



Innovation, Science and  
Economic Development Canada

# Canada and Climate Technology

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## **Issue Statement:**

How can climate technology help the federal government achieve its climate change commitments?

## **Policy Objectives:**

Support and leverage Canada's innovation ecosystem

Promote and incentivize the adoption of climate technologies

Achieve 40-45% reduction of GHG emissions from 2005 levels by 2030 and net-zero by 2050



# What is climate technology?

The term climate technology refers to technologies that mitigate the effects of greenhouse gas (GHG) emissions by **removing** GHG from the atmosphere or **reducing** future emissions.

Climate technologies are a way of **achieving** and **sustaining net zero GHG emissions**, and therefore a critical tool in Canada's sustainable transition to a net zero economy.

## Climate Technology

Addresses GHG emissions

### GHG Removal:

- Afforestation
- Carbon Capture and sequestration

### GHG Reduction:

- Agricultural technologies
- Low-carbon cement and concrete

- Recycling and waste reduction
- Desalination

## Clean Technology

Addresses environmental degradation and pollution.

Many technologies can be classified as **both**:

- Renewable energy like solar and wind
- Energy-efficient batteries
- Electric vehicles
- Reforestation





# Current Federal Initiatives

## Environment and Climate Change Canada (ECCC)

- **Low Carbon Economy Fund.**
- Output-Based Pricing System Proceeds Fund, including the **Decarbonization Incentive Program** that funds clean tech. programs in backstop jurisdictions.

## Natural Resources Canada (NRC)

- Leads Canada's global efforts on **Mission Innovation** focusing on clean energy
- Developing a **Carbon Management Strategy.**
- **Clean Fuels Fund** to de-risk capital investment required to build or expand production facilities for clean fuels (ex. Ethanol, hydrogen).

## Agriculture and Agri-Food Canada (AAFC)

- **Agricultural Clean Technology Program** focuses on supporting clean technology and sustainable growth in the agricultural sector.
- Two Streams: Adoption and R&D. **Adoption stream** currently suspended due to high demand.

## Innovation Science and Economic Development (ISED)

- Centralizes info on federal programs and initiatives with the **Clean Growth Hub**
- Roadmap to **Net Zero Carbon Concrete by 2050**
- **Clean Technology Data Strategy** measures the clean tech. sector's contributions
- Leads the **Net Zero Accelerator (NZA) Initiative** within the **Strategic Innovation Fund**, which allocates \$8 billion to support **large scale investments** in 3 pillars, designed to maximize program impact:
  - Rapid decarbonization of large emitters
  - Industrial transformation to net zero
  - Disruptive emerging climate technologies.

## Sustainable Development Technology Canada (SDTC)

- **Independent foundation** that funds and supports Canadian small- and medium-sized enterprises **advancing pre-commercial innovations** focused on environmental problems and clean technology.
- Focuses on **supporting entrepreneurs** in the Canadian innovation ecosystem and **diffusing technologies** to key economic sectors in Canada.
- 109 projects approved in 2021/22

**Federal action on climate technologies is highly fragmented across multiple departments and organisations.**



# Key Considerations

## Public Perception

Climate technologies are not seen as a distinct or necessary component of Canada's transition to net zero, and federal carbon pricing initiatives have been challenged in multiple provinces.

## High Costs

Research, development, and adoption of climate technology tends to be capital-intensive and incurs high costs on individuals and businesses without guaranteed short-term or long-term returns.

## Existing vs Emerging Climate Technologies

Many of the technologies estimated to play the biggest role in Canada's transition to net zero are already technologically viable and scalable, while emerging technologies will be more prominent in 2050 and beyond.

## A Just Transition

The costs, benefits, and risks of Canada's transition to net zero vary across regions and key industries of Canada's economy. A just transition to net zero secures economic growth and prosperity for all Canadians.

## Supporting Innovation beyond Funding

Unlocking the potential of emerging climate technologies will require support beyond research and development, from concept to commercialisation.

## Timeframe for Action

The federal action plan targets a 40-45% reduction in GHG emissions from 2005 levels by 2030. Although emissions are trending downwards, current policies are considered highly insufficient (Climate Action Tracker).



