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

(Bonn, 4-13 June 2003)

At this SBSTA session, the focus has been on the need for more reliable emission inventories for aviation. As is explained in the Secretariat's paper[1], ICAO has contributed to this exercise by holding an exploratory meeting in Montreal in February and by helping to identify possible ways forward.

ICAO would like to take this opportunity to bring SBSTA up-to-date on our continuing policy work in this field[2].

Development of policy options

In October 2001, the 33rd Session of the ICAO Assembly requested the Council of ICAO to 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.

Against this background, ICAO's Committee on Aviation Environmental Protection (CAEP) is undertaking an ambitious work programme on aircraft engine emissions, including technical issues, operational issues and market-based measures for emissions reduction. The results will be considered at the Committee's sixth meeting (CAEP/6), which is expected to take place in February 2004.

Further development of technology and related world-wide standards

ICAO's current emissions certification Standards[3] are primarily aimed at ground level emissions and are based on an aircraft's landing and take-off (LTO) cycle. While based on the LTO cycle, these Standards have also helped to reduce emissions at altitude.

ICAO's present activities therefore include:

a) monitoring advances in technology that might help achieve further reductions in emissions through improved engine or airframe design, in consultation with aircraft and engine manufacturers, and government sponsors of related research and development;

b) exploring the establishment of long-term technology goals to reduce aircraft engine emissions;

c) considering whether the existing ICAO Standards for aircraft engine emissions could be made more stringent (notably those for oxides of nitrogen); and

d) exploring the further development of ICAO Standards to specifically address emissions of global concern.

Reducing fuel burn through improved operational measures

Currently aircraft operations often involve indirect routings, delays, and other factors that may contribute to increased fuel burn and associated emissions.

ICAO guidance material has therefore been prepared for States on operational opportunities to minimise fuel use and reduce emissions so as to enable airports, airlines and other stakeholders that have successfully reduced emissions to share their techniques with others. This guidance is being promulgated through a series of regional workshops. Two have already been held (Europe, North America) and three more are being planned (South America, Asia/Pacific and Middle East).

ICAO is also promoting awareness of the beneficial impact on aircraft emissions from implementation of new satellite-based Communications, Navigation, Surveillance and Air Traffic Management (CNS/ATM) systems, which are expected to provide more direct routings and reduce delays. For example, analytical work involving the European Organization for the Safety of Air Navigation (EUROCONTROL) and the United States Federal Aviation Administration has estimated overall fuel savings and associated reductions of CO_2 of the order of 5 per cent in both the United States and European regions, based on planned CNS/ATM enhancements through 2015. This analytical work is now being expanded to other regions of the world.

Analysing the use of market-based measures

Whereas past ICAO efforts in the environmental field have generally focussed on the adoption of technology-based standards, there is a need to broaden the range of approaches and explore the potential role of market-based measures. These measures are designed to achieve environmental goals at a lower cost and in a more flexible manner than traditional regulatory approaches. They include voluntary measures, emission-related levies and emissions trading, all of which at this stage would target CO_2 emissions. The ICAO Assembly called for the development of further guidance for States on market-based measures and identified a number of specific actions for further work[4].

On voluntary measures, priority is being given to working with key stakeholders on development of a template agreement to facilitate action.

On emission-related levies, the focus is on developing further guidance on emission-related charges, rather than taxes. This includes identification and calculation of the costs of mitigating the impact of aircraft engine emissions and development of guidance on how revenues from charges could be used to limit or reduce emissions.

On emissions trading, priority is being given to developing an open system for international aviation emissions (one in which there is trading of CO_2 equivalent allowance units between the aviation sector and other sectors). This includes:

a) development of guidelines for open emissions trading including the structural and legal basis for international aviation's participation in such a regime; and

b) further development of key elements of such a system including reporting, monitoring, compliance and definition of an appropriate target for the international aviation sector.

In view of the complexity of emissions trading and in addition to the work already under way in CAEP, a firm of consultants has been commissioned to explore the feasibility of designing a greenhouse gas emissions trading system covering the international aviation sector. The objective of the study is to identify and analyse several potential options for an emissions trading scheme that could help to control emissions. Based on the conclusions of the study, expected by the end of 2003, and on a cost benefit analysis of the available options, ICAO will study the possible strategies to manage greenhouse gases and consider the best course of action to be followed.

In this work on market-based measures, it is also necessary to address a number of cross-cutting issues including:

a) the effects of implementation of these measures on developing countries;

b) the implications if different approaches are taken by States or regions; and

c) the effects of international and domestic aviation emissions being treated differently.

Summary

In conclusion, ICAO's work on addressing greenhouse gas emissions from aviation is proving to be challenging and complex. Although no-one had ever imagined that this would be an easy task, those involved in this work are also having to contend with the continuing uncertainty regarding the status of the Kyoto Protocol, as well as the difficult situation that is currently being faced by the air transport industry (in addition to the tragic events of 11 September 2001, the repercussions of which are still being felt, the industry has been adversely affected by the situation in Iraq and, most recently, by concerns associated with severe acute respiratory syndrome, SARS). Considerable efforts are being made and, looking ahead, it is expected that further substantive progress will be achieved when CAEP meets to review the results of these efforts in February 2004.

1. FCCC/SBSTA/2003/INF.3.
2. ICAO's previous report was to SBSTA/15 (Marrakech, 30 October-6 November 2001).
3. Volume II of Annex 16 to the Chicago Convention.
4. Assembly Resolution A33-7, Appendix I.

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