

## Staff Report

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**Report To:** City Council

**Report From:** Rebecca Ellerdien, Senior Advisor, External Relations and Investment Attraction

**Meeting Date:** September 22, 2025

**Report Code:** CM-25-031

**Subject:** Municipal Support for Proposed Hydrogen Peaker Plant

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### Recommendations:

THAT in consideration of Staff Report CM-25-031 respecting Municipal Support for Proposed Hydrogen Peaker Plant, City Council endorses the resolution attached to the report.

### Highlights:

- Public Energy Inc. is proposing a new Long-Term Capacity Services Project for Owen Sound that would create and store clean hydrogen to meet peak energy demand using a hydrogen-powered turbine.
- The proposal requires proof of municipal support to satisfy the requirements of the Independent Electricity Systems Operator (IESO) long-term capacity procurement process. The municipal support resolution does not circumvent the City's normal development approval process.
- The proposed Owen Sound Hydrogen Peaker Plant would strengthen our regional profile as a hub for advanced manufacturing and clean energy innovation and generate an estimated 400 jobs, including 20 full-time positions for long-term operating.
- The project is a direct result of the relationship between Hydrogen Optimized and Public Energy.

## **Strategic Plan Alignment:**

[Strategic Plan](#) Priority: Green City.

The proposed project will support the efficient use of clean and renewable energy sources to meet anticipated growth in Ontario's energy needs.

[Strategic Plan](#) Priority: Prosperous City.

The proposed project will enhance Owen Sound's clean energy sector and attract new investment matched to our regional economic strengths.

## **Climate and Environmental Implications:**

This supports the City's Climate Mitigation Plan objective to reduce the amount of energy consumption through technology and utilization of renewable energy sources.

## **Previous Report/Authority:**

N/A

## **Background:**

In July 2025, the City Manager, Mayor and the Senior Advisor, External Relations and Investment Attraction (Senior Advisor) were invited to a meeting at Hydrogen Optimized to be introduced to Public Energy Inc. and learn about a [proposed long-term capacity project located in Owen Sound](#).

Since that initial meeting, the Senior Advisor has been working closely with Public Energy to promote the Owen Sound location as an ideal site to demonstrate their innovative technology.

## **Understanding Hydrogen's Role in Clean Energy Production**

In *Energy for Generations (2025)*, Ontario's first Integrated Energy Plan, low carbon hydrogen is identified as a major economic development opportunity to support the decarbonization of the electricity system and create up to 135,000 jobs across Canada:

*"Hydrogen-based technologies are uniquely suited to help fill gaps in the energy system that are technically or economically challenging to address through electrification alone. Hydrogen-based technologies may have the potential to:*

- *Support peak electricity demand as a dispatchable generation resource;*
- *Provide long-duration energy storage to complement intermittent renewables;*
- *Reduce emissions in hard-to-abate sectors such as steel, cement, refining, and chemicals; and*
- *Serve as a clean fuel for heavy-duty transportation and industrial feedstock.”*

— [Chp. 6, Energy for Generations \(2025\)](#)

The Province has taken steps to secure additional capacity for anticipated increased energy needs, including new initiatives such as the Hydrogen Interruptible Rate Pilot program for hydrogen generation projects to capitalize on off-peak pricing and doubling investments through the Hydrogen Innovation Fund.

### **Owen Sound’s Support for Hydrogen Innovators**

Public Energy is proposing to locate a 100 per cent hydrogen peaking plant in Owen Sound as one of its Current H2 projects, which—if approved by IESO and the Province—has the potential to be the first of its kind in North America.

The proposed site is on a 1-2 acre parcel of privately-owned vacant industrial land at 1799 20th Street East next to Hydrogen Optimized’s manufacturing and demonstration facility in Owen Sound.

Hydrogen Optimized is a global leader in large-scale clean hydrogen production systems, drawing on the 100-year legacy of Stuart unipolar technology. Their patented RuggedCell™ electrolytic cell is manufactured using low-carbon electricity and is designed to produce the lowest levelized cost of clean hydrogen at large scale with configurable system architecture.

The use of this technology enables a high hydrogen yield for every kW of renewable electrical power, which increases the efficiency of these systems for large scale production.

Owen Sound has a strong track record of support for clean energy innovation and is strategically located to advance forward-looking projects as a member of the Clean Energy Frontier and part of the campus network of Georgian College—which received official designation in July 2025 as a Technology Access Centre and became the [first institution in Ontario to operate an Industry 5.0 sandbox](#).

## **Proposal for an Owen Sound Hydrogen Peaker Plant**

The proposed facility in Owen Sound would use electrolyzers to produce clean hydrogen using carbon free power at night. The clean hydrogen would be stored and used to power new and innovative turbines powered solely by hydrogen to meet peak energy demand by providing energy back into the grid.

To satisfy the requirements of the IESO's second long-term "LT2" procurement process, applicants are required to demonstrate municipal support. Public Energy/Current H2 has requested a resolution of municipal support to advance this proposal as one of two sites being considered for a fully hydrogen-powered peaker plant.

Public Energy/Current H2 are also planning to submit applications for "hydrogen-ready" natural gas-powered peaker plants in other communities that could be converted to hydrogen-powered turbines in the future.

Hydrogen peaker plants, such as the one proposed for Owen Sound, would be a more environmentally conscious method of utilizing the excess energy produced by energy suppliers overnight while reducing reliance on carbon-intensive energy sources.

### **Analysis:**

The Owen Sound Hydrogen Peaker Plant has the potential to be the first of its kind in North America using innovative 100 per cent hydrogen-powered turbines. This opportunity will further amplify our regional strength as a hub for advanced manufacturing and clean energy innovation, and will complement local expertise in large scale hydrogen production.

Staff have reviewed the proposal by Public Energy/Current H2 and are satisfied with the proponent's ability deliver the project in accordance with all applicable regulations and by-laws, and in consultation with Indigenous and community stakeholders. The municipal support resolution is a requirement to allow the advancement of the proponent's application to IESO and does not circumvent the City's normal development approval process.

In terms of community benefit, according to Public Energy/Current H2, the proposed project would create new construction and operational jobs and generate between \$80 million and \$400 million of investment.

However, this project also represents a significant opportunity to build on Hydrogen Optimized's successful track record of attracting global talent to Owen Sound. This supports the City's goal to grow as a clean energy sector hub and may lead to future economic activity.

Owen Sound is an ideal location for this type of innovative and forward-looking project and will continue to offer support to industrial partners who wish to invest in our community.

### **Financial Implications:**

The proposed project does not require any municipal funding or land. The Senior Advisor will provide in-kind economic development support as needed to assist Public Energy/Current H2 and Hydrogen Optimized to further this project.

### **Communication Strategy:**

Public Energy/Current H2 will host a public open house to provide information and answer community questions about the project.

### **Consultation:**

N/A

### **Attachments:**

1. IESO LT2c Prescribed Form - Municipal Support Resolution
2. Public Energy Owen Sound Hydrogen Peaker Plant Brief

### **Recommended by:**

Rebecca Ellerdiem, Senior Advisor, External Relations and Investment Attraction

### **Submission approved by:**

Tim Simmonds, City Manager

For more information on this report, please contact Rebecca Ellerdiem, Senior Advisor, External Relations and Investment Attraction at [rellerdiem@owensound.ca](mailto:rellerdiem@owensound.ca) or 519-376-4440 x1254.