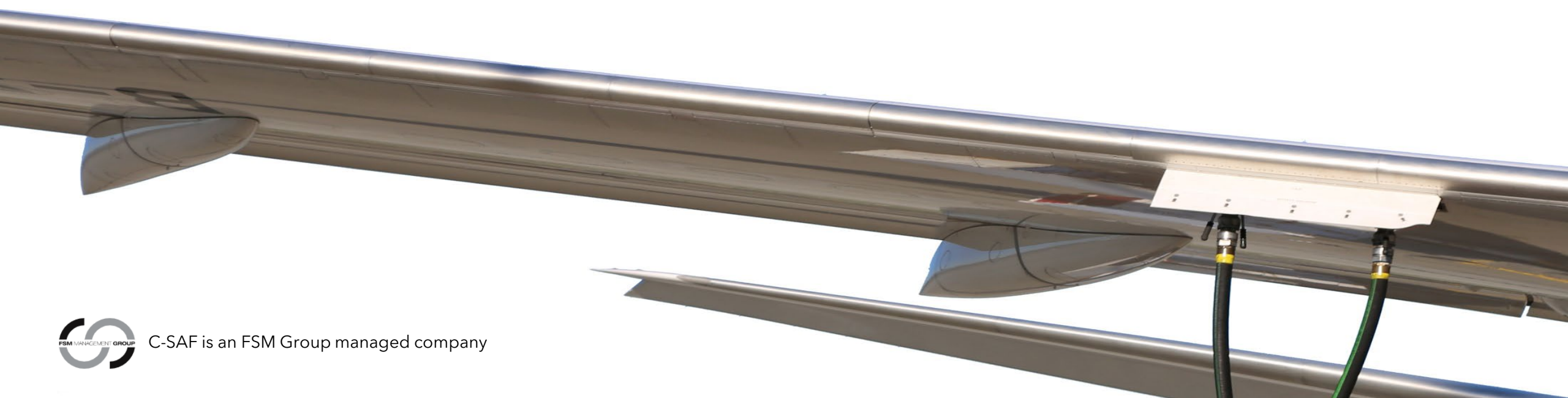




Canadian Council for Sustainable Aviation Fuels
Conseil canadien des carburants d'aviation durables

SAF in Canada

CAAFI Conference
Jun 3, 2022



C-SAF is an FSM Group managed company

Canada's progress



Canada's Recent Climate Commitments and Signals

2030 Emissions Reduction Plan (March 2022):

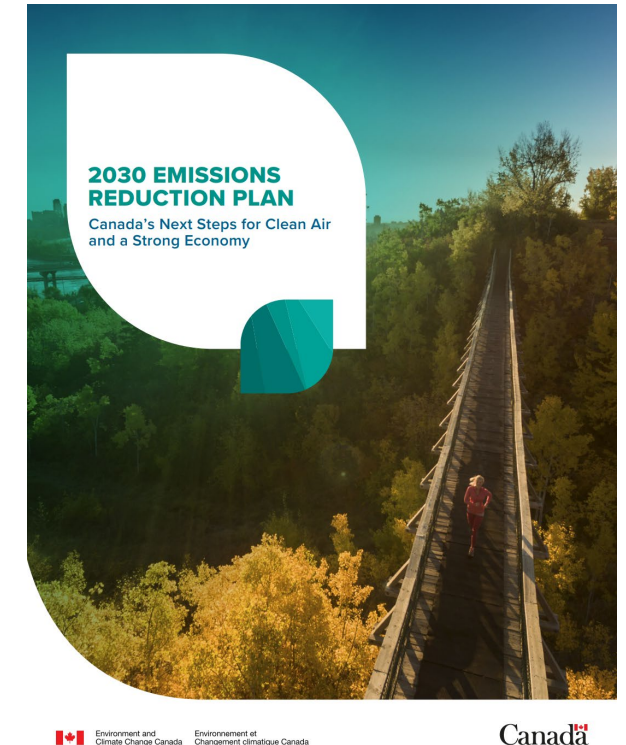
- Required under the *Canadian Net-Zero Emissions Accountability Act*, to reduce GHG emissions by **40 to 45% below 2005** levels by 2030.
- Commits to developing a **whole-of-government approach** to the long-term decarbonization of aviation, informed through ongoing engagement with industry and other stakeholders on a renewed action plan to reduce emissions from aviation.
- Working with international partners to **increase ambition** in International Civil Aviation Organization (ICAO) emission reduction goals and measures.

