2.2 of the Protocol would have to be amended before discussion on this issue could take place. The group representing small island States suggested considering financial instruments on aviation and bunker fuels as a source of revenue to Reducing Emission from Deforestation and Degradation (REDD).

¹ AWG-LCA, Ad Hoc Working Group on Long-Term Cooperative Action
AWG-KP, Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol
SBI, Subsidiary Body for Implementation
SBSTA, Subsidiary Body for Scientific and Technological Advice

2.4.5 The AWG-KP presented draft conclusion proposed by the Chair (copy attached in Appendix B) and agreed to continue discussions at the next meeting in Accra, Ghana, taking place from 21 to 27 August 2008. It will be very important that Parties be adequately informed before they take any decisions regarding aviation emissions. Although the Annex in Appendix B was designed to contain all ideas raised by parties, strong insistence by some parties led to the bracketing of the section dealing with bunker fuels in the final Annex. Also of relevance to the discussions regarding the treatment of aviation emissions in a future regime are the overall discussions on sectorals. In its conclusions, the AWG-KP, *inter alia*, notes that approaches targeting sectoral emissions could be used by Annex I parties as a means to reach, but not replace, their targets; and agrees to continue working on these issues so that conclusions can be adopted at the first part of AWG-KP6 in Accra, Ghana (21 to 27 August 2008).

2.4.6 Regarding the meeting of the SBSTA, two important items were discussed, technology transfer and methodological issues for bunkers.

2.4.7 Technology Transfer: The main issues under consideration were a report on performance indicators for enhancing technology transfer and terms of reference for the Expert Group on Technology Transfer (EGTT) for identifying and analyzing financial resources for technology transfer.

2.4.8 Bunkers (Emissions from International Aviation and Maritime Transport): Presentations were provided by IMO and ICAO. Many non-Annex I parties expressed concern that IMO's work on a binding instrument on shipping emissions is not guided by the principle of common but differentiated responsibilities, while others supported IMO's work and progress. Other views expressed included concerns about this issue being used to shift commitments from Annex I to non-Annex I parties and the fact that IMO's decision stems from its own mandate, which precedes the Kyoto Protocol.

2.4.9 The SBSTA Chair conducted informal consultations and in the draft conclusions attached as Appendix C, notes views by parties on work by the IMO and ICAO; agrees that for the next three sessions, the UNFCCC expects to receive information from both ICAO and IMO on bunker fuels, and Parties under the UNFCCC will have an exchange of views on this information although no conclusions are expected. In May-June 2010 (after COP15 has been concluded) the issue of bunker fuels will again be considered by SBSTA to decide on any follow-up activities.

2.4.10 SBI recommended that COP/MOP 4 "may give attention to other issues raised by parties," including funding, insurance and technology transfer in relation to adaptation and adverse impacts for response measures and emissions from international aviation and maritime transport.

2.4.11 In the AWG-LCA – Aviation was included in the discussions on sectorals and on financial resources and investment. Aviation was mentioned by some Countries as a source for funding mitigation and adaptation. AWG-LCA recalled an invitation to parties and observer organizations to provide additional information, views and proposals on the five key elements. As the Accra meeting will hold workshops on sectorals it will be paramount that ICAO be present and the secretariat has already reserved a place for a side event on aviation that will be held on 22 August 2008.

2.4.12 On emissions trading, of main relevance to aviation are the proposals, *inter alia*, to:

- introduce emissions trading based on sectoral targets and nationally appropriate mitigation actions, and link to voluntary schemes in non-Annex I countries;
- link trading schemes, and consider broader mutual acceptance (fungibility) of units; and

- modify the commitment period reserve.

3. DEVELOPMENTS IN ICAO AND CAEP

3.1 The Council, in March 2008 during the 183rd Session, requested the Secretariat to inform CAEP of the need to prioritize the tasks related to aviation GHG. This request was brought to the attention of CAEP members and rapporteurs through CAEP Memo 71. The prioritization of GHG work, the need for clear deliverables by CAEP/8 and related actions will also be discussed at the upcoming CAEP Steering Group (SG) meeting in Seattle, USA, in September 2008.

3.2 Following the request by the first meeting of the GIACC for aviation emissions data, Member States were requested to provide data through a questionnaire attached to State Letter ENV 1/1-08/44 dated 27 May 2008. Although no relevant results have yet been received, the Secretariat will present an information paper on aviation data to the second meeting. A special request was also addressed to the CAEP Modelling and Databases Task Force (MODTF) and the CAEP Forecast and Economic Support Group (FESG) to support the Secretariat with the most current information on GHG emissions.

