Statement from the International Civil Aviation Organization (ICAO) to the Twenty-Second Session of the UNFCCC Subsidiary Body for Scientific and Technological Advice (SBSTA)

(Bonn, 19 to 27 May 2005)

The International Civil Aviation Organization appreciates the opportunity to bring SBSTA up-to-date on our continuing work on aircraft engine emissions. In its statement to SBSTA/21, ICAO described the outcome of the 35th Session of the ICAO Assembly. The aim of this statement is to report on subsequent developments in ICAO, firstly on methodological issues and secondly on ICAO's policy work.

Methodological issues regarding aviation emissions

At the request of SBSTA, ICAO has been cooperating in an exercise aimed at improving both the quality of data on aviation emissions reported by Parties to the UNFCCC and the methodology on which this reporting is based. We have been generating aviation emissions data with the help of three aviation models made available to ICAO (i.e. AERO, AERO2K and SAGE), enabling comparisons to be made with the emissions estimates that are submitted to the UNFCCC Secretariat by Annex I Parties. Preliminary results of this exercise were reported to SBSTA/20 in June 2004, when a side event was also organized by ICAO on aviation emissions[1].

We are pleased to inform SBSTA that ICAO has now completed these comparisons. The results are contained in a "Miscellaneous document"[2] and ICAO will be providing a detailed presentation of the results later, during the discussions under methodological issues.

A substantial amount of time and resources have been allocated by ICAO and the model developers to this task. ICAO considers that a point has now been reached where further comparisons of modelled results with the UNFCCC data in the short term is unlikely to provide significant additional information.

Under the guidance of ICAO, these modelling tools will be further refined. CAEP will continue to evaluate the aviation models and to identify possible areas of improvement of their computational process and output data. ICAO will also continue to work on the assessment of the evolution of emissions from air transport and towards improving the availability of information related to the present and future impact of aircraft engine emissions as requested by the ICAO Assembly.

During the data comparison exercise, it has been noted that air traffic data is not always easily available or provided in a format suitable for UNFCCC inventory activities. We are therefore exploring the feasibility and cost implications of making available an ICAO database of worldwide air services in a format that individual UNFCCC Parties could use.

ICAO is also actively supporting the IPCC in the revision of the Guidelines for National Greenhouse Gas Inventories, including an update of the aviation emissions factors in the guidelines.

Work of the ICAO CAEP

Following the outcome of the last Assembly, ICAO's Committee on Aviation Environmental Protection - CAEP has continued studying options for limiting or reducing greenhouse gases from aviation, with a focus on technical, operational and market-based options.

Technology and standards - ICAO has been considering to what extent technology can help, through improved engine or airframe design. The emissions considered include those already regulated by ICAO Standards, and others such as particulates, which could be relevant to production of condensation trails and to cirrus cloud formation. The new certification methodologies being explored encompass all phases of flight, including climb and cruise. This is a very complex task requiring close cooperation with industry and scientific bodies. CAEP is also considering long term goals for aviation emissions.

Operational measures - Operational measures provide an opportunity to reduce fuel consumption and hence emissions of greenhouse gases, for example through more direct routings. ICAO continues to promote its guidance material for States on the best operating practices[3] and to identify new potential actions to minimize greenhouse gas emissions. CAEP is also developing practical tools to evaluate the potential environmental benefits of satellite-based Communication, Navigation, Surveillance and Air Transport Management (CNS/ATM) systems enhancements at a State level.

Market-based options - ICAO is continuing to explore the use of market-based options as a potential means of limiting greenhouse gas emissions, to evaluate the costs and benefits of the various measures, and to develop guidance for States. Measures would target CO_2 emissions, while leaving open the possibility of later extending this work to other greenhouse gas emissions from aviation.

In particular, CAEP is conducting further studies and developing appropriate guidance on an **international aviation open emissions trading system**, on the basis of two approaches. Under one approach, ICAO would support the development of a voluntary emissions trading system that interested airlines, airports, States and international organizations might propose; and under the other approach, ICAO would provide guidance for use by States, as appropriate, to incorporate emissions from international aviation into States' emissions trading schemes consistent with the UNFCCC process.

The Council of ICAO has also set in motion further studies on the scientific, economic and legal aspects of **emissions charges**.

Concluding remarks

ICAO will continue to study policy options to limit or reduce the environmental impact of aircraft engine emissions, to cooperate with the UNFCCC Secretariat and to assist SBSTA and IPCC with regard to methodological issues, as needed.

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1.The presentations from the side event are accessible on the UNFCCC website.

2.http://UNFCCC.int/resource/docs/2005/sbsta/misc04.pdf

3.*Operational Opportunities to Minimize Fuel Use and Reduce Emissions* (Circular 303)