

Low-Carbon Hydrogen in Mississauga: Infrastructure and Market Potential

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[Webinar Recording](#)

Mississauga is investigating the development of a hydrogen hub. The hub is designed to engage project partners and local businesses to build awareness and education about hydrogen. The City of Mississauga engaged Deloitte to assess the feasibility of establishing a hydrogen hub, with funding from Natural Resources Canada. The assessment aimed to: (1) understand the hydrogen opportunity in Mississauga and the surrounding region, focusing on infrastructure and market potential, (2) position Mississauga competitively to attract investment and support for hydrogen initiatives, and (3) develop actionable steps to operationalize the hydrogen hub and address key challenges. In this webinar, City of Mississauga staff shared the results of the analysis.

Presenters

- Carrah Bullock, Climate Change Specialist, City of Mississauga
- Arvind Ramakrishnan, National Hydrogen Leader, Deloitte,
- Hode Talebian, Project Manager, Deloitte

Key Findings

- The Feasibility Study determined that Mississauga is strategically positioned to host a hydrogen hub. The key determining factors included the City's central location within the Greater Toronto and Hamilton area and access to an expansive transportation network (i.e., proximity to the 400 series highways). Additional factors include the direct access to Ontario's low carbon electricity grid, the local educated workforce, and existing technology (two electrolyser producers).
- The study found that the most viable opportunities for hydrogen adoption are in the heavy-duty transportation sector, public transit, and within industrial applications.
- The study recommends that Mississauga move forward with a dual supply strategy that prioritizes both local production and integration of regional supply.

Presentation Overview

- The catalyst for City of Mississauga's interest in undertaking a feasibility study for a low carbon hydrogen hub was the City's hydrogen fuel cell bus pilot. Through Phase One of this pilot, the City identified that low availability of low carbon hydrogen, paired with high cost, are key barriers.
- The study analyzed the hydrogen value chain, market readiness, and the specific opportunities and challenges within the Mississauga context.

- One of the primary challenges within the value chain is the high costs associated with hydrogen delivery and distribution, due to the need for specialized equipment.
- One of the main reasons why long-haul transport is a strong candidate for hydrogen application is that hydrogen has short refuelling times and a longer range than battery operated technology. Similarly, hydrogen may be advantageous for longer public transit routes, particularly in colder climates.
- Hydrogen has not yet been applied commercially for rail, however, CPKC is trialling hydrogen powered rail in Alberta.
- The industrial sector presents an opportunity for hydrogen adoption, specifically for high-temperature heat processes and refining.
- The study found that the primary challenge with establishing a hydrogen hub within Mississauga is that Mississauga currently does not have large-scale hydrogen production infrastructure. To address this, one of the key recommendations is for the City to coordinate with neighboring municipalities (100-350 km radius). This distance was specified as it allows Mississauga to import hydrogen and does not require immediate large-scale investments in local production.
- Further recommendations include having the City take on the role of convenor, facilitator, and leader, where they bring together key stakeholders, provide permitting assistance, and use City-led projects as opportunities (i.e., the hydrogen fuel cell bus pilot).
- It was further identified that the provincial and federal governments should look to incentivize hydrogen adoption through means such as investment tax credits and funding programs, and should also create policy and regulations that encourage hydrogen adoption.
- The City intends to conduct broader outreach with the business community to increase awareness and identify potential users of hydrogen.
- On November 5th and 6th, the City is hosting a conference with Hydrogen Business Council with the objective of sharing research and exploring opportunities within the region.

Additional Resources

- [City of Mississauga: Hydrogen Foundational Summary Report](#)
- [City of Mississauga: Engaging a hydrogen ecosystem project page](#)
- [City of Mississauga: Hydrogen Fuel Cell Electric Bus Pilot Project](#)
- [Annual Canadian Hydrogen Conference](#)

Contact Information

Please reach out to us at any time with questions, input, or for additional information.

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