Engaging a Hydrogen Ecosystem

Environmental Action Committee

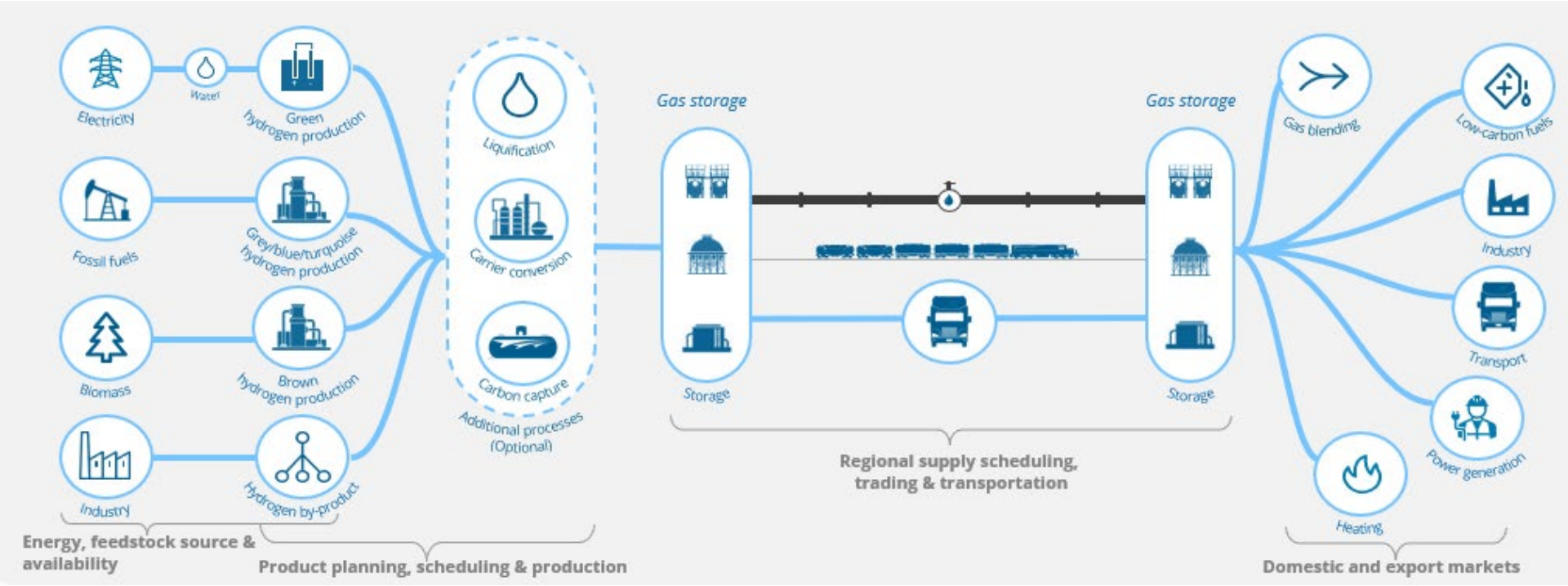
May 2025

MISSISSAUGA

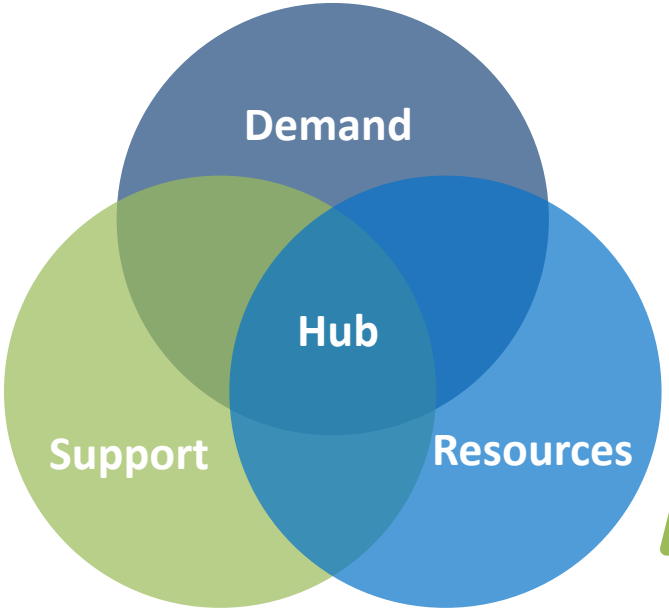
Hydrogen’s role in the big picture

- Hydrogen, the simplest and most abundant element, can be produced from water and natural gas, making it versatile for a low-carbon future.
- It stores and transports renewable energy, fuels industries, and emits no greenhouse gases when used in fuel cells or combustion.
- It can decarbonize hard-to-electrify sectors key to Mississauga like heavy industry and transportation, enhancing energy security and supporting the global shift toward cleaner energy.
- Hydrogen can capture excess renewable energy during peak production, addressing energy storage and grid stability challenges, and balances energy supply and demand.
- While not an energy source, hydrogen's role as an energy carrier is crucial for a low-carbon energy future.

