



International Partnership
for Hydrogen and Fuel Cells
in the Economy

Canada Update

40th IPHE Steering Committee Meeting

4 – 5 October 2023

Washington DC, United States

Announcements & New Initiatives *Canada*

- ***New production project announcements***—74 publicly announced projects as of September 2023, including more than 20 large-scale projects for export to global markets
- ***Advancement of first-mover electrolytic projects in Atlantic Canada***—three projects at environmental assessment stage (two approved; one filed)
- ***Indigenous partnerships***—advancing economic reconciliation through equity partnerships, benefits agreements, training & skills development in hydrogen economy
- ***International supply chain and trade flow development***—Ongoing port-to-port collaboration (e.g., MOUs), foreign direct investment in Canadian production projects, international project collaboration
- ***Provincial leadership***—Atlantic provinces’ delegations to World Hydrogen Summit, Crown land processes, international MOUs
- ***Offshore wind regulatory development***—Accord Acts amends introduced to enable regulatory framework for offshore wind
- ***Upcoming: Biennial Report on the Hydrogen Strategy***
- ***Clean Hydrogen Investment Tax Credits*** — Consultation on the Clean Hydrogen Investment Tax Credit (CH-ITC) closed, and draft legislation expected next (TBD)

Project Development *Canada*

Electrolysis Project Updates

Project Nujio'qonik—Large-scale export project in Newfoundland submitted environmental impact statement

EverWind Point Tupper—\$1B investment to acquire three wind farms to support export from Nova Scotia

Pattern Energy—Export project in Newfoundland entered lease agreement with Port of Argentia

Natural Gas Reforming Project Updates

Nu: ionic & Liberty Utilities—MOU for 2.4 TPDA production using microwave catalytic reformers

ATCO & Kasai Electric—Collaboration on feasibility of ATR w/ CCUS in Alberta to supply Japan with low-carbon ammonia

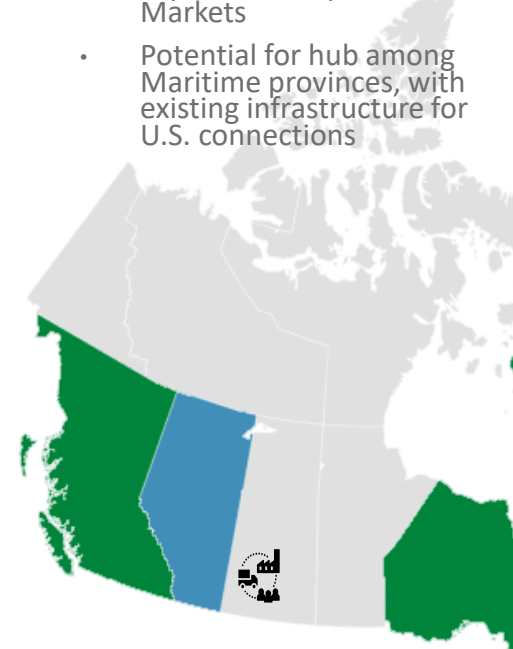
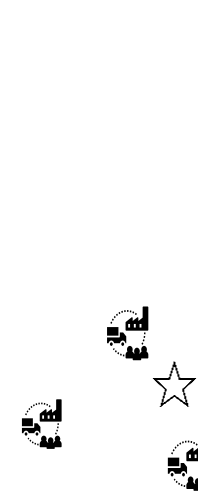
McLeod Lake Indian Band & Mitsubishi Power—Proposed \$5B hydrogen plant in British Columbia export to Asian markets

Western Canada *Focus*

- Export to Asian market
- Mix of NG reforming and electrolysis
- Large-scale production anchoring development of industrial hubs

Atlantic Canada *Focus*

- Electrolysis
- Export to European Markets
- Potential for hub among Maritime provinces, with existing infrastructure for U.S. connections



Central Canada *Focus*

- Electrolysis
- Domestic use
- Hub emerging along key cross-border corridor








- Hub developing
- Electrolysis
- Natural gas reforming



Edmonton Hub (Most advanced)

Canada – Profile October 2023

Status of Deployments

-  **New technology**— Microwave reforming of NG production facilities
-  **Rail**—Pilot of hydrogen rail in Quebec, Alberta study of hydrogen rail line
-  **Refuelling network expansion**—new stations opening, supported by federal funding; stations integrated with domestic production projects
-  **Hydrogen blending**—Pilots planning to increase blend rate to 20%
-  **Salt storage**—Developments progressing in Newfoundland

Funding

- Infrastructure funding**—\$38M for Port of Argentina, refueling station funding)
- Funding for electrolyzers**—\$3.5M for Hydrogen Optimized for expansion of manufacturing capacity; support for electrolyser RD&D by NRCC
- Provincial funding**
 - \$50M joint funding by Alberta Innovates & NRCan for late-stage and early-stage hydrogen production and end-use innovation
 - British Columbia funding of \$4M for hydrogen ports project

Goals or Focus Areas

Sector priorities

- Reducing GHG emissions
- Being a secure supplier of energy
- Building on strengths
 - ✓ Skilled workforce
 - ✓ Global top 10 H2 producer
 - ✓ Leader in hydrogen and fuel cell technology

Focus areas

- De-risking investments
- Supporting hydrogen end-use—enabling policy environment (e.g., carbon pricing), hub development

Thank you



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