Strengthened Climate Plan (December 2020):

- "Work with **aviation stakeholders** to accelerate technology development and deployments of commercially ready solutions, including low carbon fuel and electric equipment at aviation hubs."
- "Support global efforts to reduce emissions in the air and marine sectors."

Joint Statement with US DOT (February 2021):

- **Work together on a shared vision** for aviation decarbonization consistent with goal of net zero emissions for our economies by 2050, and robust standards that integrate climate protection and safety.
- Advance development and **deployment of high integrity SAF** and other clean technologies, building on existing partnerships, and pursue policies to increase the supply and demand of SAF.



A renewal of Canada's Action Plan

Current plan expires in 2022



- Established in 2012
- **1.8%** annual fuel efficiency improvement
- Cumulative **18%** improvement
- But, overall emissions grew by **50%** over same period due to increased demand

New ambitious plan - target release before ICAO41

A Vision for 2050

- Long-term vision for net-zero emissions by 2050
- Identifies **WHAT** measures need to be advanced to get there (wedge chart)

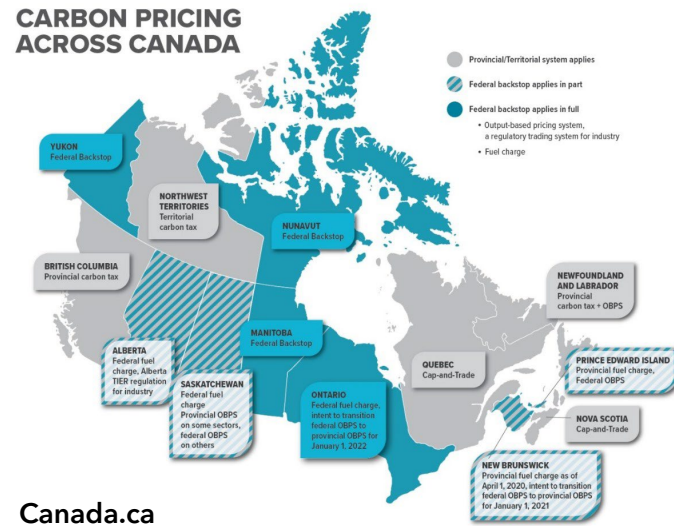


An Action Plan (operational plan)

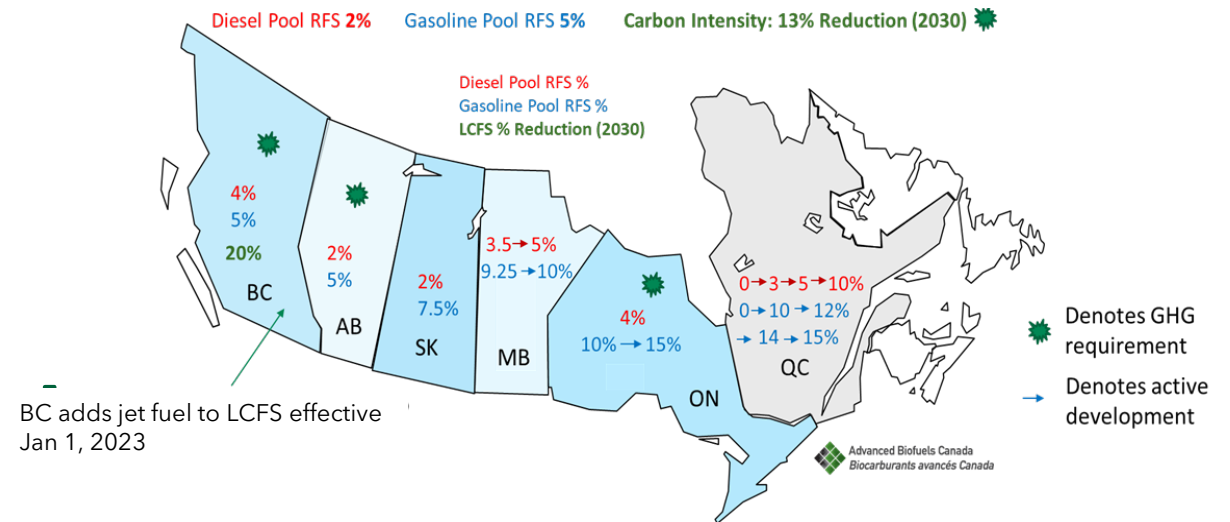
- Nearer-term action plan (2022-2030)
- Identifies **HOW** Action Plan members will advance measures
 - Could set a near term target(s) and identify other supporting measures and commitments
 - Define how progress will be measured and reported
 - Establish governance