3.3 The UN Climate Neutral Initiative and the ICAO Carbon Calculator

3.3.1 The UN system Climate Neutral Initiative calls for all UN organizations to calculate and reduce carbon emissions attributable directly to their operations including air travel. ICAO was requested to facilitate the efforts of all organizations regarding air travel emissions estimates by making available an air travel passenger carbon calculator tool. ICAO developed an initial methodology and presented this for approval at the CAEP SG in November 2007. CAEP established the Aviation Carbon Estimation (ACE) task force, lead by IATA, to review the methodology and prepare a detailed report for the consideration of CAEP. The ACE report and the methodology was approved in May 2008 as a first step while further improvements are to be decided by the next CAEP SG meeting. The calculator was officially pre-launched on 5 June, World Environmental Day, at the Bonn Climate Talks during a side event organized by UNFCCC and UNEP, entitled “Towards a climate neutral UN-Where do we stand?”, and was very well received by the public and the UN community. A letter will be sent to the UN Secretary General and to the heads of UN bodies offering the calculator as the UN reference tool. IATA has also recommended the ICAO methodology as the base for the calculation of emissions from its airlines with a view to having a more constant approach. The calculator was launched to the public and the media during the Aviation and Carbon Markets Workshop (see below). The calculator may be accessed on the ICAO public website at <http://www.icao.int>.

3.4 Aviation and Carbon Markets Workshop

3.4.1 From 18 to 19 June 2008, ICAO held the ICAO Carbon Markets Workshop. The keynote speaker at this event was Mr. Yvo de Boer, Executive Secretary of the UNFCCC. The objective of the event was to familiarize participants with key issues related to aviation emissions and carbon markets. A variety of approaches including emissions trading and carbon offset programmes were addressed, together with a broad discussion on other Kyoto flexible mechanisms and the opportunities for a global aviation carbon market. The workshop programme included presentations on emerging discussions on possible funding mechanisms for mitigation and adaptation. More information on this event, including copies of presentations, may be found on the ICAO website at www.icao.int/2008/wacm/.

4. SUMMARY

4.1 In light of all these developments, there is a need for ICAO to continuously follow-up and provide information and advice to the UNFCCC process leading to a post-Kyoto agreement. Further work on outreach will be necessary to improve the perception of aviation's impact on climate and the actions already taken and those envisaged by the Organization to address the current and future impact of aircraft operations in other UN fora. The appropriate Secretariat resources need to be allocated and clear aviation GHG deliverables for the short, mid and long term will need to be agreed. ICAO, in line with its mandate on GHG related matters given by the Assembly, shall continue to be the catalyst for actions from States and main aviation stakeholders and must endeavour to show this leadership, not only by moving in parallel to, but also by keeping one step ahead of the agreed UNFCCC process.

5. ACTION BY THE GROUP

5.1 The Group is invited to:

- a) note the recent developments in ICAO and other UN fora and their implications to the work of the GIACC;
- b) consider the need to provide concrete intermediate results on the GIACC progress on the ICAO programme of action on climate change to the upcoming session of the UNFCCC subsidiary bodies in Ghana, including:
 - 1) the baseline against which future aviation actions should be measured;
 - 2) the kind of goals under consideration;
 - 3) conclusions from GIACC/2.

APPENDIX A

**PRINCIPLES AGREED BY MEPC57 (EXCERPTS FROM THE MEPC57
REPORT)**

MEPC/57 decided to take the principles below as its reference for further debate on GHG emissions from international shipping and also for further reflection when the nature and form of the measures to be taken become clearer. A coherent and comprehensive future IMO framework should be:

1. effective in contributing to the reduction of total global greenhouse gas emissions;
2. binding and equally applicable to all flag States in order to avoid evasion;
3. cost-effective;
4. able to limit, or at least, effectively minimize competitive distortion;
5. based on sustainable environmental development without penalizing global trade and growth;
6. based on a goal-based approach and not prescribe specific methods;
7. supportive of promoting and facilitating technical innovation and R&D in the entire shipping sector;
8. accommodating to leading technologies in the field of energy efficiency; and
9. practical, transparent, fraud free and easy to administer.



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**AD HOC WORKING GROUP ON FURTHER COMMITMENTS
FOR ANNEX I PARTIES UNDER THE KYOTO PROTOCOL**

Fifth session

Bangkok, 31 March to 4 April 2008, and Bonn, 2–12 June 2008

Agenda item 3 (c) and (d)

Analysis of means to reach emission reduction targets and identification of ways to enhance their effectiveness and contribution to sustainable development

Greenhouse gases, sectors and source categories

Possible approaches targeting sectoral emissions

Greenhouse gases, sectors and source categories to be covered, and possible approaches targeting sectoral emissions

Draft conclusions proposed by the Chair

1. In accordance with its conclusions at the first part of its fifth session, the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP) considered, with due attention to improving the environmental integrity of the Kyoto Protocol:
 - (a) How approaches targeting sectoral emissions could be used by Annex I Parties as a means to reach their emission reduction targets;
 - (b) Possible broadening of the coverage of greenhouse gases (GHGs), sectors and source categories and its implications, based on sound science;
 - (c) How approaches to limit or reduce emissions of GHGs not controlled by the Montreal Protocol from aviation and marine bunker fuels could be used by Annex I Parties as a means to reach their emission reduction targets, taking into account Article 2, paragraph 2, of the Kyoto Protocol.
2. The AWG-KP noted that approaches targeting sectoral emissions could be used by Annex I Parties as a means to reach, but not replace, their emission reduction targets.
3. The AWG-KP took note of the views expressed by Parties under these agenda sub-items and compiled by the Chair of the AWG-KP under his responsibility, as contained in the annex to these conclusions.
4. The AWG-KP agreed to continue its work, within its mandate and according to its work programme, at the first part of its sixth session (August 2008) so that conclusions may be adopted at that session.

