- A revenue-neutral charge based on aircraft efficiency, with higher charges on less fuel-efficient aircraft offset by lower charges on more fuel-efficient ones.
- An en-route emissions charge, with revenues recycled to the aviation sector (for example, to defray the costs of the harmful effects of emissions and to support air traffic modernisation, early retirement of aircraft, and research and development activities).
- An en-route emissions tax, with revenues being used to offset other taxes.

For emissions trading, three types of system are being evaluated:

- An open system, in which emissions from all aviation sources (domestic and international) are treated identically to other emissions, and trading may take place between the aviation sector and other sectors.
- A closed system, in which international aviation emissions may only be traded within the aviation sector, with a fixed cap. This would leave domestic emissions subject to whatever national emissions trading rules are introduced in the flexible mechanisms framework agreed by the Conference of the Parties. International emissions would be ring-fenced and treated separately.
- A third system envisages trading of emissions based on an initial distribution of permits in relation to optimised efficiency criteria for the international fleet and the assumption that all additional permits would be bought from the open market.

The voluntary agreements under evaluation would be between industry (airlines and aircraft manufacturers) and authorities (individual governments, groups of governments or international organisations). They would aim for a reduction in specific emissions (that is in grams of  $CO_2$  per unit of traffic), with various options depending on the parties involved and the emissions reductions sought.

CAEP will also consider hybrid options drawing on elements from each of the three approaches under consideration (levies, trading and voluntary agreements).

Now that an initial set of market-based options have been specified, analysis will begin on the associated economic impacts and environmental benefits. Meanwhile, work will continue on refining these options and assessing administrative and legal issues. The assessment and option refinement process will continue over the next several months and beyond, leading to the preparation of an assessment report in time for the next full CAEP meeting in early 2001.

## Summary

ICAO's Committee on Aviation Environmental Protection (CAEP) is making progress in studying policy options to limit or reduce the greenhouse gas emissions from civil aviation, in preparation for the next ICAO Assembly session in 2001. We hope that SBSTA finds this report useful and confirm ICAO's willingness to explore ways to further strengthen the exchange of information between ICAO and SBSTA, as envisaged by the SBSTA session in June.