

**OCTOBER 29, 2024**

# GTA West Regional Electricity Planning Engagement Webinar

# Agenda

- IESO's Role in the Electricity Sector
- Regional Electricity Planning Process and the GTA West Electrical Region
- Draft Scoping Assessment
- Next Steps and Engagement
- Discussion

# Summary

- Regional planning has kicked-off in the GTA West electrical area, and the Technical Working Group has recommended the best planning approach to understand needs and propose solutions to meet the growing electricity demand.
- In the GTA West region, the Technical Working Group is recommending to develop a new Integrated Regional Resource Plan (IRRP) given the:
  - Potential to address needs in an integrated manner
  - Potential for exploring multiple types of options to meet the needs (including non-wires alternatives)
  - Potential for regional changes having implications on the upstream bulk power system
  - Opportunity for public engagement
- The IRRP will look at the unique electricity needs of the region and consider a range of options and resources to meet the growing electricity demand. As part of the IRRP, the Technical Working Group will also evaluate a scenario in which local natural gas generation is phased out and develop a forecast scenario that includes electrification and decarbonization to better understand the options to facilitate the energy transition.
- As work progresses, the IESO will share more information, answer questions and seek feedback at key milestones.



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Powering Tomorrow.



We work with:



# Seeking Input

**Local considerations and feedback are a critical component of the planning process. The IESO wants to hear from you:**

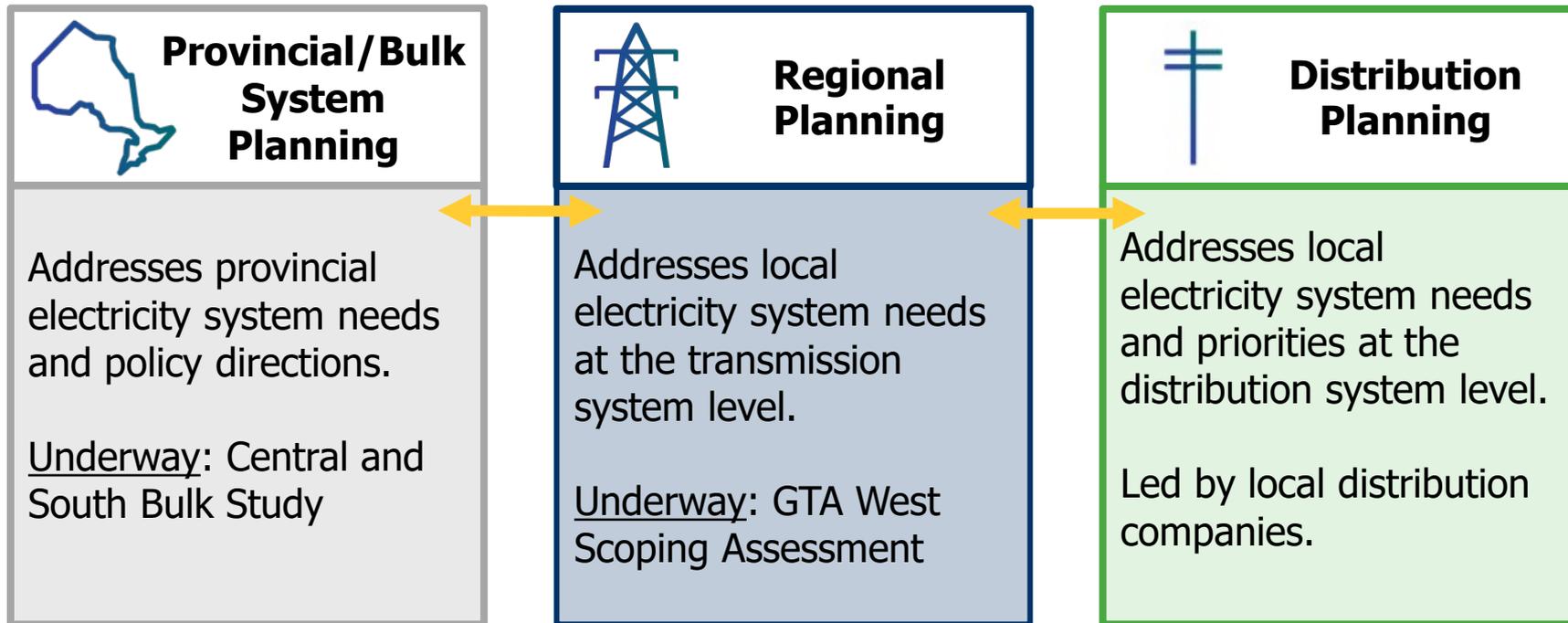
- What additional information should be considered as part of the Scoping Assessment?
- What other considerations based on local developments should be made regarding the areas identified as requiring further study?
- What other areas or specific considerations should be examined through regional planning?

