



TOWARDS A FUEL HYDROGEN ECONOMY IN THE CALGARY REGION: A FEASIBILITY STUDY.

Hydrogen is an energy-rich gas that can be produced in Calgary with low greenhouse gas (GHG) emissions for use in heavy-duty transportation, heating and power generation.

Given the opportunity that hydrogen can play in a future-focused economy, Calgary Economic Development collaborated with The Transition Accelerator on a feasibility study for a Hydrogen Hub in the Calgary Region.

Alberta is superbly positioned to take a leadership role in the transition to hydrogen as a zero-emission energy carrier that can be produced with minimal or no GHG emissions.

FOUR STEPS TO LAUNCH A CALGARY REGION HYDROGEN HUB

01 FEASIBILITY STUDY

Document regional assets for the transition to a hydrogen economy and engage key players.

02 SHARED VISION FOR POSSIBLE TRANSITION PATHWAY

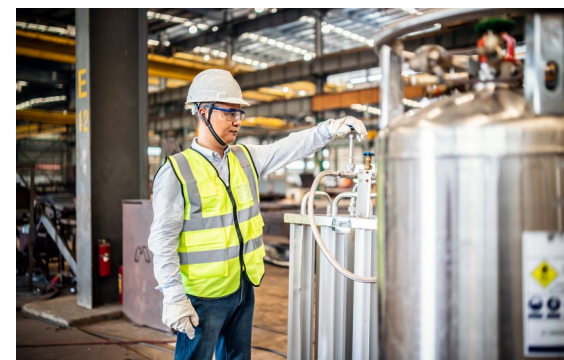
Engage a “coalition of supporters” to articulate a strategy to connect hydrogen gas supply to demand.

03 TECHNO-ECONOMIC ANALYSIS

Assess ideas generated to improve the strategy and engage more partners.

04 PILOT, DEMONSTRATION & COMMERCIALIZATION PROJECTS

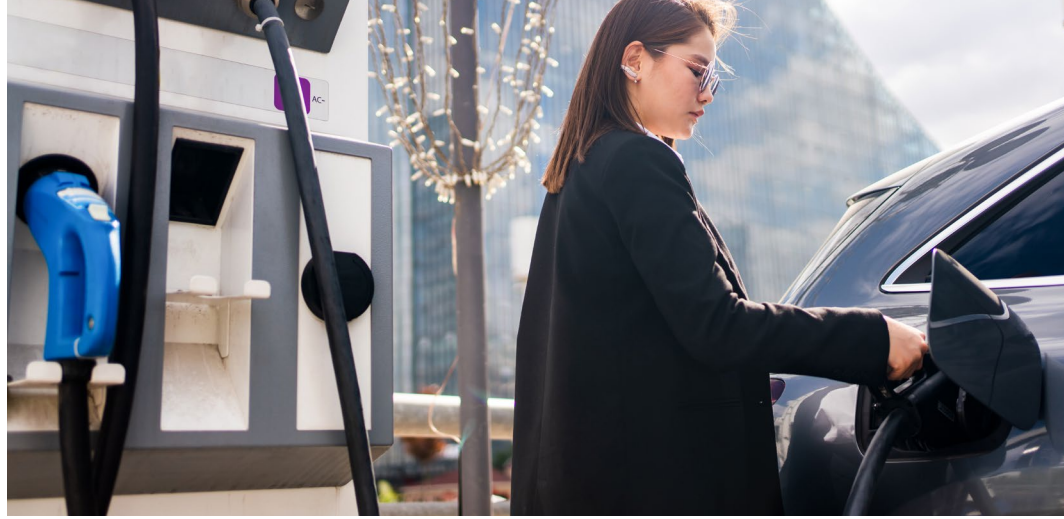
Create a case for public and private investments in pilots, demonstration and commercialization projects.



To read the full Hydrogen Hub Feasibility Study, please visit: yycenergyenvironment.com

The Transition Accelerator

calgary be part of the energy



MARKET POTENTIAL

Estimated daily demand for the Calgary Region in a net-zero future is **more than**

5,000 TONNES

of hydrogen gas. At a wholesale price of \$2.50/kg, market potential is **\$4.6 billion a year.**



OPPORTUNITIES IN CALGARY



Transportation demand

OVER 1,012 TONNES H2/DAY

53% heavy duty trucks, 11% from medium duty trucks and 15% from air transport



Building demand

OVER 1,900 TONNES H2/DAY

if 75% of natural gas supply for residential and commercial building space and water heating shifts to hydrogen



Industrial heat and power generation

OVER 2,130 TONNES H2/DAY

20% of electricity from industrial cogeneration could be served by hydrogen

POTENTIAL PILOT PROGRAMS

City of Calgary

- Municipal bus fleets
- Other Municipal vehicles
- Heating for city-owned facilities

Freight Rail

- CP Rail is developing a line-haul hydrogen-powered locomotive

Heavy-Duty Freight Trucks

- Intercity
- North/South Highway 2 corridor
- East/West Highway 1 corridor

Calgary International Airport (YYC)

- Airport ground vehicles
- Airplanes
- Space and water heating
- Power and heat demand
- Passenger train to Banff (proposed)

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