



Natural Resources
Canada

Ressources naturelles
Canada

Canada's Approach to SAF

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ICARUS SAF Policy Webinar
September 22, 2026

Canada



“Energy is power. Energy is Canada’s superpower”



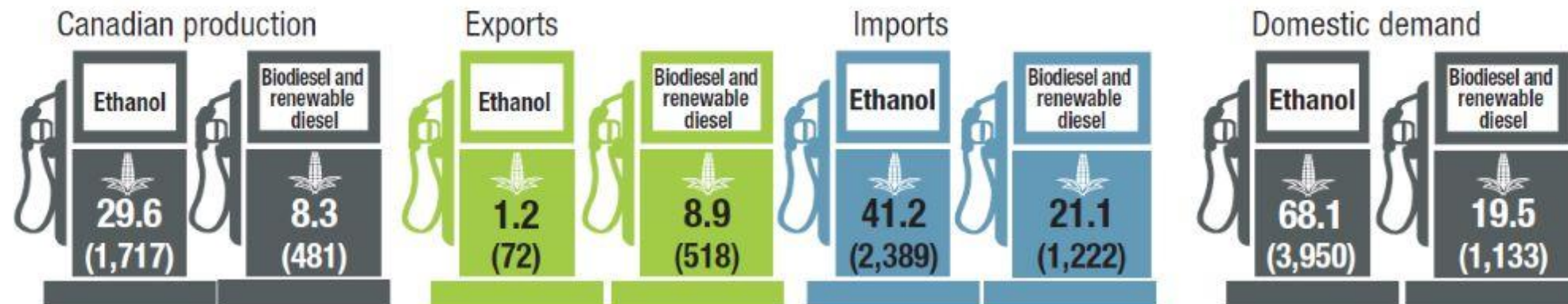
**Tim Hodgson, Minister of Energy and Natural
Resources**

June 8, 2025

Canadian context for biofuels and SAF

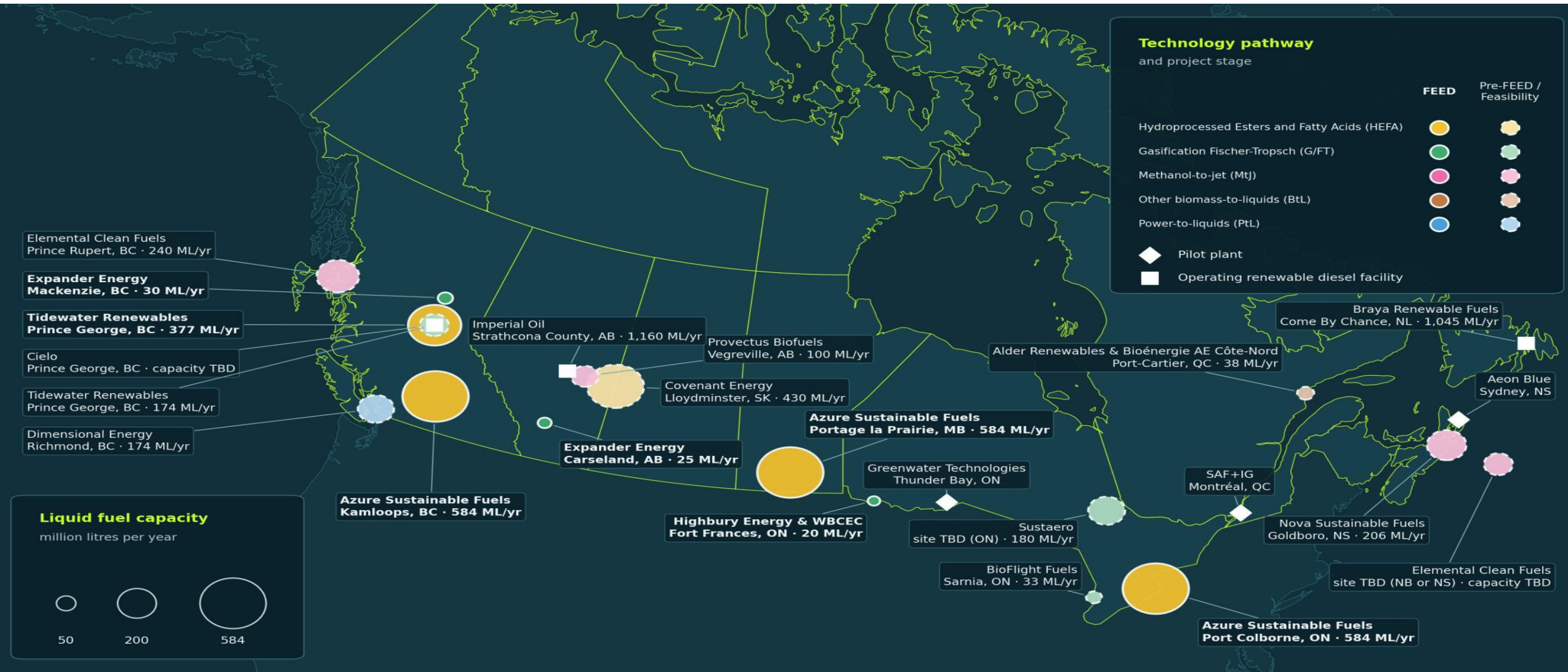
Canadian Liquid Biofuels, SAF and Low Carbon Aviation Fuel