**Please submit your written comments by email to [engagement@ieso.ca](mailto:engagement@ieso.ca) by **November 14, 2024****



# Regional Electricity Planning Process and the GTA West Region

# Electricity Planning in Ontario



# Background Electricity Planning in GTA West

Since 2015, the IESO has undertaken electricity planning work to address capacity needs to the GTA West electrical area. The previous regional plan was completed in 2022 and recommended upsizing of circuits and building of new stations to meet growing electricity demand.

These solutions ensured a reliable supply of electricity to the area. However, continued demand growth will require more planning:

- A new South and Central bulk study will determine bulk transmission needs required to enable economic development in the GTA and decrease reliance on local natural gas-fired generation from Halton Hills Generating Station, Sibley Goreway Generating Station, and other stations in the GTA. Learn more [here](#).
- The IESO and the Ministry of Energy and Electrification are conducting a joint study to identify land to be protected for a future transmission corridor (adjacent to Highway 413) to support anticipated long-term growth in demand for electricity in the GTA West region.

# 21 Electricity Regional Planning Regions

The regional system planning process ensures an affordable and reliable supply of electricity across Ontario. The process looks at the unique needs of each region and considers a range of options and resources to keep the lights on.

A comprehensive planning approach to develop an Integrated Regional Resource Plan (IRRP) is underway for the GTA West electrical region.

The first step is completing a scoping assessment to determine the best planning approach.



# Technical Working Group

The regional planning process is conducted by a Technical Working Group, consisting of:

Team Lead, System Operator

- Independent Electricity System Operator

Lead Transmitter

- Hydro One Networks Inc. (Transmission)

Local Distribution Companies

- Alectra Utilities Inc.
- Burlington Hydro Inc.
- Milton Hydro Distribution Inc.
- Oakville Hydro Electricity Distribution Inc.
- Halton Hills Hydro Inc.
- Hydro One Networks Inc. (Distribution)

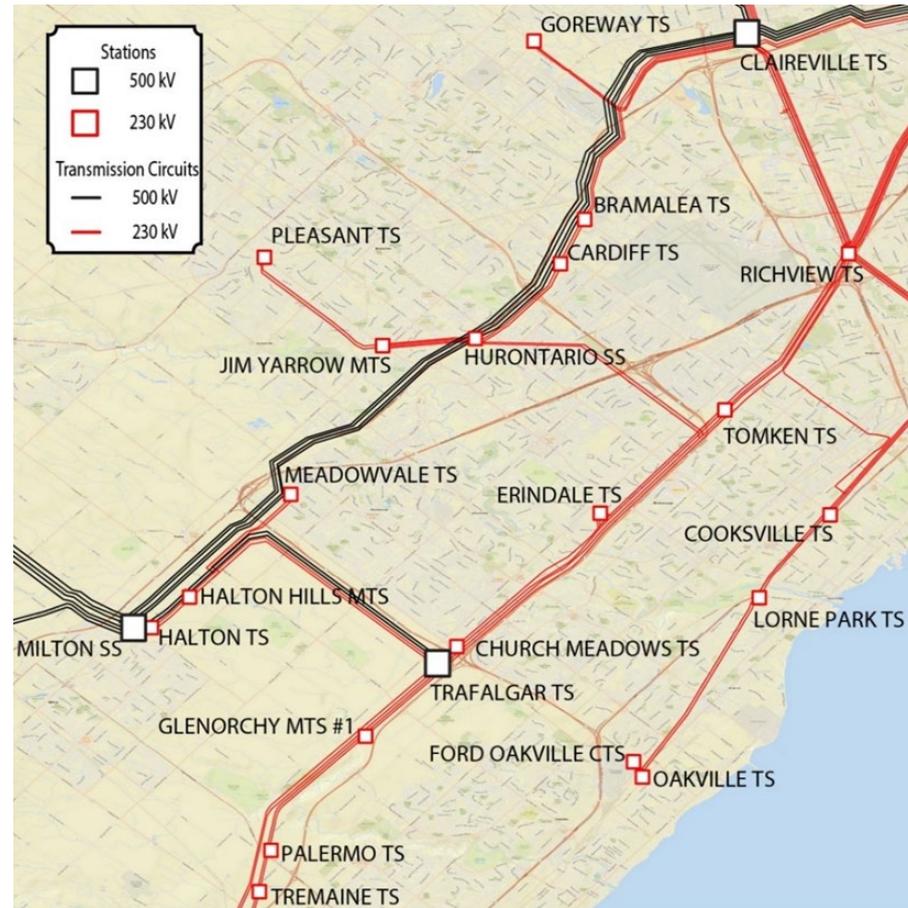
# Regional Planning Timeline



\*Reflects typical 18-month IRRP timeline. Working Group has the flexibility to extend to 24 months where required.