Regulatory Updates

Carbon Pricing



Low Carbon Fuel Standards



- \$50 in 2022, \$15 a year until \$170 in 2030
- Carbon levy applied in certain provinces for jet fuel used in province
- Carbon levy not yet applied to inter-provincial aviation
- Working to remove carbon levy from SAF

- Federal Clean Fuel Regulations for domestic fuel use effective Jan 1, 2023
 - SAF can generate credits - voluntary
- British Columbia is adding jet fuel to Low Carbon Fuels Act as of Jan 1, 2023
 - Consultation with first nations and industry has kicked off to develop regulations

Industry report



Canadian Council for Sustainable Aviation Fuels (C-SAF)

Vision

Facilitate the **production** and **use** of sustainable aviation fuels (SAF) that are:

- ▶ Affordable
- ▶ Low-carbon/Sustainable
- ▶ Made-in Canada

Mission

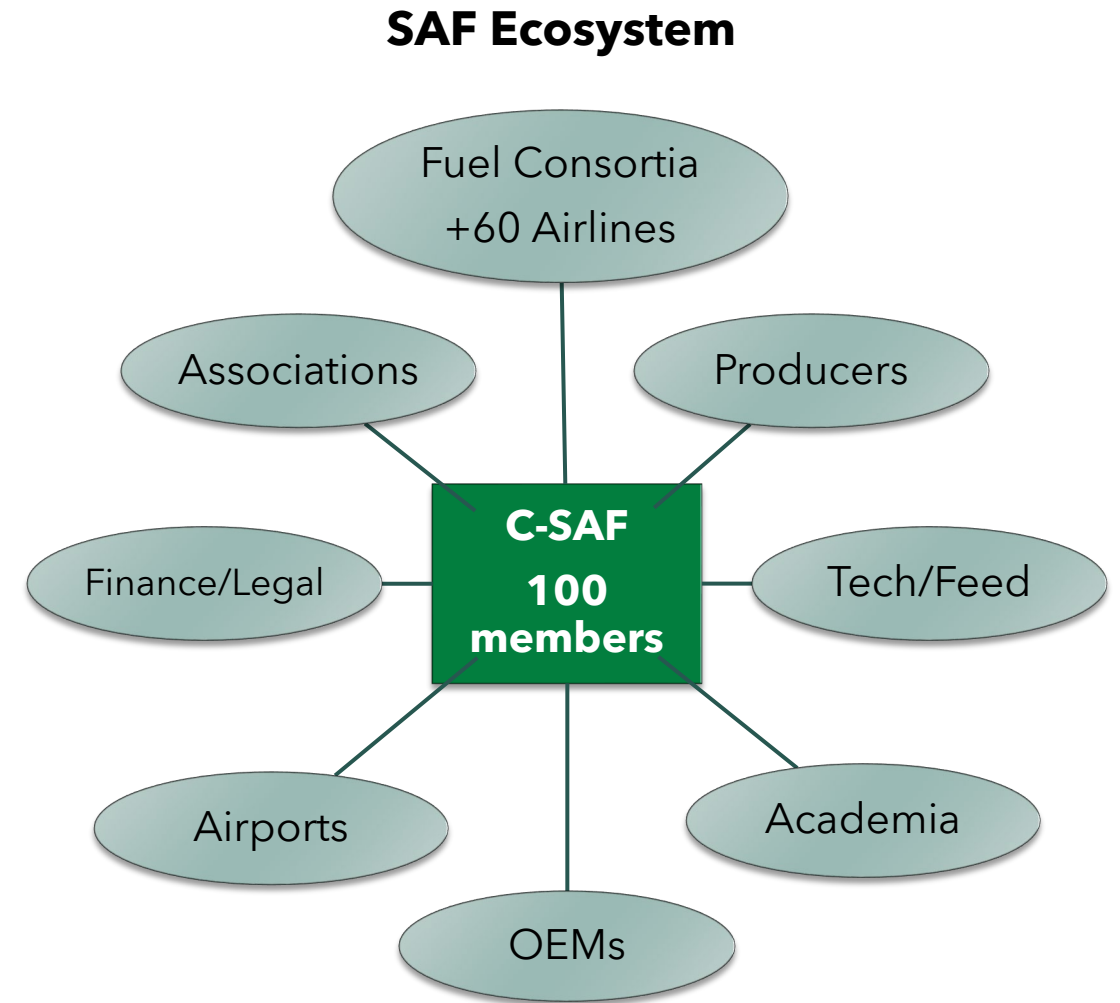
Accelerate **commercial production** and **deployment** of SAF in Canada by:

- ▶ Catalyzing the ecosystem and **activate value chains**
- ▶ Designing and **promoting** public **policy, strategies** and a **roadmap** for SAF development in Canada
- ▶ Acting as a neutral and balanced **technical expert**
- ▶ Providing the “**go-to-place**” for SAF deployment in Canada

The Canadian aviation sector needs SAF to remain competitive in a net-zero future

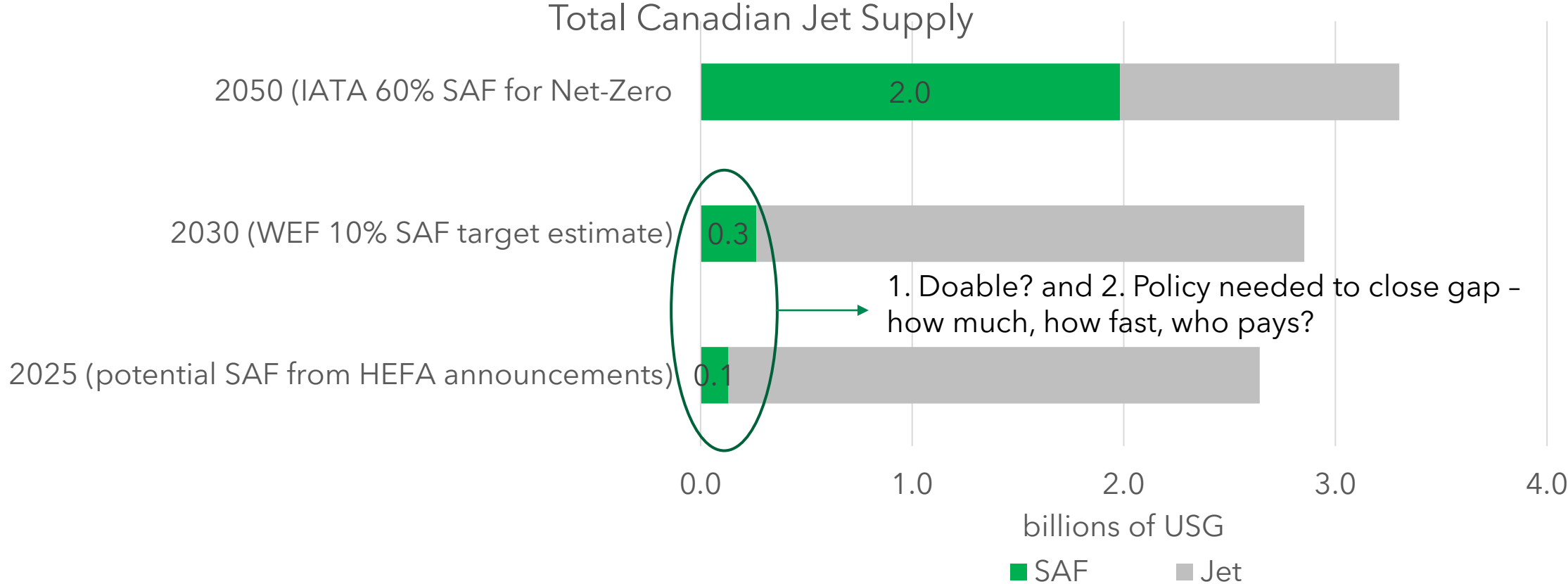
C-SAF key elements

- ▶ Established by the airline members of the **fuel consortia** who own and operate fuel distribution and handling facilities at large Canadian Airports
- ▶ C-SAF will be the **voice** of the SAF ecosystem and can **engage** with government
- ▶ C-SAF is **boots-on-the-ground** and not R&D focussed and will partner with other specialized organizations to fill gap



Government also invited to join

Enabling a SAF market in Canada



C-SAF Roadmap will determine how to close the GAP and a policy framework

C-SAF Clean Competitiveness Roadmap

*SAF is part of a **system** of the clean chemical/fuel markets
- SAF can't be looked at by itself*

- ▶ Identify **the priority actions, policies, and investments** necessary to catalyze transition in the aviation sector.
- ▶ Build **long-term economic value** and decarbonize the industry.
- ▶ Align **the whole supply chain** from upstream resources and capacities to downstream users and markets.
