

## Basket of measures to limit or reduce CO<sub>2</sub> emissions from international civil aviation

- 1) **Aircraft-related Technology Development**
  - a. Aircraft minimum fuel efficiency standards
  - b. Aggressive aircraft fuel efficiency standards, setting standards for the future
  - c. Purchase of new aircraft
  - d. Retrofitting and upgrade improvements on existing aircraft
  - e. Optimizing improvements in aircraft produced in the near to mid-term
  - f. Avionics
  - g. Adoption of revolutionary new designs in aircraft/engines
- 2) **Alternative Fuels**
  - a. Development of biofuels
  - b. Development of other fuels with lower lifecycle CO<sub>2</sub> emissions
  - c. Standards/requirements for alternative fuel use
- 3) **Improved Air Traffic Management and Infrastructure Use**
  - a. More efficient ATM planning, ground operations, terminal operations (departure, approach and arrivals), en-route operations, airspace design and usage, aircraft capabilities
  - b. More efficient use and planning of airport capacities
  - c. Installation of airport infrastructure such as Fixed Electrical Ground Power and Pre-Conditioned Air to allow aircraft APU (Auxiliary Power Unit) switch-off
  - d. Construction of additional runways and taxiways if used solely to relieve traffic congestion
  - e. Collaborative research endeavours
- 4) **More efficient operations**
  - a. Best practices in operations
  - b. Optimized aircraft maintenance (including jet engine cleaning/washing)
  - c. Selecting aircraft best suited to mission
- 5) **Economic / market-based measures**
  - a. Voluntary inclusion of aviation sector in emissions trading scheme
  - b. Incorporation of emissions from international aviation into regional or national emissions trading schemes, in accordance with relevant international instruments
  - c. Establishment of a multilateral emissions trading scheme for aviation which allows trading permits with other sectors, in accordance with relevant international instruments
  - d. Establishment of a framework for linking existing emissions trading schemes and providing for their extension to international aviation, in accordance with relevant international instruments
  - e. Emissions charges or modulation of LTO charges, in accordance with relevant international instruments
  - f. Positive economic stimulation by regulator: research programs, special consideration and government programs/legislation and accelerated depreciation of aircraft
  - g. Accredited offset schemes
  - h. Explore extension of CDM

- i. Taxation of aviation fuel, in accordance with relevant international instruments

**6) Regulatory measures / Other**

- a. Airport movement caps / slot management
- b. Enhancing weather forecasting services
- c. Requiring transparent carbon reporting
- d. Conferences / workshops