Hydrogen ecosystem



Hydrogen hubs



- Proximity to potential hydrogen end-users
- Infrastructure and resources to develop ecosystem
- Demonstrated support by government & industry

Photo Credit: Carlsun Energy

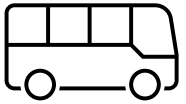
Mississauga has the required elements of a hydrogen hub

Strategic location

Well-connected to transportation networks with access to Ontario's low-carbon electricity grid.

Target markets

Heavy-duty transportation and industry decarbonization markets, with opportunities for hydrogen blending in natural gas networks.



Pilot Projects

Existing and planned pilot projects, fueling stations and innovation facilities to demonstrate potential.

Growth opportunities

Within manageable distance from potential hydrogen production clusters.

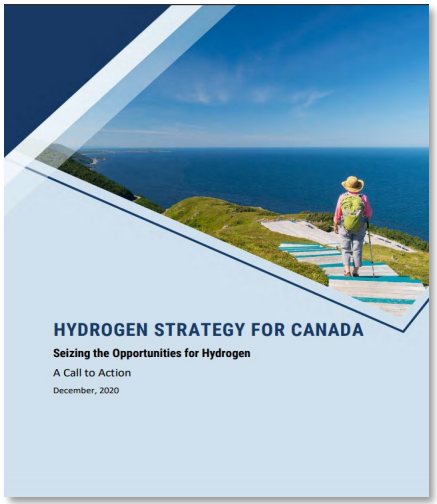
Innovation and R&D ecosystem

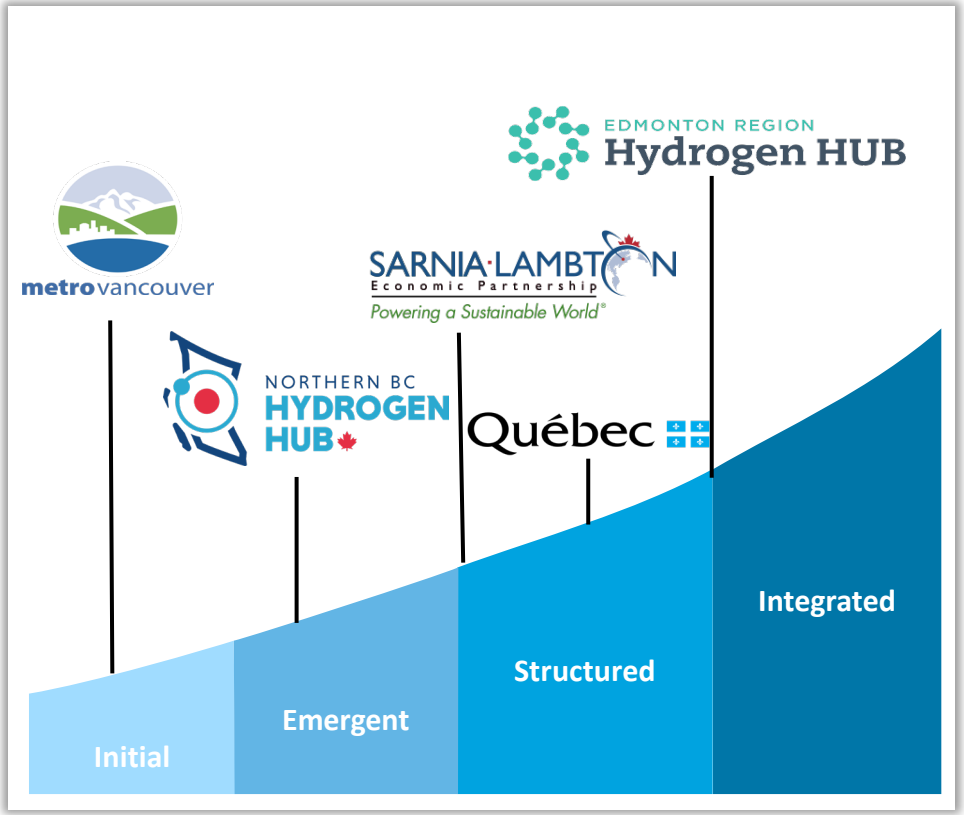
Strong local innovation and research ecosystem, with collaboration opportunities with universities, and industry partners.

Supportive policy environment

Ontario's hydrogen strategy supports local hydrogen hub development.

