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National Airlines
Council of Canada

A CARBON-OFFSETTING SCHEME FOR CANADIAN AVIATION

I. Background - Aviation responds to climate change

Action on climate change by the global aviation sector is not new. For more than 10 years, the global industry has recognized the urgent need to respond to climate change, demonstrating climate leadership through a comprehensive, proactive climate action plan.

In alignment with this global effort, NACC's member airlines have adopted the collective global aviation targets with regard to carbon dioxide (CO2) emissions from Canadian aviation. These targets are:

- Improve fuel efficiency by an average of 1.5 per cent a year from 2009 to 2020;
- Cap CO2 emissions from air transportation at 2020 levels; and
- Reduce net CO2 emissions by 50 per cent over 2005 levels.

Efforts to date have been successful. Between 2008 and 2016, Canadian aviation improved its fuel efficiency by an average of 13 per cent. However, the demand for aviation services continues to grow. Combined revenue passenger and cargo operations increased by 7.6 percent in 2015, compared with 2014. As a result, Canadian air carriers used 6.7 percent more fuel in 2015 that in 2014, and total aviation emissions also increased by 6.7 percent.

This points to the need for continued progress in other areas that have potential to lower GHG emissions: fleet renewals and upgrades; more efficient air operations; and improved capabilities in air traffic management. It also points to the need for a Canadian plan that will limit the growth of CO2 emissions from aviation.

In October 2016, aviation became the first industry to develop a global sector approach to limit CO2 emissions, culminating in the adoption by the International Civil Aviation Organization (ICAO) of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). Under this global agreement, aircraft operators purchase offsets, or "emission units," for growth in their CO2 emissions above 2020 levels.

When it was signed in October 2016, CORSIA had the support of both the Canadian aviation industry and the Government of Canada. Minister of Transport Garneau called it an "historic" agreement, with 85 per cent of the world's emitters participating in a voluntary carbon-offset system beginning in 2021.

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II. Bringing CORSIA Principles to Canada

Canada, through its participation in ICAO, has committed to achieving Carbon Neutral Growth from 2020 (CNG 2020) from its international aviation emissions. NACC and its member airlines propose that the Government of Canada apply ICAO's CORSIA concepts to Canadian domestic aviation. This would build on existing work done by ICAO and Transport Canada to create a plan that effectively reduces aviation emissions.

What is a carbon-offset scheme?

A carbon-offset scheme is a simple market-based mechanism that allows a determined environmental outcome to be achieved at lowest costs. Such a scheme sets a limit or cap on emissions. This is referred to as the baseline. The baseline is the maximum volume of GHG emissions for a reference year. For the duration of the scheme, all emissions above the baseline must be reduced through the remittance of recognized carbon-offset credits.

A carbon offset is a credit for greenhouse gas reductions (1 offset unit = 1 tonne of CO2e reduction) achieved by one party that can be purchased and used to compensate the emissions of another party. The carbon-offset approach helps to combat climate change in a cost-effective manner and provides a market incentive to reduce emissions.

At the end of each compliance period, an aircraft operator must remit carbon-offset credits in an amount equivalent to the total amount of CO2e above their allocated baseline. The baseline can be maintained through the duration of the scheme or changed over time depending on the overall emissions-reduction target. Compliance is achieved through a monitoring, reporting and verification system.

Advantages of carbon offsetting

There are two major benefits to adopting a carbon-offset scheme for Canadian domestic aviation. It would produce real, measurable reductions in CO2 emissions, and it would help Canadian aviation stay competitive, contributing to a competitive Canadian economy.

A carbon-offset scheme brings:

- Certainty about quantity: A carbon-offset mechanism directly limits CO2 emissions by setting a limit on these emissions to ensure compliance with an established commitment. This provides certainty about the maximum quantity of CO2 emitted during a given timeframe and helps support Canada's commitments under the Paris Agreement.
- Cost-effectiveness: A reduced cost of compliance benefits both the regulated industry and consumers, in cases where carbon costs can be passed on in a price-sensitive service.
- Flexibility: A carbon-offset mechanism can provide operators with the flexibility they need to reduce emissions while continuing to provide services at a cost-effective price. Such a mechanism provides the regulated industry with time to phase in new technology and make capital investments, while avoiding the premature retirement of assets that could result in unnecessary costs.

Keeping Canadian aviation competitive

Unfortunately, the approach now favoured by the Government of Canada, -- a tax on aviation fuel called a "carbon tax," -- cannot guarantee that a CO2 emissions-reduction goal will be met. In addition, a carbon tax would exacerbate Canadian aviation's already severe competitiveness problems, caused in large part by the already substantial burden of government taxes, fees, airport rents, and other levies under our current user-pay system.