- ▶ Get down to **concrete initiatives**.

C-SAF Roadmap - Target Fall 2022

- Rough draft reviewed by a technical committee
- Process to facilitate and engage stakeholders for review and alignment

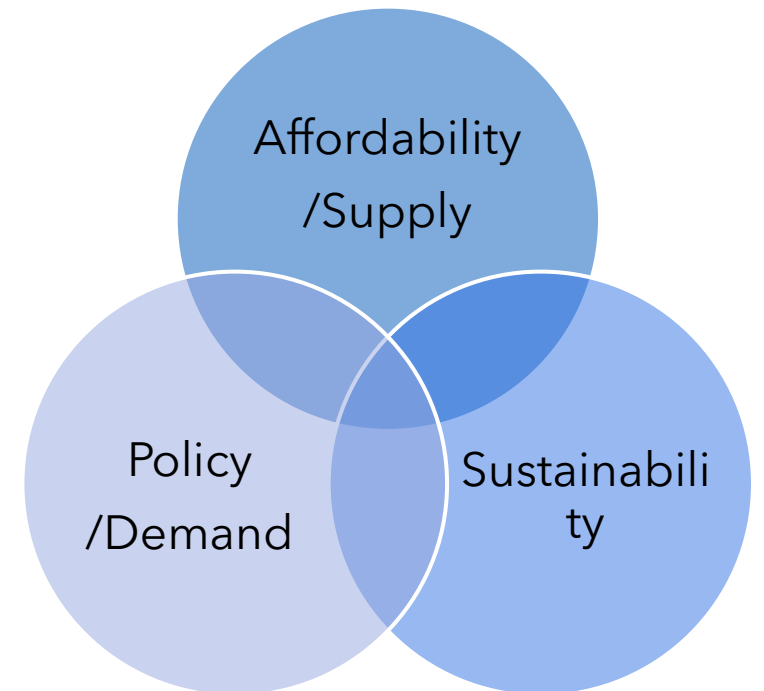
Workstreams	Description	Closing the gap
Feedstocks	agriculture, wood, waste, CO2, and hydrogen.	bring post-HEFA feedstocks online.
Refining	co-processing, and other ASTM pathways for fuel production.	secure new investment.
Technology	advance all the technologies needed for net-zero aviation (hydrogen, electrification, DAC, etc.)	accelerate post-HEFA pathways and build innovation ecosystem.
Sustainability	make the case for Canadian fuels and improve carbon accounting.	make the case for Canadian fuels.
Policy and programs	design the right package of policies to unlock SAF production and use	lower costs, clarify demand, and differentiate SAF from RD.

C-SAF is working with Transport Canada to adopt the SAF Roadmap into the Action Plan

Creating a SAF market in Canada

SAF Policy will be key!

- **Tailored** for aviation in Canada
- Recognize that SAF is **harder to make** than renewable diesel (and more **expensive!**)
- Consider SAF incentives in **other countries**
- Keep aviation **competitive** in a net-zero world



Thank you!



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