# GTA West Electrical Region

- The area is serviced by 230 kilovolt (kV) lines and transformer stations (TS).
- A significant portion of the electricity consumed in the region is generated outside of the region and brought to the region through transmission.
- Area includes local generation: Sithe Goreway Generating Station (GS) and Halton Hills GS.
- The gas plants are crucial to meeting local and provincial reliability during periods of peak demand, or transmission outages.



# Communities within GTA West Region

## The electrical region encompasses the:

- Regional municipalities of Halton and Peel and municipalities of Brampton, Caledon, Halton Hills, Mississauga, Milton and Oakville.
- Indigenous communities that may be potentially impacted or may have an interest based on treaty territory, traditional territory, or traditional land uses:
  - Alderville First Nation
  - Chippewas of Beausoleil First Nation
  - Chippewas of Georgina Island First Nation
  - Curve Lake First Nation
  - Haudenosaunee Confederacy Chiefs Council c/o Haudenosaunee Development Institute
  - Hiawatha First Nation
  - Mississaugas of Scugog Island First Nation
  - Mississaugas of Credit First Nation
  - Six Nations of the Grand River
  - Metis Nation of Ontario



# Draft Scoping Assessment

# What is a Scoping Assessment?

As part of the Scoping Assessment, the Technical Working Group will determine the best planning approach to meet the electricity needs of the GTA West electrical region.

## **Key Elements of a Scoping Assessment:**

- Review needs that require comprehensive planning
- Determine the geographic grouping (sub-regions) of needs, if required
- Determine the appropriate regional planning approach and scope
- Establish the draft Terms of Reference for an Integrated Regional Resource Plan, if one is required, and composition of the Technical Working Group

# Preliminary Needs Identified

The Technical Working Group, led by Hydro One recently completed a Needs Assessment process that identified:

- **Station capacity needs:** Ability of a station to deliver power from the grid down to the distribution system.
- **Supply capacity needs:** Ability of the system to supply power through the transmission lines to a local area.
- **Load supply security needs:** Maximum amount of power that can be lost during select contingencies.

These needs will be confirmed, and additional needs may be identified as the IRRP progresses. For more details, please refer to the [draft Scoping Assessment Outcome Report](#) or [Hydro One's Needs Assessment Report](#).

# Preliminary Electricity Needs Identified for GTA West (1)

## Preliminary electricity needs identified in the Needs Assessment:

Need Type	#	Impacted Equipment	Timing	Considerations
<b>Station Capacity</b> Ability of a station to deliver power from the grid down to the distribution system.	1	Halton TS	2026	Milton Hydro forecasts rapid load growth, potential for new Halton TS #2 station.
	2	Bramalea TS: T1/T2	2031	Similar capacity needs in medium term with other stations, potential for new station.
	3	Erindale TS: T1/T2	2030	Similar capacity needs in medium term with other stations, potential for new station.
	4	Cardiff TS	2030	Similar capacity needs in medium term with other stations, potential for new station.
	5	Cooksville TS	2030	Number of new projects may drive need for potential new station.
	6	Pleasant TS: T5/T6	2026	Heavily loaded at present, steady growth expected, potential for new station.

