NOVEMBER 4, 2025

South Georgian Bay/Muskoka Regional Electricity Planning

Scoping Assessment Webinar

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Territory Acknowledgement

The IESO acknowledges that South Georgian Bay/Muskoka is the traditional territory of many nations including the Anishinaabeg, the Haudenosaunee and the Wendat peoples, including those covered by the Robinson-Huron Treaty and the Williams Treaties signed with seven First Nations.

The IESO would also like to acknowledge all First Nations, Inuit and Métis peoples and their valuable past and present contributions to this land.

Agenda

- IESO's Role in the Electricity Sector
- Regional Electricity Planning Process and the South Georgian Bay/Muskoka Electrical Region
- Draft Scoping Assessment
- Next Steps and Engagement
- Discussion

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We work with:

Generators >>> **Transmitters** >>> **Local Distribution Companies** >>> **Energy Consumers**

<<< **Communities** >>>

Summary

- Regional planning has kicked-off in the South Georgian Bay/Muskoka electrical area, and the Technical Working Group (TWG) has recommended the best planning approach to understand needs and propose solutions to meet electricity needs.
- In the South Georgian Bay/Muskoka 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 IESO will develop forecast scenarios to determine the unique electricity needs of the region and consider a range of options and resources to meet electricity demand.
- As work progresses, the IESO will share more information, answer questions and seek feedback at key milestones.

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 additional considerations, informed by local developments, should be taken into account for the areas identified as needing further analysis?
- What other areas or specific considerations should be examined through regional planning?

Please submit your written comments by email to engagement@ieso.ca by November 18, 2025

Regional Electricity Planning Process and the South Georgian Bay / Muskoka Region

Electricity Planning in Ontario

Provincial/Bulk System Planning

Addresses provincial electricity system needs and policy directions.

Underway: South and Central Bulk Study

Completed: Northern Ontario Bulk Study

Regional Planning

Addresses local electricity system needs at the transmission system level.

Underway: South Georgian Bay/Muskoka Scoping Assessment

Distribution Planning

Addresses local electricity system needs and priorities at the distribution system level.

Led by local distribution companies.

21 Electricity Planning Regions

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

A comprehensive planning approach is recommended to develop an Integrated Regional Resource Plan (IRRP) for the South Georgian Bay Muskoka (SGBM) 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:

