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**Canadian
Hydrogen
Association**

**Association
Canadienne de
L'hydrogène**

Canadian Hydrogen Association Sector Overview and Policy Priorities

October 2025





The Hydrogen Sector in Canada

Federal Strategy

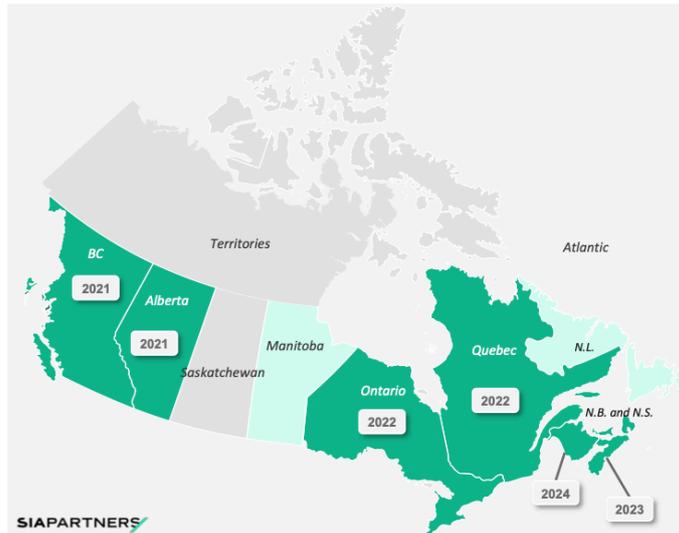
- In 2020, Canada released the "Canadian Hydrogen Strategy", which establishes a clear framework to promote the development of low-carbon H₂, while highlighting its crucial role in achieving the goal of carbon neutrality by 2050.
- It proposes detailed recommendations to achieve several major targets:

- 30% of the country's final energy** from low-carbon H₂
- Creation of **350,000 jobs** in the H₂ sector
- Reduction of GHG emissions by **190 MtCO₂**

Legend

Status of provincial strategies

- Strategy published (Green box with XX for date)
- Strategy under construction (Light Green box)
- No strategy (Grey box)



- ## PROVINCIAL SPECIFICITIES
- British Columbia:** Strategy focused on fuel cells and H₂ production from renewable energies
 - Alberta:** Strategy focused on H₂ production from natural gas with CCUS, and explores opportunities for H₂ from renewable energy.
 - Ontario:** Strategy focused on the production of H₂ from renewable energies and intended mainly for two applications: industrial sector and blending with natural gas. Objective of integrating H₂ into transportation, industry and energy production.
 - Quebec:** Strategy focused on the development of a local economy by focusing on H₂ from renewable energies, for the needs of Quebec and increasing its energy autonomy.
 - New Brunswick and Nova Scotia:** Strategy focused on the production of green H₂ powered by local wind potential.

Indicators

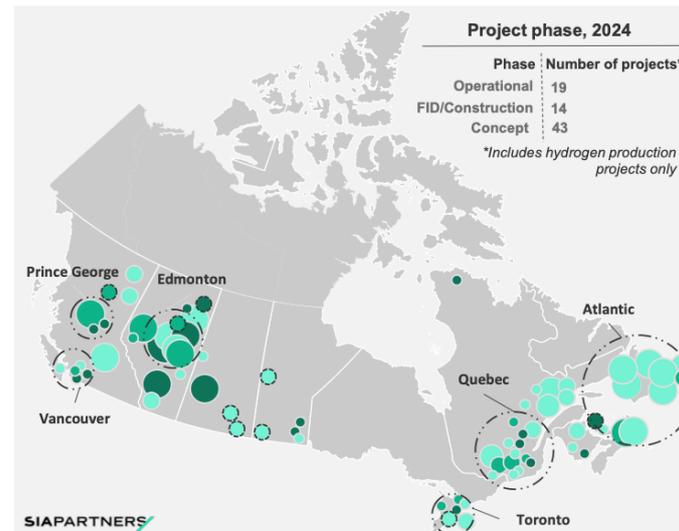
Number of Hydrogen Hubs
03
6 H₂ Hubs

Methodological notes

Distribution of projects across the territory and number of associated hubs obtained by aggregating production capacity data and project development phases. This analysis only reflects projects for which the location is known.

