

The Edmonton Region's Hydrogen Ecosystem



The Edmonton region is Canada's largest hydrogen hub, making it the driving force of Canada's hydrogen economy. Our region produces low-cost, low-carbon hydrogen at a global scale. Through a hub-based approach, we're generating demand to accelerate the growth of the region's hydrogen sector.

OVER \$30B IN NEW HYDROGEN PROJECTS PLANNED BY 2030

55 KM HYDROGEN PIPELINE IN THE REGION

5,000 HYDROGEN POWERED VEHICLES ON THE ROAD IN WESTERN CANADA IN 5 YEARS

THE WORLD'S LARGEST NET-ZERO HYDROGEN FACILITY



Edmonton Metropolitan Region Value Proposition

HUB APPROACH

- The Edmonton Region Hydrogen HUB is the first and largest in Canada.
- Strategic collaboration between industry, government, and Indigenous organizations is accelerating the region's hydrogen economy.
- We're modelling Canada's path forward for a national hydrogen strategy.

TALENT

- Alberta outperforms other Canadian provinces in per capita number of engineers, manufacturing productivity, and labour cost.
- Eight post-secondary institutions, offering 170 programs to over 130,000 students.
- The region is home to world-leading expertise in CCUS technology and clean energy.
- The region's energy workforce is up-skilling to hydrogen.

EXISTING INFRASTRUCTURE AND TECHNOLOGY

- Some of the largest CCUS facilities in the world.
- Six CO₂ storage hubs.
- World's largest CO₂ pipeline located in **Alberta's Industrial Heartland**—Canada's largest industrial zone.
- World-class, technology-enabling facilities and resources:
 - Hydrogen Centre of Excellence
 - University of Alberta
 - NAIT
 - C-FER Technologies

OPPORTUNITY TO SCALE

- Alberta's natural gas supply is abundant and low-cost, creating a cost advantage for hydrogen production and making our region the highest-volume producer in Canada.
- The region will see \$30 billion in hydrogen-related investment by 2030.

INCENTIVES

- Federal incentives up to 60% for various clean technology projects, including hydrogen production and CCUS.
- Provincial incentives up to 12% towards capital for petrochemical production, including hydrogen and CCUS.

Limitless Solutions

Documentary Series
Coming Spring 2025

See how Canada's path to net-zero runs through the Edmonton region.

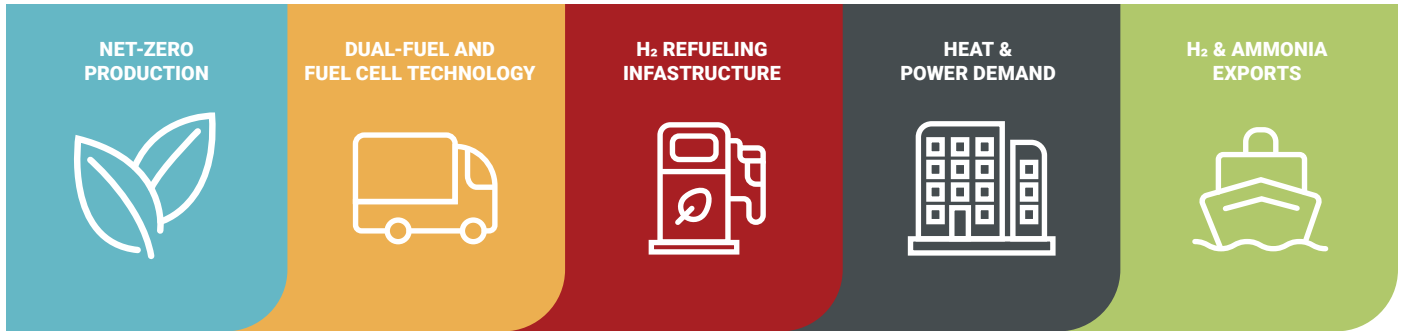


SCAN TO
WATCH THE
TRAILER

Canada's Path To Net-Zero Runs Through the Edmonton Region

Industrial demand for hydrogen has spurred investment into the Edmonton region's hydrogen economy, and our transportation, heat, and power sectors are expected to grow demand drastically within the decade. Our strong industry clusters have the greatest potential for a hydrogen transition, making the Edmonton region a global leader in hydrogen use adoption.

How We're Building Canada's Hydrogen Economy



DOW CHEMICAL NET-ZERO ETHYLENE AND DERIVATIVES COMPLEX

This complex will use low carbon H₂ to decarbonize ethylene production. It will decarbonize approximately 20% of Dow's global ethylene capacity while growing polyethylene supply by around 15%.

FUEL CELL ELECTRIC BUS DEMONSTRATIONS

The City of Edmonton is exploring converting a large portion of its bus fleet to H₂ fuel cell.

City of Edmonton and Strathcona County are demonstrating fuel cell and dual fuel technologies in their fleets.

FORT SASKATCHEWAN HYDROGEN BLENDING PILOT

The pilot project will see ATCO deliver a blend of natural gas containing 5% H₂ by volume into a subsection of the Fort Saskatchewan natural gas distribution system.

SHELL CCUS PROJECTS

Quest has stored >9 mt. of CO₂ from H₂ production facilities since 2015. Best practices from Quest will be used in Atlas CO₂ storage project.

EDMONTON INTERNATIONAL AIRPORT (YEG) ZERO-EMISSION FLEETS

A portfolio of projects including:

- Partnership with Toyota for 100 Mirai hydrogen fuel cell vehicles & supporting refueling infrastructure.
- Investments in H₂ initiatives to decarbonize its operations.
- Use of dual-fuel trucks in targeted operations.
- Installation of two new H₂ refueling stations.
- Partnering with Zero Avia to test infrastructure supporting H₂ fuel cell aircraft.

ALBERTA'S 1ST COMMERCIAL H₂ FUELING STATION

Nikola Corporation's HYL A modular fueler will serve H₂ demand along the Edmonton-Calgary corridor, kickstarting Alberta's fueling network.

THE 5,000 HYDROGEN VEHICLE CHALLENGE

The goal is to get 5,000 H₂ or dual-fuel vehicles on Western Canada's roads within in five years.

Industry leaders representing the entire H₂ value chain are working collaboratively to accelerate the use of H₂ vehicles and de-risk investments into critical infrastructure.

AIR PRODUCTS NET-ZERO HYDROGEN NETWORK

The world's largest net-zero hydrogen facility, which includes Western Canada's only liquid H₂ production facility—will come online late 2024.

Air Products announced plans for a network of permanent, commercial-scale multi-modal H₂ refueling stations along the Edmonton-Calgary corridor—Western Canada's busiest transportation corridor.

MEET WITH OUR EXPERT



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