

Backgrounder

Announcement of new transmission line between Chatham and Lambton

Electricity demand in Windsor-Essex and surrounding Chatham areas is growing at a rapid pace, driven by strong indoor agricultural growth, in vegetable greenhouses, as well as in part, cannabis.

This agricultural electricity demand is expected to grow from roughly 500 megawatts (MW) to 2,000 MW from now to 2035. To ensure the region has the power needed to support this growth, a new 230-kilovolt double circuit transmission line is being developed by Hydro One between Lambton Transmission Station and Chatham Switching Station.



Figure 1: Proposed transmission line connects Lambton TS and Chatham SS. Exact route to be determined.

A Multi-Faceted Approach

Rapid growth in demand requires a variety of solutions. As a result of extensive local engagement and studies in the area, the IESO has taken a multi-faceted approach to support electricity needs in the Windsor-Essex and Chatham areas.

Several [studies](#) to analyze demand and options in this area have been completed or are underway, which have resulted in the implementation of:

- A [new switching station](#) and a high voltage transformer station in Lakeshore to be finished construction by end of 2023.
- A [new transmission line](#) from Chatham SS to Lakeshore SS being developed by Hydro One which, if approved, would be in service by 2025/2026 (Windsor-Essex Bulk Study);
- Demand-side options such as energy efficiency and innovative pilot projects (more below)

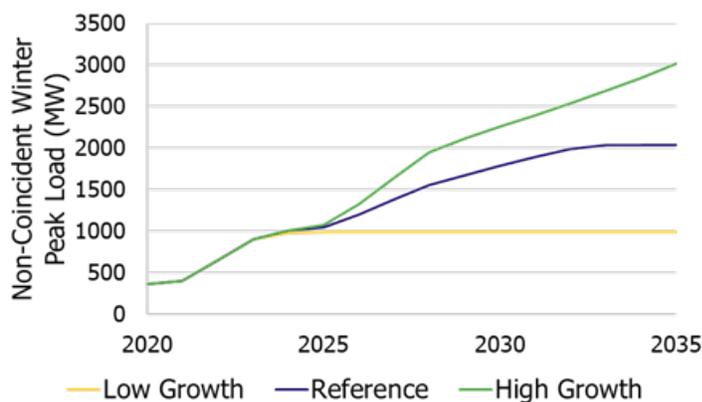


Figure 1: Forecast greenhouse load growth in Windsor-Essex and surrounding Chatham-Kent, to be served by the new transmission line.

Further action will be required to address enduring needs – this will be outlined in the IESO’s study of bulk supply needs West of London and regional supply needs in Windsor-Essex, both of which are due to be released this spring, as well as its ongoing work to determine the province’s overall supply needs emerging later this decade.

Energy Efficiency

As the lowest-cost resource, energy efficiency offers tremendous benefits for individuals, businesses and the power system as a whole. Participation in energy-efficiency programs helps reduce the need for new investments in power plants and transmission lines. The IESO has directed increased efforts and investment to the Windsor-Essex area, to encourage the adoption of energy-efficiency processes and technologies in businesses and communities, helping reduce peak demands by 10 MW.

In the past decade, the IESO’s [Save on Energy](#) conservation and demand management programs have achieved 16 terawatt-hours of energy savings – enough to power over 1.8 million homes for a year – and more than 250,000 residential and business customers have participated.

Innovative Pilot Projects

Energy efficiency combined with innovation can have an immediate and lasting impact on system reliability, help address province-wide and regional electricity needs, and support business and community growth. The IESO’s Grid Innovation Fund has supported innovative greenhouse pilot projects in the Windsor-Essex area to reduce peak demand while alleviating load growth. [Pilot projects](#) include smart LED lighting strategies, and using artificial intelligence to improve energy efficiency.

A [2019 Greenhouse Profile Study](#) showed the potential for energy efficiency to help manage increasing electricity demand in the sector while reducing costs for greenhouses.

Community Engagement

The IESO will host a virtual meeting of the Southwest Regional Electricity Network on March 31, 2021 at 2 p.m. to provide an overview of this project, address any questions, and discuss next steps in the broader electricity planning efforts in the West of London area. For more information and to register, visit [IESO Connects](#).

The IESO, Hydro One, other transmitters and local utilities engage with local and regional communities and including Indigenous communities, greenhouse owners, municipalities as well as, others interested in participating in the IESO's electricity planning process. With this input, the IESO develops integrated recommendations on how best to meet emerging electricity needs while considering other alternatives such as conservation, generation, transmission and distribution, and innovative resources. Ongoing dialogue not only provides opportunities for local input, it also lays the foundation for successful implementation. See [Windsor-Essex](#), and [Chatham-Kent/ Lambton/Sarnia](#) for more information.

In addition to online engagement meetings and forums, the IESO has launched [IESO Connects](#), an online platform to enable ongoing relationships, learn about the energy sector, and to contribute to conversations and initiatives to help shape the electricity future of communities across Ontario.