# Policy Options

	Description	Partner(s)	Focus on climate tech.	Eligibility and Accessibility	Redundance	Approx. Cost	Timeframe of Impact
<b>1. Status Quo</b>	Upholding existing innovation and funding supports that include climate tech.	ECCC NRC AAFC SDTC	Relevant programs in multiple departments, but no coordinated initiative on climate tech.	Eligibility varies by program, some with project thresholds and requirements that can exclude SMEs.	High level of fragmentation and some duplication across departments.	Existing costs.	Tailored to achieve 2030 targets. Progress reports in 2023, 2025, and 2027. Additional targets and plans to be developed for 2035-2050.
<b>2. Adoption Stream</b>	Establishing a cross-sectoral funding stream within ISED's NZA.	SDTC	Dedicated to funding the adoption of climate technologies.	Targets SMEs, Low project thresholds.	Complements existing programs that focus on R&D stages of innovation.	Existing costs.	Operational by fiscal year 2024/2025, impact likely most prominent in the short term (5-10 years).
<b>3. Climate Technology Initiative</b>	Establishing a new and highly visible program within ISED that supports climate tech. innovation and adoption.	SDTC ECCC AAFC NRC	A central hub dedicated to promoting the innovation and adoptions of climate tech.	Targets individuals, SMEs, and large corporations.	High redundance due to core centralizing function.	Additional costs.	Operational by fiscal year 2024/2025, impact likely most prominent in the medium term (10 years).



# Recommended Approach

## Option 2: Adoption Stream

Advantage	Disadvantage
More effective and targeted use of existing funds, processes, and structures	Does not centralize or champion climate tech in Canada



We recommend establishing an Adoption Stream within the NZA that establishes a cross-sectoral and accessible fund for SMEs without minimum total cost or contribution thresholds. This recommendation entails:

- Supporting the adoption of climate technology rather than R&D for **targeted impact**.
- Reworking the NZA's 3 existing pillars to **ensure complementarity** and directing 1/4 of remaining and future NZA funds to the new fourth stream.
- Collaborating with SDTC to **connect** SMEs with market-ready entrepreneurs.
- + **Promoting adoption** by directing users to existing tax incentives and coordinating with other federal departments and provincial governments.



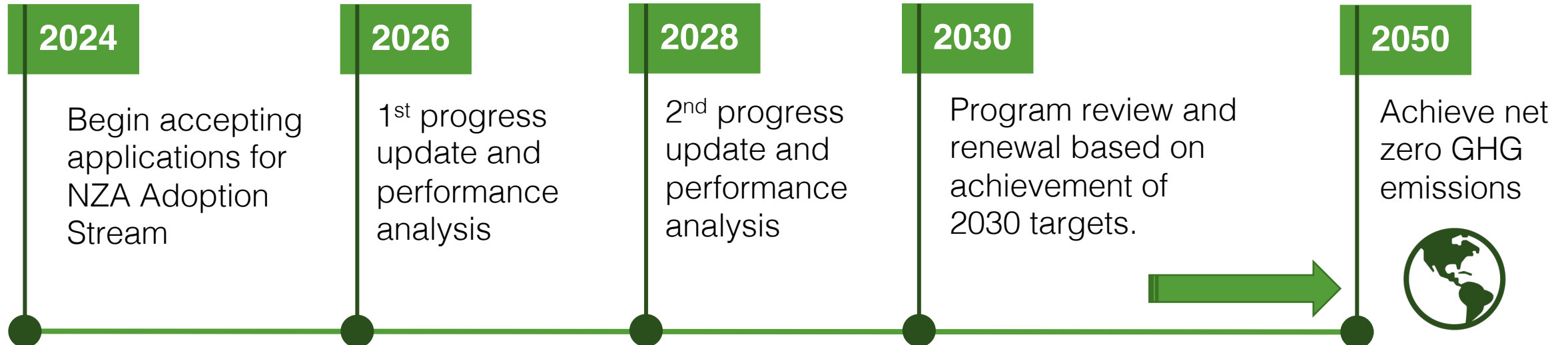
# Implementation and Measurement

## Annual Performance Metrics:

- Application rate
- Approval rate
- Total active projects
- Total funds distributed
- Projects by industry
- Reduction of GHG emissions post-adoption

## Communication Strategy:

- Coordinate with key governmental stakeholders to promote the new stream to potential applicants
- National informational campaigns on the role of climate technology in a net zero economy







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