SAF policies in Canada

Warren Mabee | warren.mabee@queensu.ca
Queen's University, 8 July 2024

2023 Roadmap for SAF

Completed by Allan, Goldman, Tauvette

Available at:

https://c-saf.ca/download/2203/?tmstv=1685964275

Key elements of the roadmap

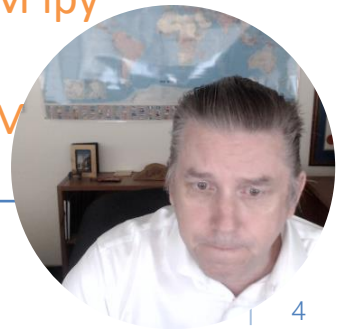
Target – 1 billion litres by 2030, 50% of which (they estimate) can be met by current, active projects

This represents 10% of anticipated jet fuel use in 2030 (10 B l)

Canada has estimated biomass supply to support 7-10 B l of production

Planned facilities with SAF capacity (present, future)

Facility	Renewable Diesel	Estimated SAF
Braya (Come by Chance, NL)	~980 M lpy (soybean/corn oil)	~140 M lpy
Tidewater (Prince George, BC)	~165 M lpy (soy, canola, tallow)	~25 M lpy
Covenant (Lloydminster, SK)	~275 M lpy (HDRD canola) (2026)	~40 M lpy
ReFuel (Toronto, ON)	~165 M lpy (Topsoe Hydroflex) (20??)	~25 M lpy
Green Energy Transformation (Calgary, AB)	~360 M lpy (HDRD, various) (20??)	~55 M lpy
SAF+ (Montreal, PQ)	(E-SAF process, 300,000 Mt CO_2 py) (20??)	~30 M



Key policy components to support SAF in Canada

1. SAF to generate credits in low carbon fuel standard
2. Production incentives for SAF
3. Waive carbon tax on SAF that meets minimum carbon intensity
4. Federal procurement of SAF

1. SAF to generate credits

Canada's Clean Fuel Standard (2022) has provisions to allow SAF to generate carbon credits

The CFS is designed to bring carbon intensity in liquid fuels down over time, to 15% below 2016 levels by 2030 (= 26 Mt reduction in CO_2e)

2. Production incentives for SAF

Right now, no incentives

Strong push to create incentives in Budget 2024 but no success

Strong possibility of new Federal government in 2024 or 2025

Airlines call for roadmap to increase production of sustainable jet fuel

CHRISTOPHER REYNOLDS
MONTREAL
THE CANADIAN PRESS
PUBLISHED FEBRUARY 2, 2024

A plane takes off from Vancouver International Airport in Richmond, B.C., on May 13, 2019.
JONATHAN HAYWARD/THE CANADIAN PRESS

3. Waive carbon tax on SAF

Draft regulations exist which would exempt SAF from carbon tax

However, even with exemption, the cost of aviation fuel is likely to reduce passenger volumes

Deep analysis shows that carbon taxes collected on aviation fuels could be used to help support SAF deployment (Zheng, 2024)

https://theicct.org/wp-content/uploads/2024/04/ID-134-%E2%80%93-Aviation-Canada_final.pdf

WORKING PAPER APRIL 2024

Demand response to aviation carbon pricing in Canada

Author: Sola Zheng

INTRODUCTION

Canada was the world's 12th-largest emitter of carbon dioxide (CO_2) from air travel operations in 2019, with passenger flights originating in the country emitting 18.1 million tonnes of CO_2 (Graver et al., 2020) That total included 6.3 million tonnes from domestic flights, making Canada the ninth-largest emitter of carbon related to domestic air travel. Interprovincial flights accounted for 83% of the domestic aviation emissions, and the vast majority of those were short- and medium-haul flights (Table 1).

Table 1
Tonnes of CO_2 emissions from Canadian domestic passenger flights in 2019 by distance and seating class

Distance bands	Interprovincial		Intraprovincial		Total CO_2 emissions (tonnes)
	Economy class	Premium class	Economy class	Premium class	
Commuter (< 500 km)	186,000	1,217	696,899	22,961	907,078
Short haul (500–1,499 km)	1,551,279	145,997	362,929	4,065	2,064,270
Medium haul (1,500–4,000 km)	2,799,880	495,872	1,161	–	3,296,914
Long haul (> 4,000 km)	15,024	–	–	–	15,024
Total tonnes	4,552,183	643,086	1,060,990	27,027	6,283,286

Source: Graver et al. (2020)

Acknowledgments: The author thanks Environment and Climate Change Canada (ECCC) and Dan Rutherford, Supraja Kumar, and Yihao Xie from ICCT for their review of earlier drafts, and Lori Sharn for editing. The study was conducted under a contract with the ECCC. However, all policy proposals beyond existing federal policies discussed in this report were developed by ICCT and do not reflect federal policy intent. This paper was updated on 18 June 2024 with no changes to any data or analysis.

www.theicct.org
communications@theicct
@the

4. Federal procurement of SAF

Government of Canada working to achieve net-zero operations by 2050

The low-carbon fuel procurement program (LCFPP) has C$134.9 M between 2023-2031 to support purchase of low-carbon fuels, including SAF

Low-carbon Fuel Procurement Program

From: Treasury Board of Canada Secretariat

On this page

Program overview

Under the Greening Government Strategy, the Government of Canada is committed to reducing greenhouse gas (GHG) emissions from its operations and achieving net-zero emissions by 2050. A key part of this commitment is the purchase of low-carbon-intensity liquid fuels (henceforth referred to as low carbon fuels) for our federal air and marine fleets.

The Treasury Board of Canada Secretariat's Centre for Greening Government operates a Low-carbon Fuel Procurement Program (LCFPP) within the Greening Government Fund. The LCFPP has $134,9 million in funding over eight years (fiscal years 2023–24 to 2030–31) to support the purchase of low carbon fuels for the federal air and marine fleets.

Final thoughts

The need for policy action in Canada is strong; without major incentives, unlikely to see major SAF production levels by 2030

The number of projects currently in the pipeline are not enough to meet even 10% of projected Canadian fuel demand

Not enough analysis on biomass supply and competing uses for the feedstocks to ensure that future needs can be met