Legend

- H₂ production projects capacity (kt/year)
 - 0 ; 10
 - 10 ; 50
 - 50 ; 100
 - 100 ; 500
 - > 500
 - Capacity unknown
- Project phase
 - Operational (Dark Green)
 - FID/Construction (Medium Green)
 - Concept (Light Green)
- Identified Hubs
 - Name of the Hub (Dashed circle)



- ## THE 6 HYDROGEN HUBS
- Prince George.** Has a particularly advantageous location (in the center of BC) and developed transport infrastructures: air, rail network and close to the main highways in the region.
 - Vancouver.** Benefits from strategic access to the Asia-Pacific market. Historic birthplace of H₂ in Canada. Proximity to the SFU Hydrogen Hub in Burnaby (\$10M invested).
 - Edmonton.** Primarily focused on reforming with CCUS, Edmonton has experience in H₂ production and the world's largest CO₂ pipeline.
 - Toronto** is well located to serve as a distribution point to the United States and has major airports, ports and highways that support good logistics for hydrogen.
 - Quebec.** It is characterized by structuring projects, on a large scale, and for local needs only.
 - Atlantic.** Has many ports and focuses on an export strategy to Europe in the form of low-carbon ammonia.

Indicators

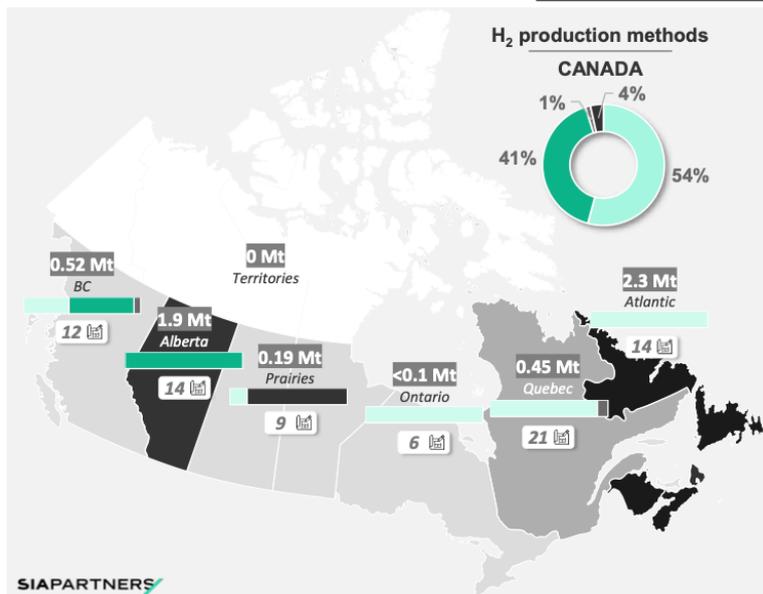
H₂ announced production capacity
01
5.4 Mt/year

Methodological notes

Estimation of the quantity of hydrogen produced by production method and by province based on announced projects. These values only reflect projects for which volume has been announced and for which legitimacy has not been questioned.

Legend

- H₂ production capacity (Mt / year)
 - 0
 - 0 ; 0,3
 - 0,3 ; 0,6
 - 0,6 ; 1
 - 1 ; 1,5
 - > 1,5
 - XX Mt/year
- Number of announced projects (XX)
- Share of different production methods
 - Electrolysis (Light Green)
 - Reforming + CCUS (Medium Green)
 - Biomass gasification (Dark Green)
 - Other (Grey)



Current Landscape and Future Potential

State of Play

- **Strong fundamentals:** Canada benefits from abundant land, access to low-cost, low-carbon electricity, and rich natural resources—creating ideal conditions for a thriving hydrogen economy.
- **Ecosystem development:** Numerous projects and public initiatives have been announced, driving the formation of hydrogen ecosystems across Canada.
- **Low-carbon production hubs:** Projects are taking shape nationwide, establishing H₂ hubs that address energy transition challenges in hard-to-electrify sectors such as heavy industry and transportation.
- **Regional dynamics:**
 - **Eastern Canada:** Focused on electrolysis and ammonia production for export, particularly to European markets via the Atlantic provinces.
 - **Western Canada:** Concentrated on hydrogen production through reforming technologies coupled with carbon capture, utilization, and storage (CCUS).
- **Investment profile:** Investments are private-sector driven, with the remainder primarily supported by public funding.
- **Evolving policy and market context:** Recent U.S. tariff measures and a shift in clean energy policy momentum south of the border have introduced uncertainty and slowed investment pace in parts of the Canadian H₂ sector.

