



## **BACKGROUND:**

### **Fourth Annual Report on Canada's Action Plan to Reduce Greenhouse Gas Emissions from Aviation (2015)**

The *Fourth Annual Report on Canada's Action Plan to Reduce Greenhouse Gas Emissions from Aviation*, released in December 2016, shows that Canadian air carriers continued to make progress on a broad range of initiatives to reduce aviation's carbon footprint.

Aviation activity and associated fuel-use data for 2015 provided by members of the Air Transport Association of Canada (ATAC) and the National Airlines Council of Canada (NACC), demonstrate continued progress towards the fuel-efficiency target.

In 2015, the overall rate of fuel consumption (i.e., litres per RTK) declined by 0.8 percent, compared with 2014. The combined domestic and international fuel-consumption rate reported for 2015 was 35.46 litres per 100 RTK (combining both passenger and cargo traffic). This translates to an average annual fuel-efficiency improvement of 1.52 percent per year between 2008 and 2015, and a cumulative improvement of 10.1 percent.

However, the demand for aviation services continued to grow in 2015. Combined revenue passenger and cargo operations increased by 7.6 percent in 2015, compared with 2014. As a result, Canadian air carriers used 7.02 billion litres of fuel, a 6.7 percent increase over 2014, and total GHG emissions also increased by 6.7 percent to 18.13 Mt.

This points to the need for progress in other areas that the Action Plan identifies as having potential to lower GHG emissions, including fleet renewals and upgrades; more efficient air operations; and improved capabilities in air traffic management (ATM).

The report highlights advances made in other areas during 2015. Canadian air carriers replaced older generation aircraft with more efficient aircraft, as Canada made greater use of improved air traffic management technologies, including performance-based navigation and advanced surveillance technologies.

The report also highlights progress on a second set of measures that the Canadian aviation industry expects to benefit the environment: aviation environmental research and development; alternative fuels; airport ground operations and infrastructure use; regulatory measures; and international coordination.



## Highlights

### Fleet Renewals and Upgrades

Canadian airlines continued to upgrade their overall fleet operating efficiencies by replacing older aircraft with new and more efficient aircraft and engine types. These fleet changes have improved operating efficiency for both all-passenger and all-cargo type operations.

### Air Traffic Management

Canada's Minister of Transport endorsed the Canadian Performance-Based Navigation (PBN) State Plan and presented it to the International Civil Aviation Organization (ICAO) in December 2015. The State Plan will assist the Canadian aviation community in both the transition to PBN and in planning future transition and investment strategies.

### International Coordination

Canada continued its active engagement at ICAO, including on work to develop a market-based measure to reduce aviation CO<sub>2</sub> emissions; technical standards for carbon dioxide (CO<sub>2</sub>) and non-volatile particulate matter (nvPM); and on work related to alternative fuels.

### Research and Development

Advances related to aviation environmental research and development include:

- Four Green Aviation Research & Development Network (GARDN) projects focusing on bio-derived jet fuel applications for Canada;
- The completion of a Transport Canada-funded two-year research project on a biofuel supply chain in Canada;
- The National Research Council of Canada's critical safety and emissions tests on aviation alternative fuels; and
- Research under the Aviation Sustainability Center (ASCENT) National Jet Fuel Combustion Program to support the accelerated approval of new alternative jet fuels.

### 2016 Preview

The report previews some important 2016 milestones, including:

- The installation of preconditioned air and ground power units at six new boarding gates at the Montreal-Pierre Elliott Trudeau International Airport;



**NACC**  
National Airlines  
Council of Canada

- The finalizing by ICAO of two new emissions standards;
- The WestJet and Clean Energy Technology Centre initiative to accelerate the development of sustainable aviation biofuel in western Canada;
- Air Canada's participation in Canada's Biojet Supply Chain Initiative to introduce 400,000 litres of sustainable aviation biofuel into a shared fuel system at the Montreal-Pierre Elliott Trudeau International Airport;
- Highlights of NACC and ATAC fleet-renewal plans; and
- The historic adoption by world governments of the ICAO Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).