

# Roles and Responsibilities of Government Entities on Climate Change Regulations in Aviation

## An Airport Perspective

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# Overview

- Industry commitments and achievements.
- Policy and regulatory options.
- Industry implications.

## Industry Perspective

- **Airports Council International–North America:**  
One of five regional offices of ACI – the voice of air carrier airports worldwide.
- Climate change can only be tackled through joint collaboration with airlines, airframe and engine manufacturers, government, and the community.

# Climate Change as Industry Priority

## 2008 Aviation Industry Declaration:

committed to a pathway to carbon-neutral growth and aspire to a carbon-free future

### Four Pillar Approach:

- investment in new technology
- increasing operational efficiency
- air traffic and airport infrastructure improvements
- *appropriate economic measures*

# Aviation Greenhouse Gas Emission Sources



- Aircraft (the largest contributor)
- Ground Support Equipment
- Ground Access Vehicles
  - Hotel and Parking Shuttles
  - Passenger Vehicles
  - Employee Vehicles
- Stationary Sources
- Energy Purchased

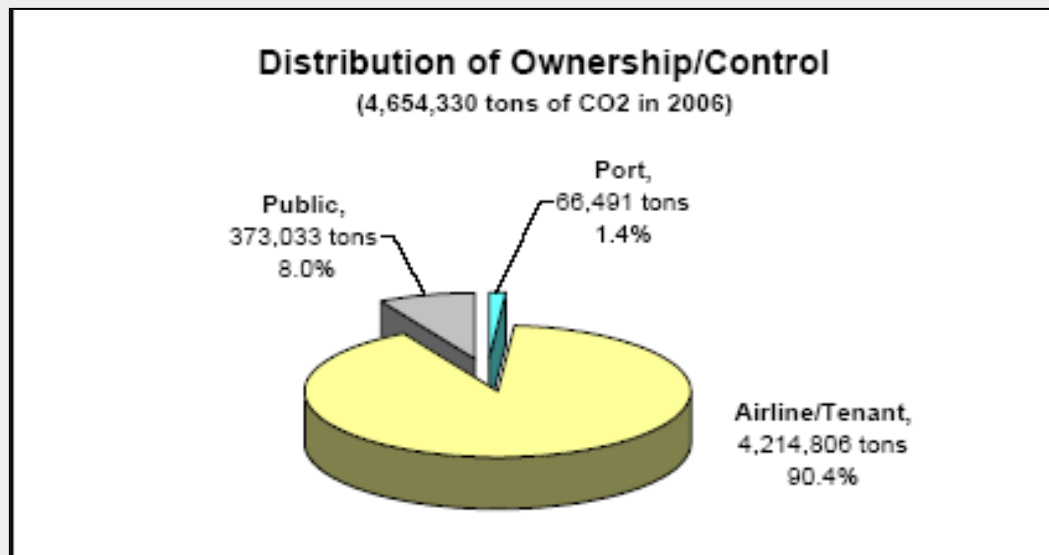


## Control and Boundaries

# Airport GHG Emission Inventories



- Inventories help identify emission sources and inform climate action plans.
- Inconsistent inventory methodologies exist.
- TRB Airport Cooperative Research Program is developing airport GHG emissions inventory methodology (release early 2009).



\*\*SeaTac Example

# Reducing GHG Emissions *Within* an Airport's Control



- ✓ Using **low emission vehicles**.
- ✓ Investing in **energy saving** equipment and buildings.
- ✓ Installing or purchasing **"green power."**
- ✓ **Recycling** and reducing waste.

# Reducing GHG Emissions *Outside* an Airport's Control



- ✓ Promoting **public transportation** access.
- ✓ Encouraging use of **low emission vehicles**.
- ✓ Providing and maintaining **infrastructure** for efficient operations.
- ✓ Emission reducing services at the **gate**.



# Reducing Aircraft Emissions

Airlines, Airframe and Engine Manufacturers, Government, and Air Navigation Service Providers work to reducing aircraft emissions.

 **Emissions** =  **Fuel Use** =  **\$\$**

- Winglets
- Direct Routes
- Efficient Engines
- Engine Washing
- CDA/RNP/RNAV
- Efficient Scheduling
- Single-Engine Taxiing
- Retirement of Older Aircraft
- Gate Power/Air Usage
- Weight Reduction

# Reducing Aircraft Emissions

- Support for NextGen, SESAR – improve system efficiencies.
- Development of alternative aviation fuels – CAAFI (Commercial Aviation Alternative Fuels Initiative).
- Research and implementation of technology, engine, and airframe improvements.
- Research into impact of aircraft GHG emissions on climate change.
- Invest in newer aircraft.

# Airline Industry Goals



- Airline Fuel Efficiency Goals:
  - **IATA**
    - 25% improvement in fuel efficiency and CO<sub>2</sub> emissions by 2020 from 2005 levels.
  - **ATA**
    - At least a 30 % improvement in fuel efficiency by 2025 from 2005 levels.

# ACI Actions to Tackle Climate Change

- ACI-World: 2007 Assembly resolution on Climate Change – **“ACI member airports are encouraged to declare firm commitments on environmental goals within their own control, *including strategies to reduce carbon emissions, with the ultimate target of becoming carbon neutral.*”**
- ACI-NA: Considering environmental goals.
- ACI-Europe: Developing Green Airport Charter/Label program focused on carbon management.

# ACI Position Paper on Climate Change

- ACI supports leadership and emissions standards from the International Civil Aviation Organization (GIACC process).
- ACI supports integration of aviation CO<sub>2</sub> into a global emissions trading system.
- ACI does not support capacity constraints, taxation or (non-legitimate aeronautical) charges.

# Policy and Regulatory Considerations

- Voluntary Measures - support
- Taxes and Charges - oppose
- Emissions Trading – support, but...
  - National v. Global
  - Regulating agency
  - Baseline year(s)
  - Cap level
  - Auctioning level
  - Open trading
  - Use of funds generated
  - Interdependencies
  - Emission reduction credits

# Airport-Specific Implications

- Emissions trading
  - Increased energy costs
  - Potential capacity reductions
  - Airports as energy generators/distributors
  - Potential revenue source
- Inventory requirements
- Environmental impact analysis (e.g., NEPA, CEQA) – establishing thresholds of significance.

# Other Potential Aviation Implications

- Reduced funding for newer aircraft and technology.
- Reduced funding for research.
- Increased ticket prices.
- Impact to other environmental parameters.

Questions?