SCOPING MEETING ON AVIATION EMISSIONS INVENTORIES

(Montreal, 27 - 28 February 2003)

CONCLUSIONS

1. The UNFCCC's principal problems concerning aviation emissions data reported by States relate to:

- discrepancies between fuel consumption data reported under the UNFCCC and IEA published data
- the domestic/international split
- incomplete reporting
- improving the level of confidence in emissions data reported by Annex I Parties.

The participants noted that the uncertainty in the emissions estimates were primarily related to definitions, data sources and methodology (as described in the Appendix).

2. Aviation emissions are unique in that they are injected into the atmosphere at altitude. The emissions databases developed within the aviation community are primarily aimed at determining both the volume of emissions and where they are injected (longitude, latitude and altitude). These databases, which are relatively sophisticated, have been designed in consultation with the scientific community so as to enable a better understanding of the impact of emissions (for example for the IPCC Special Report in 1999) and ultimately as a basis for policy-making within ICAO and its Committee on Aviation Environmental Protection (CAEP). They are constructed on a route or airport-to-airport basis, rather than a national basis.

3. ICAO would like to assist the UNFCCC process, both in connection with the present data collection process and, in the longer term, with future methodologies.

The present data collection process

4. ICAO could arrange for experts to participate in and/or cooperate with the UNFCCC Secretariat in its annual greenhouse gas inventory review process.

5. Within the existing database projects, specific tools are being developed that could be endorsed by ICAO to provide estimates of emissions for each Annex I Party (including the domestic/international split). This information could be used by the UNFCCC process to further improve the quality of data reported. Further discussions need to take place within the CAEP process on when these tools could be made available.

6. In connection with the above-mentioned tools, ICAO can also contribute by facilitating the collection of some of the data used and by ensuring its consistency. A questionnaire recently prepared by CAEP should be of assistance in this regard.

Future methodologies

7. The IPCC is currently undertaking an emissions factor database project. The aviation community through ICAO should actively participate in this project. This could include providing new and updated emission factors and/or participating in the assessment of submitted emission factors.

8. Towards the end of 2003, the IPCC intends to initiate a review of the methodology (the Revised 1996 IPCC Guidelines for National GHG Inventories) that provides the basis of the UNFCCC data collection. The aviation community through ICAO should actively participate in this process, focussing on key areas such as:

- the overall methodology
- definition of international and domestic flights
- improving and updating emission factors.

9. The participants welcomed the convening of this meeting, the exchange of ideas that had taken place and the possible ways forward that had been identified. Further, similar meetings may need to be initiated to ensure the necessary cooperation between ICAO and the UNFCCC process regarding aviation emissions data.

10. Given the nature of the scoping meeting, the conclusions on assistance will need to be reviewed by the CAEP process. Any budgetary implications for ICAO would also need to be reviewed.

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APPENDIX

Primary areas of uncertainty in emission estimates for aviation

Definitions

ICAO and IPCC use different definitions for international and domestic flights.
There is variability in the conversion factors being used for:

- converting fuel consumption from physical to energy units (e.g. Kt to TJ)
- carbon-content used in the estimation of CO2 (different factors for different regions).

Data sources

There are a number of data sources for fuel consumption in the aviation sector (IEA, ICAO, National Reports, IATA, Airlines). These sources may contain different data for the same activities due to the use of different definitions for domestic and international flights, inclusion (or not) of military commercial data, treatment of non-revenue flights, and whether the data related to fuel sold, used or loaded.

Methodology

The IPCC Guidelines include 3 tiers for estimating national and international emissions from aviation using data such as fuel consumption, LTOs, emission factors (per aircraft type or aircraft engine type). ICAO employs alternative methods that make use of flight specific information leading to emission estimates associated with specific routes and/or airports.

The emission factors of the IPCC Guidelines have uncertainty levels associated with them that vary between 5% and 45% depending on the part of the flight they are used for (LTO or cruise).

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