

Transport Canada Update to the ASCENT Advisory Board

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Purpose

- Outline Transport Canada's roles, responsibilities and activities related to aviation research.





Transport Canada's Responsibilities

- Ensures a safe, secure, efficient and environmentally responsible Canadian transportation system
 - Assess safety, security and economic implications in proposed environmental measures.
- Regulates all emissions from the aviation, marine and rail sectors – leads Canadian participation and involvement at the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO).
- Removes barriers to enable take-up of clean technologies – e.g., modernized and harmonized codes, standards, test protocols, targeted incentives, and research.



Clean Air and Climate Change Agenda

- Signed in 2011, the Clean Transportation theme under the Government of Canada's Clean Air Agenda, provides funding to various initiatives under three modes of transportation: Air, Rail and Marine.
- The aviation sector received \$12.9 million over 5 years (ending in 2015/16). Budget 2016 extended funding for another 2 years.
- This initiative supports:
 - the development of new international standards and recommended practices that address air pollution and GHG emissions from aviation;
 - domestic aviation emission reductions through the development and implementation of new regulations;
 - the expansion of the voluntary Action Plan developed in collaboration with the Canadian domestic aviation sector; and
 - targeted research.



Canada's Action Plan to Reduce Greenhouse Gas Emissions from Aviation

- Publically released in June 2012, Canada's Action Plan on Climate Change was developed jointly between the Government of Canada and Canada's aviation industry.
- The Action Plan sets an aspirational goal to improve fuel efficiency by an average annual rate of at least 2 percent per year until 2020 measured against a 2005 baseline.
- Canada will also benchmark progress against the Air Transport Action Group's target of 1.5 percent.
- The Action Plan also highlights a second set of measures which are expected to have beneficial environmental results but are not expressed in quantitative terms.



Working Group on Aviation Emissions

- The Working Group has 5 main areas of focus:
 - Performance-based Navigation: improve Air Navigation Services (ANS) and air operator efficiency;
 - Surveillance: improved ANS, airport and air operator efficiency;
 - Airport Operations: identify and implement opportunities to reduce emissions from APUs and GSE, targeting data collection, push-back operations, ground crew availability, ground surveillance improvements and taxi infrastructure improvements; and
 - Alternative Fuels: identify opportunities to advance alternative fuels for aviation in Canada.



Working Group on Aviation Emissions Cont'd

- The Airport Operations sub-group has completed 3 studies:
 - In 2014, a study on best practices pertaining to APU and GSE use was undertaken, which looked at examples from airports, airlines and services providers in Canada and abroad.
 - In 2015, the purpose of this study is to identify specific steps airports and airlines have taken to convert traditional fossil fuel powered GSE to either alternative fueled vehicles (AFV) or electric vehicles (eGSE).
 - In 2016, a study was undertaken to look at alternative GPU connection configurations and operations at several Canadian airports.



Achievements

- Each year Canada produces an Annual Report on the Action Plan to highlight successes including:
 - Fleet renewal and upgrades;
 - Improved air traffic management;
 - International coordination; and
 - Research and development.

Air Quality Monitoring at Canadian Airports - Background

- Transport Canada has supported emissions assessments at airports since concerns were first raised regarding airport source impacts on ambient air quality in the early 1970's.
- TP 9606 “A Review of Ambient Air Quality at Major Canadian Airports” contains the results of 16 studies completed over a 15 year period.
- These studies were conducted as part of a commitment to ensure that national environmental objectives for air quality were being met.

Air Quality Monitoring at Canadian Airports - Background

- 26 National Airport System airports which account for 94% of traffic.
- Transport Canada partners with local airport authorities to complete air quality studies using the TC Mobile Air Quality Monitoring Laboratory.
- The Mobile Air Quality Monitoring Laboratory monitors various pollutants, CO, NO, Ozone, PM (10 and 2.5).
- Studies are completed over a year period encompassing all four seasons.
- Recent studies have been completed at Edmonton International Airport, Kelowna International Airport and Victoria International Airport.



The Airport Carbon and Emissions Reporting Tool (ACERT)

- The Airport Carbon and Emissions Reporting Tool was first developed in 2008 through a joint partnership with Transport Canada and the Canadian Airports Council. The tool was developed to assist airports in developing GHG inventories with reliable results at minimal cost.
- Utilizing available information, ACERT is an excel spreadsheet that can quickly run GHG calculations using inputted and assumed information.
- ACERT now forms part of the Airports Council International *Carbon Accreditation Program* as a recognized tool airports can use to develop a GHG inventory.





ACERT

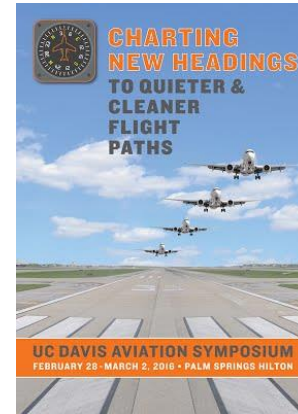
- ACI, in partnership with Transport Canada, has made the tool available to its 1600 members. ACERT has also been promoted to the International Civil Aviation Organization (ICAO) for use by all 191 member States.
- In June 2009, ACI-World launched the Airport Carbon Accreditation program, the first carbon mapping and carbon management standard specifically designed for the airport industry. There are four levels of accreditation, with the highest being “neutrality”.
- ACI-World has recently announced that ACERT can now be used by airports to develop emission inventories as part of the Airport Carbon Accreditation program.
- Results have indicated that using ACERT, Scope 1 and 2 emissions were within 5-10% of those from detailed inventories. Thus, making it an accurate tool for airports.
- In June 2015, ACI World released version 3.0.



Moving Forward on Strategic Partnerships and Collaborative Research



CANADIAN AIRPORTS COUNCIL
CONSEIL DES AÉROPORTS DU CANADA



ACRP
REPORT 11

AIRPORT COOPERATIVE RESEARCH PROGRAM

Sponsored by the Federal Aviation Administration

Guidebook on Preparing Airport Greenhouse Gas Emissions Inventories

TRANSPORTATION RESEARCH BOARD OF THE NATIONAL ACADEMIES



FAA CENTER OF EXCELLENCE FOR ALTERNATIVE JET FUELS & ENVIRONMENT



Partnership for AiR Transportation Noise and Emissions Reduction

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Canadian Aerospace Environmental Technology
ROAD MAP



Green Aviation Research & Development Network

Groupement Aéronautique de Recherche et Développement en eNvironnement