The Government has presented no evidence that its carbon tax will accelerate the development of emission-reducing technology or reduce emissions in the aviation sector. It will, on the other hand, increase the cost of flying in Canada, encourage Canadians to cross the border in pursuit of cheaper fares, and further harm the overall competitiveness of our industry.

III. Proposed Domestic Aviation Carbon Offsetting Scheme

The main features of a proposed domestic aviation carbon-offsetting scheme include:

1. Domestic Aviation Emission Reduction Target

The ICAO agreement caps carbon emissions at 2020 levels and introduces carbon-neutral growth beyond the 2020 baseline. Emissions above the 2020 baseline will be offset by ICAO member states and their aviation industry by:

- Improved fuel economy through aircraft technology, more efficient aircraft operations, and infrastructure improvement, including air traffic management optimization;
- Sustainable low-carbon fuels; and
- Carbon offsetting to fill the remaining emissions gap.

2. Emissions Baseline

The baseline for each individual carrier is determined by averaging their domestic CO2 emissions between 2019 and 2020. This will be the baseline for carbon-neutral growth from 2020, against which future emissions are compared.

3. Scope

Scope includes all civil aviation flights that depart and arrive in Canada. This would create a pan-Canadian framework covering all domestic aviation, either within a province or between provinces, harmonize with the international framework, and eliminate the need for provincial measures.

- *Greenhouse gases:* CO2e emissions from aviation fuels consumed would be calculated using this formula: CO2e emissions = fuel consumption x emission factor from Canada GHG Inventory.

4. Compliance Period

Using the 2020 baseline, applicability would begin in 2021 and continue until 2030 to align with Canada's climate change policy and targets.

5. Emission Reduction Obligations

Each aircraft operator would be responsible for offsetting carbon emissions beyond its established baseline using eligible carbon-offset credits purchased on an open market or by using low-carbon biojet fuel. CORSIA exempts new entrants for three years or until the year in which their annual emissions exceed a threshold of 0.1 percent of total emissions in 2020, whichever comes first. New entrants are then treated as other aircraft operators.

6. Eligible Carbon-offset Credit System

Canada would align with ICAO's Emissions Unit Criteria (EUC), defining acceptable offset credits for the purpose of meeting their emissions obligations. To offset emissions above the Carbon Neutral Growth baseline, aircraft operators would purchase carbon-offset credits that meet ICAO's criteria.

7. Monitoring Verification and Reporting, and Compliance cycles

Monitoring and reporting emissions would be done annually, with a three-year compliance cycle for surrendering carbon-offset credits. Aircraft operators with international service would extend their existing monitoring, verification and reporting to their domestic operations.

- *Monitoring*: All operators undertaking domestic flights would be required to compile and transmit aggregated emissions information to Transport Canada. Various monitoring methodologies would be available to take into consideration existing systems in place to monitor fuel consumption. A simplified methodology would be available to smaller emitters.
- *Verification*: Annual emission reports would be verified by an accredited third-party verifier.
- *Registry*: A registry tracks ownership of carbon-offset credits held in electronic accounts, as well as annual verified emissions of operators and annual reconciliation of offset credits and verified emissions. Domestic aviation could use the registry established by Canada to track international aviation emissions under the ICAO agreement.

8. Sustainable fuel to offset criteria

Canada's domestic aviation would use ICAO's sustainable fuel criteria, which will cover sustainability requirements for feedstock and refining and includes carbon life-cycle analysis methodology to determine emission reduction compared to conventional jet fuels. A Canadian clean fuel standard should serve to qualify future biofuels.

IV. Beyond carbon offsetting

The global aviation industry recognizes that carbon reductions beyond carbon neutral growth can only be achieved through the use of next-generation aircraft technology and sustainable aviation biofuels, called biojet. Biojet fuels, sourced and produced in Canada, could provide GHG reductions of up to 80 percent when compared to conventional fuels.

V. Conclusion

Through the ICAO Agreement in October 2016 on a global market-based measure, the Government of Canada committed to developing the regulatory mechanisms and technical elements necessary for the implementation of a carbon-offset scheme for Canadian airline operators flying internationally.

NACC and its member airlines strongly urge the Government of Canada to adopt a similar environmentally efficient and economically sensible approach built around a CORSIA-like framework for the domestic aviation sector in Canada and enhanced support for the development and production of sustainable biojet fuels in Canada.