CANADIAN SUPPLY AND DEMAND (2023) - MB/D (MILLION LITRES)



- Canada producing 48% of its consumption of biofuels in 2025
- 550ML of biodiesel, 2.5BL of RD, 1.5-1.8BL of ethanol and no meaningful SAF production (Parklands Burnaby Refinery has produced over 100K litres of co-processed fuels)
- Bio-crude production by Arbios Biotech and Bioénergie AE could support SAF production and low carbon jet fuel (co-processing)
- Pure RD/SAF projects at development stage (Tidewater, FORGE Hydrocarbons, Alder Renewables, Refuel, Greenwater,)
- Air Canada and Neste signed an agreement for 77.6 ML of SAF blended (started in Dec 2024 and continuing in 2025)
- Department of Defense buying SAF from the US

RD/SAF Producing Plants and Projects



Current policies and programs supporting biofuels and SAF



A Snapshot to Net-Zero

2016: Pan Canadian Framework (PCF)

- Canada's first-ever national climate plan.
- **Goal:** Meet Canada's emissions reduction targets, grow the economy, and build **resilience to a changing climate**.
- Among other measures, includes Pan-Canadian approach to **pricing carbon pollution**.

2022: Clean Fuel Regulations (CFR)

- On June 21, 2022, the CFR came into effect.
- The CFR are an important part of Canada's climate plan to reduce emissions, accelerate use of clean technologies and fuels, and support sustainable jobs in a diversified economy.

2050: Net-Zero Emissions Economy

- To set Canada on a path to achieve a prosperous net-zero emissions future by 2050, the **Net-Zero Emissions Accountability Act** was passed by Parliament and came into law on June 29, 2021..
- **The Act formalizes Canada's target to achieve net-zero emissions by the year 2050** and establishes a series of interim emissions reductions targets at 5-year milestones towards that goal.



2020: Canada's Strengthened Climate Plan (SCP)

- Builds on PCF
- Contains 64 strengthened and new federal policies, programs, and investments to cut pollution and build a stronger, cleaner, more resilient and inclusive economy
- Included announcement of **\$1.5B investment in a Low-carbon and Zero emissions Fuels Fund** to increase the production and use of low-carbon fuels

