



Owen Sound Hydrogen Peaker Plant

Project Information Brief



Executive Summary

Current H₂ proposes to develop one of North America's first hydrogen peaking generation plants in Owen Sound. We finance, design, permit, install, operate, and maintain the facility as an Independent Power Producer (IPP), owning the assets and supplying power under long-term contracts. The project uses off-peak, surplus grid electricity to produce green hydrogen, stores it on site, and uses 100% hydrogen-capable turbines to deliver carbon-free electricity during peak demand—enhancing grid reliability and supporting community growth.

Project Overview

The facility integrates three core elements: 1) a grid-connected electrolyzer operating during off-peak hours to create green hydrogen; 2) safe, compliant on-site hydrogen storage (liquid or high-pressure); and 3) hydrogen-fueled turbines that generate electricity during peak periods.

- **IPP Ownership:** Current H₂ develops, owns, and operates under long-term contracts.
- **Green Hydrogen Production:** Uses clean off-peak electricity to create, store, and generate power from 100% hydrogen.
- **Community Focus:** Local jobs, tax base growth, and infrastructure upgrades.

Benefits for Owen Sound

1. **Grid Reliability:** Provides dispatchable power to rapidly respond to peak demand events and stabilize the grid.
2. **Economic Growth:** Generates incremental revenue, diversifies the tax base, and stimulates local businesses.
3. **Local Jobs & Procurement:** Creates construction and long-term skilled jobs, with local procurement targets.
4. **Decarbonization:** Reduces reliance on fossil-fueled peakers and cuts emissions during high demand.
5. **Infrastructure Upgrades:** Upgrades to local lines and substations that benefit the broader community.
6. **Innovation Leadership:** Positions Owen Sound as a leader in North American energy transition solutions.

Health, Safety, and Permitting

Current H₂ is committed to the highest standards of health and safety. The plant will be designed, constructed, and operated in accordance with all applicable Canadian and Ontario regulations to ensure the well-being of the community and our employees.

Environmental Permitting: The project will follow Ontario's streamlined environmental permissions process via an Environmental Activity and Sector Registry (EASR) filing, ensuring compliance with provincial standards for air, noise, and water.

Regulatory Compliance & Standards: The facility will adhere to the Ontario Electrical Safety Code (OESC) administered by the Electrical Safety Authority (ESA) and fuel safety regulations via the Technical Standards and Safety Authority (TSSA). All equipment will meet or exceed relevant CSA Group standards for hydrogen technology.

Zoning and Land Use: The proposed site is within the City's 'M2 – General Industrial' zoning, which permits public utilities and industrial uses, an appropriate location for a modern energy facility.

Municipal Coordination

We are committed to a proactive partnership with the City of Owen Sound, collaborating across departments throughout planning, construction, and operations.

- **Roadways & Traffic:** A Construction Traffic Management Plan in consultation with the Public Works and Roads Department.
- **Water, Drainage & Stormwater:** Comprehensive Stormwater Management and Erosion & Sediment Control Plans meeting municipal standards.
- **Emergency Services:** Co-developed emergency response protocols and training with Fire, EMS, and Police; provision of site access information.

Coordination Framework:

- 1) Pre-application meetings to review conformity, servicing, and timelines;
- 2) Technical working groups with planning, engineering, and emergency services;
- 3) Ongoing communication, construction updates, and a designated community liaison officer.

Proposed Location

The proposed site is in an industrial park adjacent to Hydrogen Optimized and near local distribution lines. Ideally situated for grid interconnection and industrial compatibility.



How It Works

Off-Peak Power: Utilize clean grid electricity (renewables, hydro, nuclear) during off-peak hours.

Create Green Hydrogen: Use an electrolyzer to produce green hydrogen from water.

Store Hydrogen: Liquefy or store under high pressure for later use during peak hours.

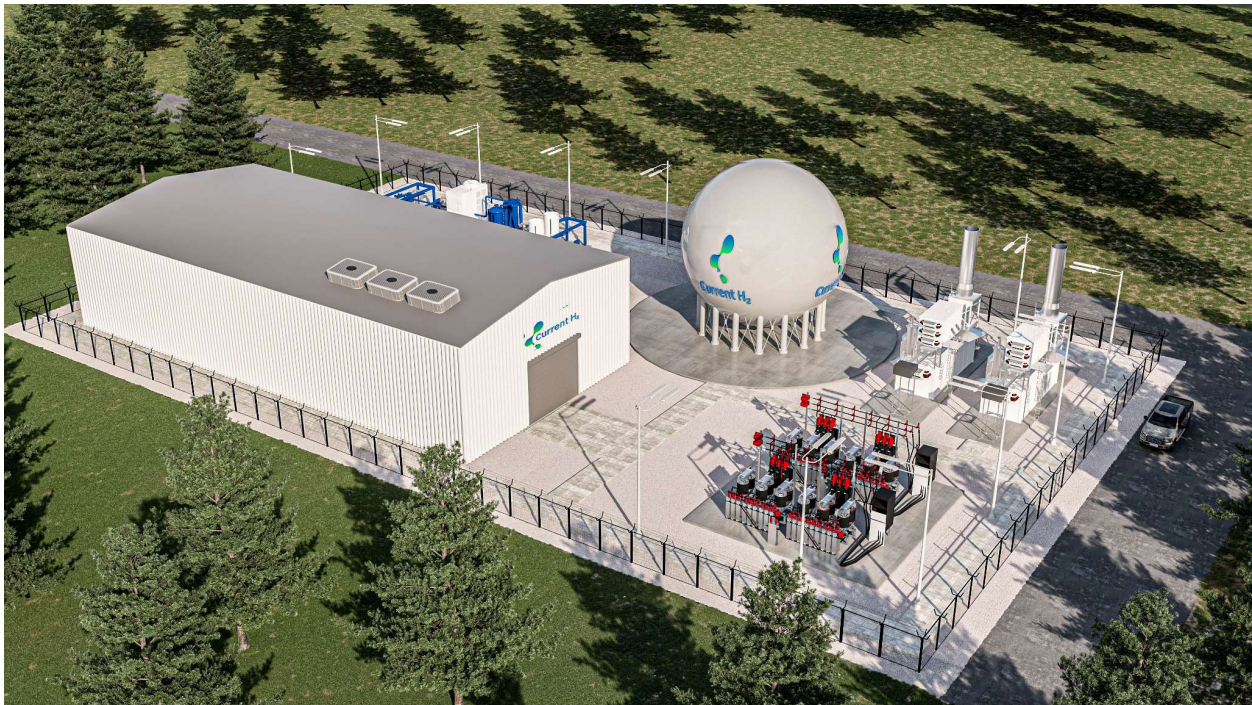
Generate Power: Operate 100% hydrogen-burning turbines to meet peak demand.

Supply Grid: Return electricity to the grid as a clean, dispatchable resource.

Proposed Timeline

Milestone	Target Date
LT2 Project Bid	December 2025
Project Award	April 2026
FEED & Permitting	Q3 2027
Construction & Commissioning	Q3 2028
Commercial Operation (COD)	Q4 2028

Conceptual Renderings





Contact

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