# Preliminary Electricity Needs Identified for GTA West (2)

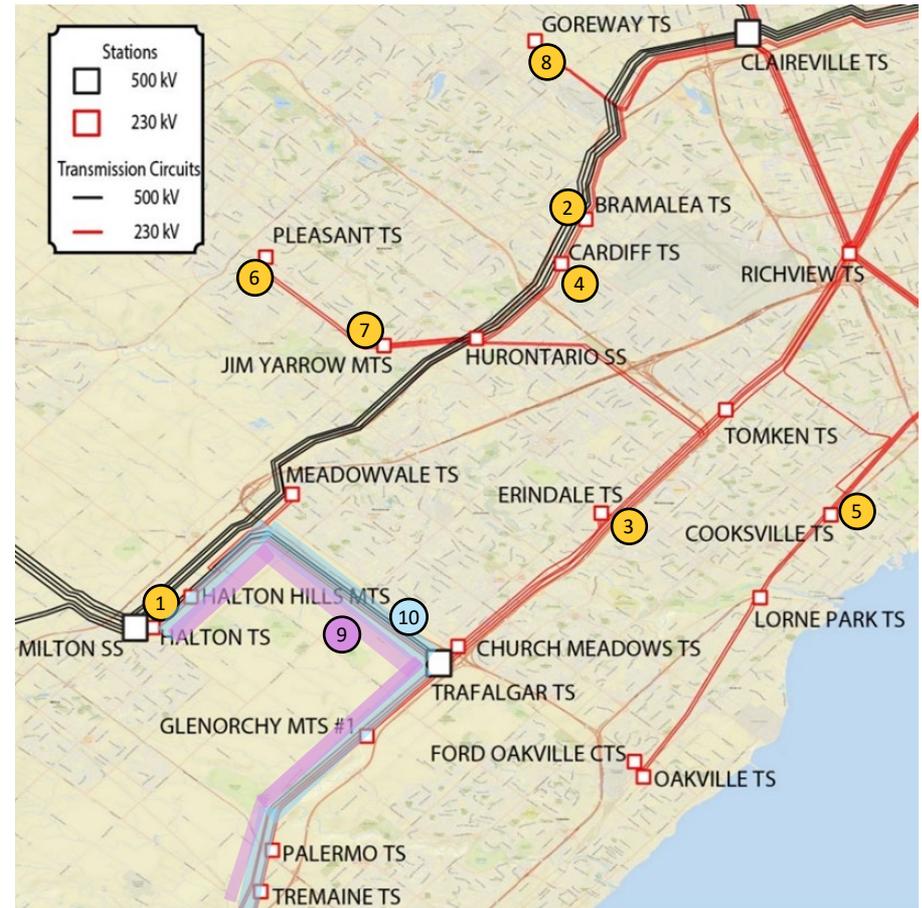
## Preliminary electricity needs identified in the Needs Assessment:

Need Type	#	Impacted Equipment	Timing	Considerations
<b>Station Capacity</b> Ability of a station to deliver power from the grid down to the distribution system.	7	Jim Yarrow TS: T1/T2	2030	Capacity need with adjacent station in assessment period, potential for new station.
	8	Goreway TS: T5/T6	2026	Will exceed LTR soon, steady growth expected, potential for new station.
<b>Load Supply Security</b> Maximum amount of power that can be lost during select contingencies.	9	230 kV T38B/T39B Circuit	2029	Will exceed load security limit of 600 MW in 2029.
<b>Supply Capacity</b> Ability of the system to supply power through the transmission lines to a local area.	10	230 kV T38B/T39B Circuit	TBD	Rapid organic load growth forecasted, multiple proponents requested to connect large-scale loads in Milton area, combined capacity of requests exceed 1000 MW, work being done on new corridor.

# Geographic Areas with Identified Needs

## Legend

- Station Capacity Needs
- Supply Capacity Needs
- Load Supply Security



# Draft Scoping Assessment Considerations

**When determining the planning approach for needs requiring coordination, consideration was given to whether these needs:**

- Have the potential to be addressed by non-wires solutions
- Could be impacted by varying bulk systems flows
- Could potentially be addressed in an integrated manner
- Impact multiple local distribution companies (LDCs) in the sub-region
- Would require engagement and coordination with community-level energy planning activities

# Draft Scoping Assessment Recommendations

**An Integrated Regional Resource Planning (IRRP) is recommended for all electricity needs identified in the GTA West area, due to:**

- The potential linkages between needs and their required coordination
- The opportunity for public engagement
- The potential for exploring multiple types of options to meet the needs (including non-wires alternatives)
- The potential for regional changes having implications on the upstream bulk power system