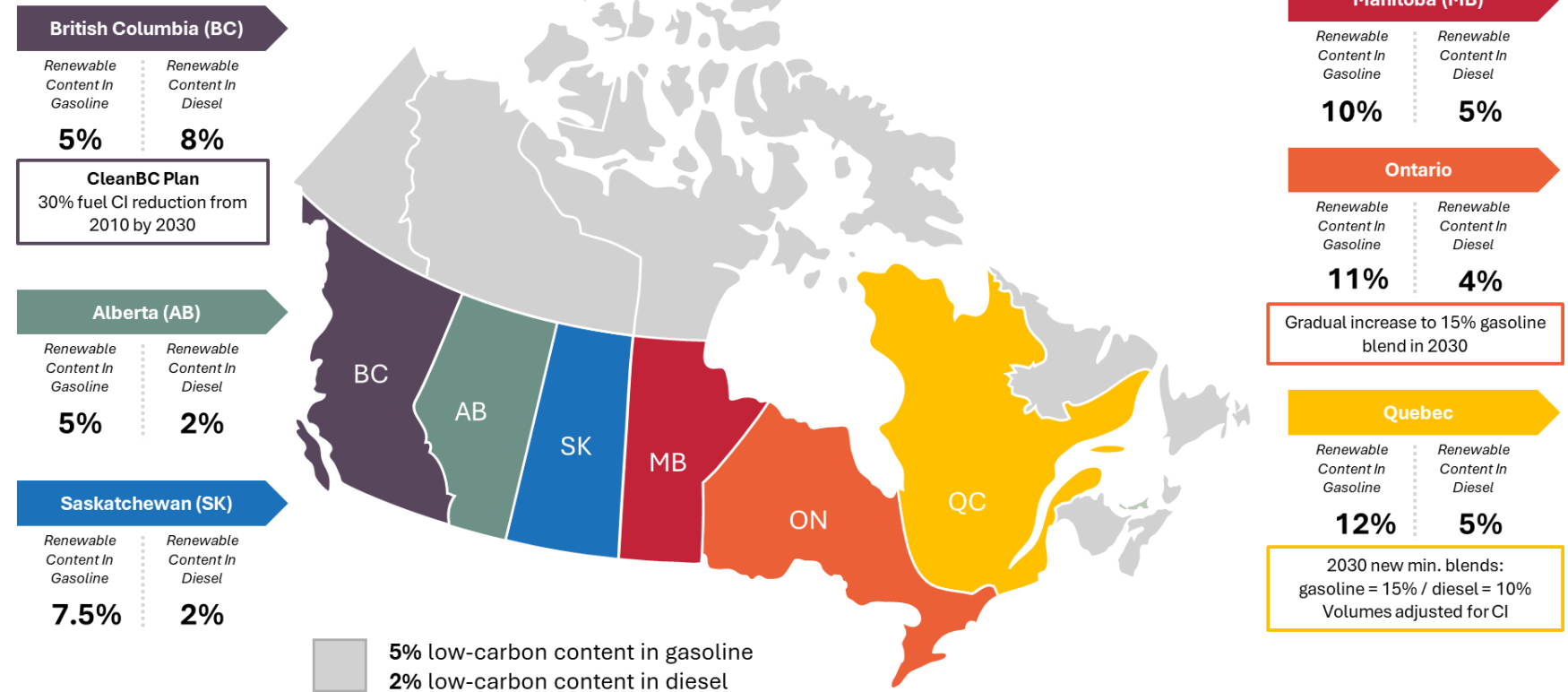
2030: Exceed the Paris Agreement

- On December 12, 2015, Canada and 194 other countries reached the Paris Agreement, an ambitious and balanced agreement to fight climate change
- The **2030 Emissions Reduction Plan (ERP)** is a roadmap that includes 80 measures across 11 sectors aimed at achieving 45-50% emissions reductions below 2005 levels by 2030
- The ERP attributes 3.3% economy-wide emissions reductions to switching to bioenergy

Provincial Level Policies

Some provinces biofuel blend mandates that complement the federal CFR.

- **British Columbia:** Low Carbon Fuel Standard (BC LCFS) with a 1% SAF mandate starting in 2028 (3% by 2030)
- **Alberta:** Renewable Fuel Standard.
- **Ontario:** Cleaner Transportation Fuels Regulation.



Key Recent and Current Federal Programs Supporting Biofuels

Investments in Forestry Transformation Program (\$112M)*	Canadian Forest Service flagship program in advance innovation will seek to invest in projects that integrate technologies leading to greater energy efficiency and explore bioenergy carbon capture in forest sector operations (Supporting SAF projects, to be announced)
Energy Innovation Program (~\$110M/y)	Supports clean energy innovation, including in bioenergy, by investing in RD&D projects led by Canadian innovators in small and medium enterprises, industry, utilities, communities, and via world-class federal laboratories and research centres, such as NRCan's CanmetENERGY Ottawa
Canada Growth Fund (\$15B)	Launched in 2022, CGF is a public investment vehicle designed to support clean energy and clean technology.
Biofuels Production Incentive (BPI) program (\$372)	Over 2 years (2026 and 2027), provided \$0.10 to \$0.16 per litre to producers of biodiesel and renewable diesel (max 300ML) to increase domestic product attractiveness of domestic production compared to the US 45Z (indirect support to SAF)
Strategic Innovation Fund (up to \$8B)	Includes the Net Zero Accelerator initiative to rapidly expedite decarbonization projects with large emitters, scale-up clean technology and accelerate Canada's industrial transformation across all sectors.
Low carbon Fuel Procurement Program (\$220M)	Offset extra cost of purchasing drop in, low carbon intensity liquid fuels for federal marine and air fleets. Has purchase SAF for the Canadian Royal Air Force (paying for the fuel, claiming the environmental benefits, delivering to fuel to a civilian airport (HEFA at high premium).
Potential Interesting New Initiative into Consideration	Stay tuned!