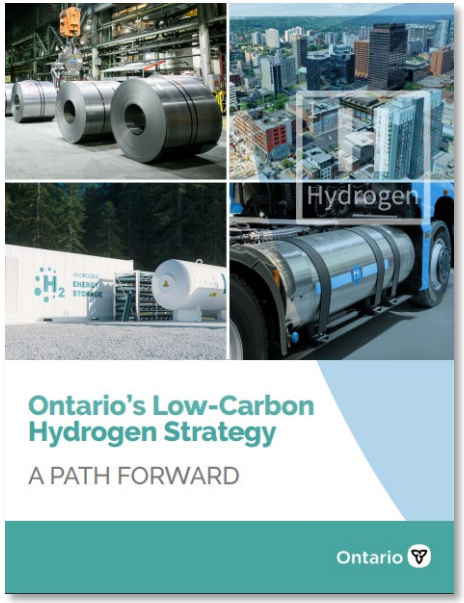
Hydrogen hubs in Canada



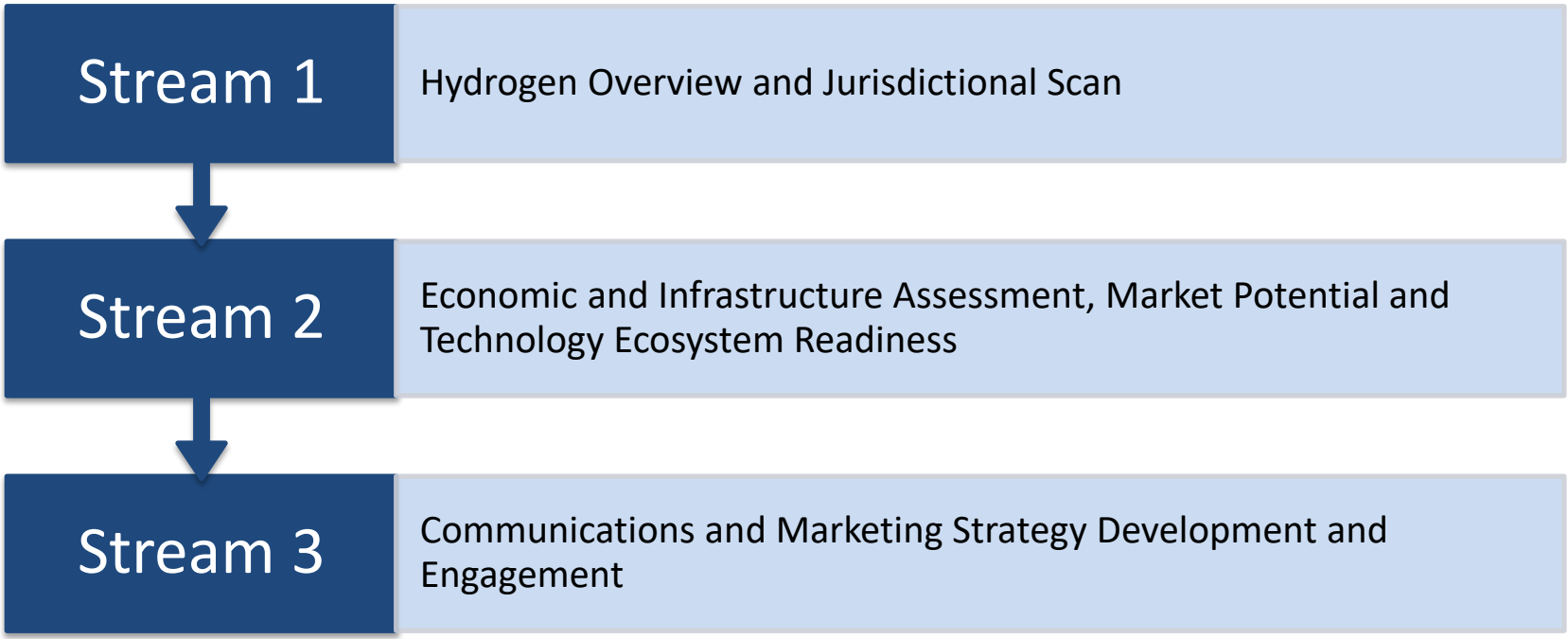


Emerging Ontario hubs

- **Mississauga and Greater Toronto Area:** Large density of end-users, such as vehicle fleets and heavy-duty trucking
- **Sarnia-Lambton region:** Utilize petrochemical expertise and existing natural gas infrastructure for hydrogen production and distribution
- **Hamilton region:** Transition traditional industries, such as steel, to low-carbon hydrogen while leveraging its strategic location
- **Niagara region:** Leverage hydroelectric resources for green hydrogen production to support heavy industry and export
- **Durham region:** Explore nuclear-powered electrolysis and develop low-carbon transportation solutions
- **Grey-Bruce region:** Combine nuclear and agricultural resources for innovative, low-carbon hydrogen production



Engaging Mississauga's Hydrogen Ecosystem: Project Overview



Project Timeline

Working Group

Quarterly meetings guiding project development

Local Network Events

Broader reach focused on engaging the local business community

Conference

In partnership with Hydrogen Business Council
November 5-6
hosted in Mississauga

HBC H2 CONFERENCE

Thank-you

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