Annex

[ENGLISH ONLY]

Views of Parties compiled by the Chair of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol on possible approaches targeting sectoral emissions and on greenhouse gases, sectors and source categories to be covered

This annex is the compilation of views of Parties and does not prejudice any actions by the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP).

Possible approaches targeting sectoral emissions

1. Approaches targeting sectoral emissions in Annex I Parties could assist Annex I Parties in reaching their national emission reduction targets and could cover both producing and consuming sectors. These approaches should lead to a real benefit for the climate.
2. Approaches targeting sectoral emissions, within the mandate of the AWG-KP and according to its work programme, should not:
 - Replace national targets of Annex I Parties;
 - Lead to commitments for non-Annex I Parties;
 - Constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.
3. Types of approaches targeting sectoral emissions, within the mandate of the AWG-KP and according to its work programme, include:
 - Bottom-up sectoral analysis to inform the discussion on mitigation potentials of Annex I Parties;¹
 - Cooperative sectoral approaches supported and enabled by finance and technology;
 - Sectoral crediting in non-Annex I Parties;²
 - Complementary sector-specific goals for Annex I Parties.

Greenhouse gases, sectors and source categories to be covered

1. Ensure a comprehensive coverage of greenhouse gases (GHGs), sectors and source categories based on the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (AR4).
2. Ensure the environmental integrity of the Kyoto Protocol.

A. Greenhouse gases

1. Consider possible implications of adding new gases for:

¹ Relevant for discussions on mitigation potential.

² Relevant for discussions under emissions trading and the project-based mechanisms under agenda item 3(a).

- Mitigation potentials of Annex I Parties;
- The carbon market, in particular the supply and demand for tradable units under the Kyoto Protocol;
- National action in Annex I Parties.

2. Based on the above implications, consider adding to Annex A to the Kyoto Protocol, taking into account the availability of methodologies for estimating anthropogenic emissions and global warming potentials or any other metric:

- Then new GHGs to the group of hydrofluorocarbons and perfluorocarbons referred to the AR4;
- Then new GHGs or groups of GHGs including fluorinated ethers and perfluoropolyethers referred to in the AR4.

B. Sectors and source categories

1. Consider the possible implications of broadening the coverage of sectors and source categories, taking into account:

- The results of consideration of adding new GHGs or groups of GHGs;
- The results of consideration of the application of the *2006 IPCC Guidelines for National Greenhouse Gas Inventories*;
- The results of the consideration of the definitions, modalities, rules and guidelines for the treatment of land use, land-use change and forestry (LULUCF) in the second commitment period.

2. Based on the above implications, make any necessary changes to the coverage of sectors and source categories under Annex A to the Kyoto Protocol.

[Emissions from aviation and maritime bunker fuels

1. Limiting or reducing emissions from aviation and marine bunker fuels as a means for Annex I Parties to reach their emission reduction targets in accordance with Article 2, paragraph 2, of the Kyoto Protocol.

2. Scope of limiting or reducing emissions from aviation and marine bunker fuels as a means for Annex I Parties to reach their emission reduction targets in accordance with Article 2, paragraph 2, of the Kyoto Protocol:

- The International Civil Aviation Organization (ICAO) and International Maritime Organization (IMO) to take the lead; emissions to continue to be reported separately from national totals in accordance with the UNFCCC and Kyoto Protocol reporting guidelines;
- UNFCCC to agree on mitigation objectives; ICAO and IMO to implement these objectives;
- UNFCCC to take the lead by allocating emissions to national totals; ICAO and IMO to provide technical expertise.

3. Need for progress on discussions on Article 2, paragraph 3, of the Kyoto Protocol.

4. Apply economic instruments to emissions from aviation and marine bunker fuels as a source of revenue to finance, inter alia, adaptation and reduction of emissions from deforestation and forest degradation in developing countries.]



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SUBSIDIARY BODY FOR SCIENTIFIC AND TECHNOLOGICAL ADVICE

Twenty-eighth session

Bonn, 4–13 June 2008

Agenda item 7 (b)

Methodological issues under the Convention

Emissions from fuel used for international aviation and maritime transport

Emissions from fuel used for international aviation and maritime transport

Draft conclusions proposed by the Chair

1. The Subsidiary Body for Scientific and Technological Advice (SBSTA) received information from the secretariats of the International Civil Aviation Organization (ICAO) and of the International Maritime Organization (IMO) on ongoing work within these two organizations on emissions from fuel used for international aviation and maritime transport. The SBSTA took note of the views expressed by Parties on this information.
2. Recognizing the need to continue the cooperation and the exchange of information between ICAO, IMO and the UNFCCC, the SBSTA agreed to continue to receive information from ICAO and IMO on relevant work on this issue in order to enable Parties to exchange views on this information during its next three sessions.
3. The SBSTA agreed to further consider issues relevant to this agenda item at its thirty-second session (May–June 2010).

- END -