New Initiatives in Development (broader innovation)

Government of Canada is recognizing the country dependence on imported jet fuel and SAF (Fuel security)

A portfolio of approaches

- Government of Canada wants to start SAF production as a broader push for more biofuels domestic production ([Report: Growing a Resilient Canadian Biofuel Sector - Natural Resources Canada](#)), Sustainable Aviation Fuels: Blueprint for Canada
- Sky's the Limit Challenge supported the production of SAF from 5 different pathways (**Competition**)
- **The Canadian Forest Sector Transformation Task Force** recommendation to support forest-based biofuels (strong interest for SAF), multiple options under consideration
- Showcasing SAF companies at the Canada Investment Summit
- **All options need to be considered:** Support to Capex, Opex, price spread, Offtake agreements, feedstock access, etc.

No improvement will happen without a more innovative approach from the private sector

- Ecostrat Biofuels Development Opportunity (BDO) zones to reduce project risks related to feedstock availability and Feedstock Supply Insurance (FSI) (jordan.solomon@ecostrat.com)
- Greenwater Ltd collocating RD/SAF production with a Pulp Mill in Ontario (Thermal catalytic depolymerization) (jci@greenwater.ltd)
- Enerkem hub and spoke to reduce the challenge of forest biomass low density (Methanol to jet) (mchornet@enerkem.com)
- Refuel SAF Royalty to attract investors looking to expose to SAF projects with limited risk
- Co-Investment Platform: Air Canada and Airbus launched a jointly funded \$13.7 million CAD (\$10 million USD) Sustainability Co-Investment Platform to advance commercial-scale SAF production in Canada (myrka.manzo@aircanada.ca)

CanmetENERGY contribution to SAF development



Devon, Alberta



Ottawa, Ontario

CanmetENERGY in Devon

R&D activities on Co-processing and SAF

Biocrude co-processing with petroleum

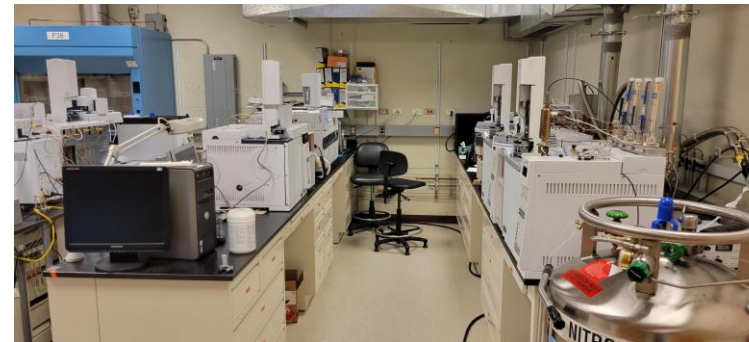
- Catalyst development
- Biocrude upgrading before co-processing
- Co-processing via hydroprocessing
- Co-processing via fluid catalytic cracking
- Process modeling and simulation, LCA/TEA

Biocrude chemistry and characterization

- Detailed characterization of biocrudes from different biomass sources
- Identification and quantification of chemical functional groups
- Speciation (GC-VUV/MS/FID, GC×GC, HPLC)
- Biogenic carbon quantification and tracking
- Method development and validation

SAF Technology

- Catalyst development
- Isomerization of paraffinic feedstocks
- Meeting SAF/jet fuel specifications



Advanced characterization labs



Pilot-scale unit for co-processing and SAF technology development

CanmetENERGY-Ottawa's R&D Activities in SAF & Renewable Diesel

- Products from lignin-derived intermediates are meeting the fuel standards (ASTM D7566 for jet fuel and ASTM D975 for diesel, with 100% biogenic-carbon content)
 - Licensed technology to Canadian company, which is currently scaling up CE-O's process
- Property evaluation has demonstrated that both fast pyrolysis and catalytic pyrolysis bio-oils derived diesel cuts with 6.4% and 11.7% biogenic-carbon content meet most of the specifications outlined in ASTM D975 except S
- Upgrading of algae-derived HTL biocrudes for marine application



1-3 kg/h Process Development Unit



Diesel



100% biogenic-carbon

High density and better cold flow properties than biofuels derived from lipids (<-80 °C for the freezing point of biojet and -36 °C for the cloud point of diesel)



Thank you!

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