Economic Opportunity¹

- Canada has unique competitive advantages that position the country to become a world-leading producer, user, and exporter of clean hydrogen
- Potential to generate **\$50B in sector revenue and 350,000 jobs by 2050.**
- The global hydrogen market is expected to reach **more than \$2.5T by 2050.** There is a significant export opportunity for Canada as a potential supplier.

Environmental Opportunity¹

- Clean hydrogen has the potential to deliver up to **30% of Canada's end-use energy by 2050**, abating up to **190 Mt-CO₂e of GHG emissions.**
- Abatement applications in:
 - Heavy-duty transport.
 - Industry (steel, cement, chemicals).
 - Buildings & power.

¹ Information presented is provided within NRCAN's Hydrogen Strategy
<https://natural-resources.canada.ca/energy-sources/clean-fuels/hydrogen-strategy>



Key Recommendations to Government

DRIVING POLICY ACTION ON HYDROGEN

To meet our climate objectives and unlock the full economic potential of hydrogen, the Government of Canada must deliver targeted investments and policy enhancements that de-risk deployment, modernize regulatory frameworks, and strengthen domestic capabilities.

Accordingly, the CHA recommends the Government of Canada advance the following priorities (as laid out in the CHA's recent [Pre-Budget Consultation Submission](#)):

1. Integrate Hydrogen and Its Derivatives Within Canada's Economic, Industrial, and Export Strategies

- a. Advance Canada's export strategy for hydrogen and derivatives
- b. Boost trade promotion capacity
- c. Embed hydrogen in national infrastructure planning
- d. Fully integrate hydrogen into Canada's net-zero strategy
- e. Align hydrogen policy with Canada's Critical Minerals Strategy
- f. Integrate hydrogen and derivative fuels into defence energy strategy
- g. Incorporate hydrogen into the Canada's Greening Government Strategy
- h. Advance national training and re-skilling initiatives

A whole-of-government approach will ensure hydrogen delivers maximum environmental, industrial, and geopolitical value to Canada and Canadians.

2. Strengthen Investment Tax Credits

- a. Reform carbon intensity (CI) methodologies to ensure provincial equity
- b. Adopt technology-neutral, emissions-based eligibility
- c. Expand the CH-ITC to include all clean fuel production equipment
- d. Allow use of Renewable Energy Certificates (RECs) under the CH-ITC
- e. Extend CT-ITC coverage
- f. Streamline administration and provide timely guidance

These reforms would remove regional inequities, broaden participation, and ensure that the CH-ITC, CCUS-ITC, and CT-ITC work together to drive large-scale and localized investment across Canada.



3. Drive Investment and Rapid Deployment in Canada's Hydrogen Economy

- a. Expand and target funding programs
- b. Support first-of-kind and hub-scale projects
- c. Develop market-based cost-gap tools
- d. Establish "Buy Canadian" incentives

By removing financial and administrative barriers, Canada can decarbonize its existing hydrogen market and accelerate adoption in new—and hard-to-abate—sectors.

4. Build Out Hydrogen Infrastructure for Transportation, Power, Marine, and Derivative Fuels

- a. Reinstate and expand the Hydrogen for Mobility program
- b. Deploy hydrogen for power applications
- c. Deploy mobile refueling solutions
- d. Facilitate fleet conversions with hydrogen–diesel blends
- e. Address barriers under the Output Based Pricing System (OBPS)
- f. Coordinate national hubs and corridors

Expanding infrastructure beyond transport to power and marine sectors will open new markets, reduce emissions, and build investor confidence.

5. Ensure Long-Term Market Stability

- a. Expand and execute on international hydrogen agreements
- b. Guarantee carbon price stability under the federal OBPS
- c. Maintain and strengthen the Clean Fuel Regulations (CFR)
- d. Expedite development of hydrogen codes and standards

By locking in stable market conditions and enabling Canadian companies to benefit directly from the clean energy transition, Canada can become both a global hydrogen supplier and a clean technology leader.

Together, these measures will better enable Canada to scale clean hydrogen deployment, drive economic growth, and ensure we remain at the forefront of global clean energy innovation. The CHA and its members stand ready to collaborate with government to deliver on this vision.