

- these emission methodologies may not be needed for CO₂ emissions, which can be determined on the basis of measured fuel consumption;
 - although they may not be needed for CO₂, they are essential for most other emissions and the initial focus is being placed on NO_x as a priority;
 - these emission methodologies could be useful for such purposes as preparing impact assessments, designing policy options and monitoring progress in addressing aircraft engine emissions;
 - new provisions based on these emission methodologies will subsequently be developed for inclusion in Annex 16, if required (time-frame: 2003/2004); and
- d) examining long-term technological options to reduce CO₂ and other gases and the adequacy of existing ICAO emissions control procedures.

10. **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. CAEP is therefore:

- a) preparing, in consultation with industry, draft ICAO guidance material for States regarding airport and airline best operational practices, so as to enable airports and airlines that have successfully reduced emissions through modifications of operational practices to share their techniques with others (time-frame: CAEP/5, early 2001);
- b) encouraging States to implement new satellite-based Communications, Navigation, Surveillance and Air Traffic Management (CNS/ATM) systems, which are expected to provide more direct routings and reduce delays (time-frame: progressively over next 20 years);
- c) undertaking an initial analysis of the impact on aircraft emissions that planned CNS/ATM enhancements will have and making the results available to those involved in planning future air traffic improvements at a regional level (time-frame: CAEP/5, early 2001); and
- d) preparing, in consultation with industry, draft ICAO guidance material on other possible means to improve operational measures so as to reduce emissions (time-frame: CAEP/5, early 2001).

11. **Analyzing the use of market-based options.** Whereas past efforts in the environmental field have focused 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 options, including emission charges, fuel taxes and emissions trading regimes. CAEP is therefore:

- a) identifying and defining a range of potential market-based options including fuel and en-route levies, emissions trading and voluntary programmes, all of which at this stage would target CO₂ emissions (time-frame: late 1999);