Airports and GHG reduction

D-Air Project
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We’ll look at …

- Why? - Reasons for airports to reduce GHG emissions
- What? - Sources of emissions related to airports
- How? - Managing GHG emissions
- How? - Types of measures that may be adopted
- A word on EU GHG emissions legislation and airports
- Airports and energy demand/surface access
Why reduce GHG emissions?

- Regulatory drivers (direct / indirect)
  - Obligations or targets set out in legislation;
  - EU ETS/ ESD/ EE/ RES

- Financial/economic reasons
  - Co-benefits of actions to reduce GHG emissions (e.g. savings in energy consumption).

- Environmental credentials (CSR / PR)
  - “Green” airports, carbon certification schemes (e.g. ACI-Europe Airport Carbon Accreditation).
Sources of emissions (1)

- Aircraft operations
  - Airport operator may contribute to reducing emissions from: e.g. landing/taxiing/APU emissions.

- Emission sources under regulatory control:
  - EU: Avt- EU ETS;
  - ICAO: future MBM(s).

- Aircraft operators demand efficient airport operations to reduce their compliance costs.
Sources of emissions (2)

- Influence of airport operator varies:
  - Direct control (Scope 1): e.g. own power/ heating/ cooling sources, airport-owned fleet vehicles;
  - Off-site (3rd party) energy generation (Scope 2);
  - Airport-related activities not controlled but influenced by airport operator (Scope 3A): e.g. 3rd party airside equipment.

- Regulatory control varies:
  - Scope 2: EU ETS (indirect);
  - Scope 1/3A: national GHG emissions targets (unilateral/EU Effort-Sharing Decision)

Source categories as per World Resource Institute (2004)
Sources of emissions (3)

- Influence of airport operator minimal to nil (Scope 3B): e.g. transport to/from airport site (road/rail networks), off-site waste disposal, airport hotels
- Regulatory control varies:
  - national ghg emissions targets (unilateral/EU Effort-Sharing Decision)

Aircraft operations

Airport

Other associated activities

Source categories as per World Resource Institute (2004)
GHG emissions management programme

- Identify sources
- Monitor emissions from sources
- Identify/prioritize sources for action
- Identify/assess options for action
- Implement action(s)

Additional notes:
- Appropriate accounting/reporting protocol (facilitate inter-comparability)
- Cost vs. benefit analysis, cost-effectiveness, compatibility with other req's (e.g., regulatory)
Categories of measures

**Regulatory (command-and-control):**
- Externally imposed;
- Setting emission standards or prescribing procedures;
- E.g. emission limits.

**Technical:**
- (usually) Internally adopted;
- Solutions using technical devices;
- E.g. RES, energy efficient equipment.

**Regulatory (economic/MBMs):**
- Externally imposed;
- Economic incentive ("reward") for emission reductions achieved;
- E.g. emissions trading.

**Operational:**
- Internally adopted; (possibly externally imposed)
- Changes in operation of emission sources and/or airport practices;
- E.g. traffic/runway mgt.
Airports and EU GHG legislation - the EU ETS -

- Aircraft operators (gate-to-gate emissions covered)
  - aircraft emissions at airports are important cost-element for AOs.

- Airports may be covered if operating combustion units of total rated thermal input ≥20 MW (probably rare situation).

- Airports sourcing energy from 3rd party providers falling under the EU ETS are (very likely) subject to pass-through of EU ETS compliance costs
  - Alternative energy sources/energy efficiency measures become an important consideration for airport operators (esp. with full auctioning).
Airports and EU GHG legislation - the Effort-sharing Decision -

- Sets national targets for GHG emissions not covered by EU ETS
  - Includes inter alia emissions from transport, waste mgt, use of HFCs;
  - Compliance onus on Member State;
  - But gov’ts may want to enact national legislation targeting specific sectors/activities.

- Airport emissions directly covered by ESD
  - Vehicles and other ground equipment, buildings, own (non-EU ETS) power generators, own waste incineration/treatment.

- Activities associated with airports also covered
  - Emissions from road network, off-site waste management.
Airports and energy demand

- Energy costs for airport operators
  - Sourcing to meet demand of airport and its customers;
  - Environmental costs (e.g. direct or indirect EU ETS compliance costs).

- Sourcing options
  - Conventional (fossil fuel based) vs alternatives (e.g. RES, biofuels).

- Energy use efficiency is of primary importance
  - Reduce demand = reduce sourcing needs = reduce costs.

- To consider further …
  - Can airports become energy providers (e.g. renewables)?
Airports and surface access

- Road transport is often second highest contributor to national GHG emissions footprint – thus of major concern to national gov’ts from a regulatory perspective!

- Efficient transport networks …

- Surface access to/from airports is crucial…
  - for passengers;
  - for airport staff/service providers;
  - airports as centres for other commercial activities (retail/office space);

- Do airports have a role in surface access management?
Useful resources...


Thank you …

And have a nice flight …

to environmental sustainability!

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