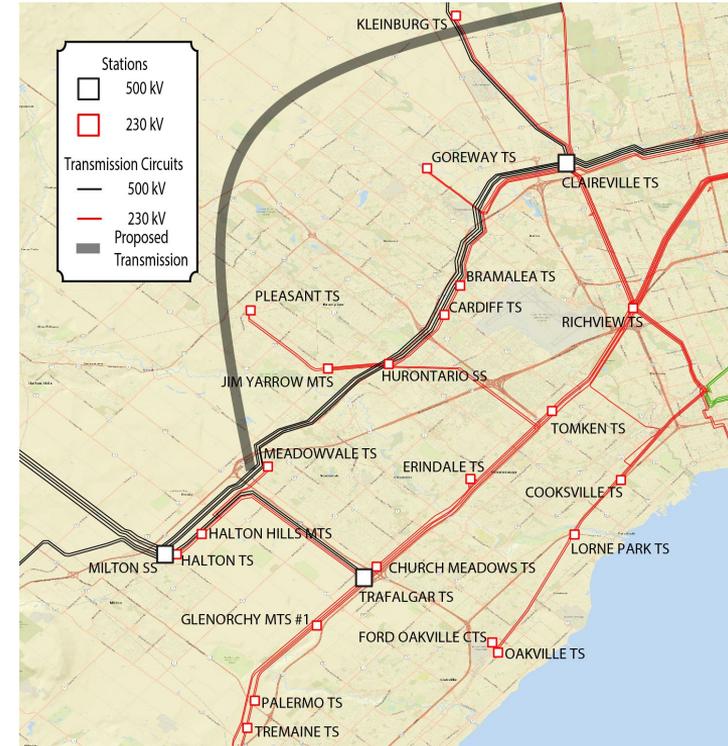
Detailed information is available for review in the draft Scoping Assessment and Terms of Reference, which can be found on the GTA West engagement webpage [here](#).

## Additional Considerations – Decarbonization and Electrification

- In July 2023, the Ministry of Energy and Electrification published its [Powering Ontario's Growth Report](#). The report was created in response to the expected demand increase resulting from the province's rapid economic development, decarbonization, and electrification efforts.
- The report speaks to reducing the province's reliance on natural gas generation, and strategically planning transmission to unlock future opportunities.
- Accordingly, the GTA West IRRP will evaluate a scenario in which Sithe Goreway and Halton Hills GS (local gas-fired generation plants) are phased out. The IRRP will include identification of required system investments needed to accommodate this phase-out.
- Consideration will also be given to a separate "high electrification" demand forecast. This scenario would evaluate the needs that arise on the electricity system in GTA West region under a more aggressive decarbonization scenario and aim to reflect community electrification plans/policies.

## Additional Considerations – Northwest GTA Transmission Corridor

- The Ministry of Transportation is currently conducting an Environmental Assessment (EA) for the new Highway 413 in the same approximate area as anticipated long-term need for new transmission.
- Provincial policy encourages colocation of linear infrastructure to reduce land use impact. The IESO and Ministry of Energy and Electrification are conducting a joint study along side the highway EA to protect land for a potential future transmission corridor.
- Protecting land for a future transmission corridor maintains flexibility to accommodate future growth and mitigates the risk of needing to build new infrastructure through built-up areas.
- The GTA West IRRP will consider the Northwest GTA Transmission Corridor when determining options to address needs.



# Components of an IRRP

## Demand Forecast

How much power is needed over the planning timeframe?

## Needs

What needs are emerging in the region that need to be addressed?

## Potential Solutions

What kinds of solutions can meet the future needs for the region?

## Recommendations

Based on an assessment of potential options, what recommended actions will ensure a reliable and adequate electricity supply for the region over the long-term?

# Determining Options as Part of the IRRP Process

Over the course of the planning process, the IESO will:

- **Evaluate various wire and non-wire options**, to address the region's near, medium and long-term electricity needs including:



Traditional wire options to supply local area



Non-wire alternatives (NWA), such as distributed generation, conservation & demand management, demand response or transmission connected generation facilities\*

- **Seek community feedback** to enhance development and evaluation of options before making a final recommendation.

\*More information regarding screening NWAs can be found in the [IESO's Guide to Assessing NWAs](#).



# Engagement and Next Steps

# Ongoing Engagement

**Your input plays an important role in developing the electricity plan.**



**Participate** in upcoming public webinars



**Subscribe** to receive updates on the IESO [website](#) by selecting the GTA West Region



**Follow** the GTA West regional planning activities [online](#)

# Next Steps

**The IESO will continue to engage and inform at these milestones:**

**November 14, 2024:** Feedback due

**November 30, 2024:** Feedback and response to feedback posted, along with Final Scoping Assessment Report

## **IRRP Timelines**

**Q2 2025:** Demand forecasts presented in a public engagement webinar

**2025:** Needs presented in a public engagement webinar

**2025:** Potential option screening presented in a public engagement webinar

**2026:** Options analysis and draft recommendations are presented in a public engagement webinar with an opportunity to provide feedback

**March 2026:** IRRP report will be completed and published on the [engagement webpage](#)

# Seeking Input

**Local considerations and feedback are a critical component of the planning process. The IESO wants to hear from you:**

- What additional information should be considered as part of the Scoping Assessment?
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# Thank You

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