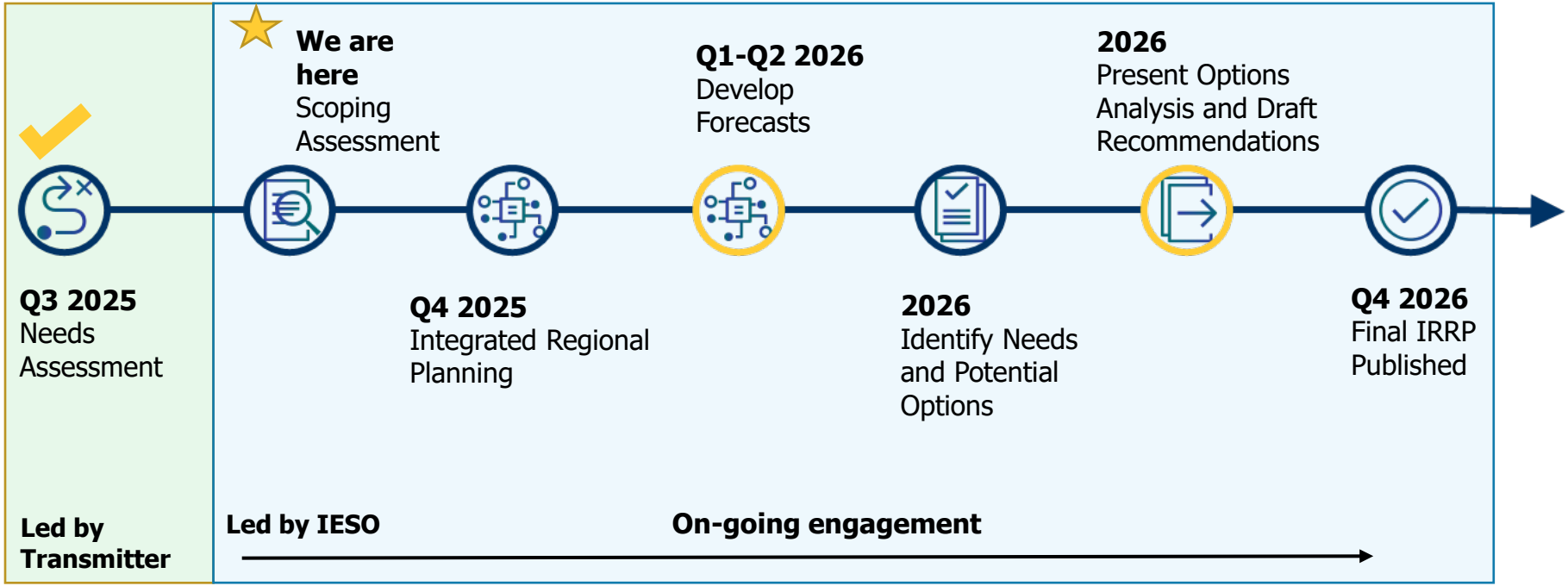
Team Lead, System Operator	• Independent Electricity System Operator
Lead Transmitter	• Hydro One Networks Inc. (Transmission)
Local Distribution Companies	• Hydro One Distribution • Alectra Utilities Inc. • InnPower • Orangeville Hydro • Elexicon Energy • Lakeland Power • EPCOR Electricity Distribution Ontario Inc. • Newmarket-Tay Power Distribution Ltd. • Wasaga Distribution Inc.

Communities within South Georgian Bay/Muskoka Region

The electrical region encompasses the:

- Cities of Barrie, Kawartha Lakes, and Orilla, the Districts of Muskoka and Parry Sound, the region of Durham and the counties of Grey, Dufferin, Haliburton and Simcoe.
- Indigenous communities that may be potentially impacted or may have an interest based on treaty territory, traditional territory, or traditional land uses are:
  - Alderville First Nation, Algonquins of Ontario, Algonquins of Pikwakanagan First Nation, Beausoleil First Nation, Chippewas of Georgina Island First Nation, Chippewas of Nawash First Nation, Chippewas of Rama First Nation, Chippewas of Saugeen First Nation, Curve Lake First Nation, Dokis First Nation, Henvey Inlet First Nation, Hiawatha First Nation, Kawartha Nishnawbe First Nation, Magnetawan First Nation, Mississaugas of Scugog Island First Nation, Mississaugas of the Credit First Nation, Moose Deer Point First Nation, Nipissing First Nation, Shawanaga First Nation, Six Nations of the Grand River as represented by Six Nations Elected Council as well as the, Haudenosaunee Confederacy Chiefs Council, Wahta Mohawks, Wasauksing First Nation, Whitefish River First Nation, and Métis Nation of Ontario (Region 7).

Regional Planning Milestones for South Georgian Bay/Muskoka



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Electricity Planning in South Georgian Bay/Muskoka

Two regional plans completed to date for South Georgian Bay/Muskoka (SGBM) in two sub-regions (last completed in 2022). IESO involvement is triggered based on scope of need and level of coordination required.

Previous recommendations included a 230/27.6 kV transformer station in Barrie, equipment adjustments in Everett TS, like-for-like replacement of ageing 230 kV lines between Essa and Orangeville, and monitoring load growth in the Minden to Essa area for possible issues in the long term.

The SGBM region is linked to ongoing bulk system studies for the South, Central, and Northern Ontario regions, which will determine bulk transmission needs required to enable economic development of the province. Learn more here.

South Georgian Bay/Muskoka Electrical Region

The South Georgian Bay/Muskoka region is supplied from a mix of transmission lines, Transformer Stations (TS) and local generation.

Transmission supply:

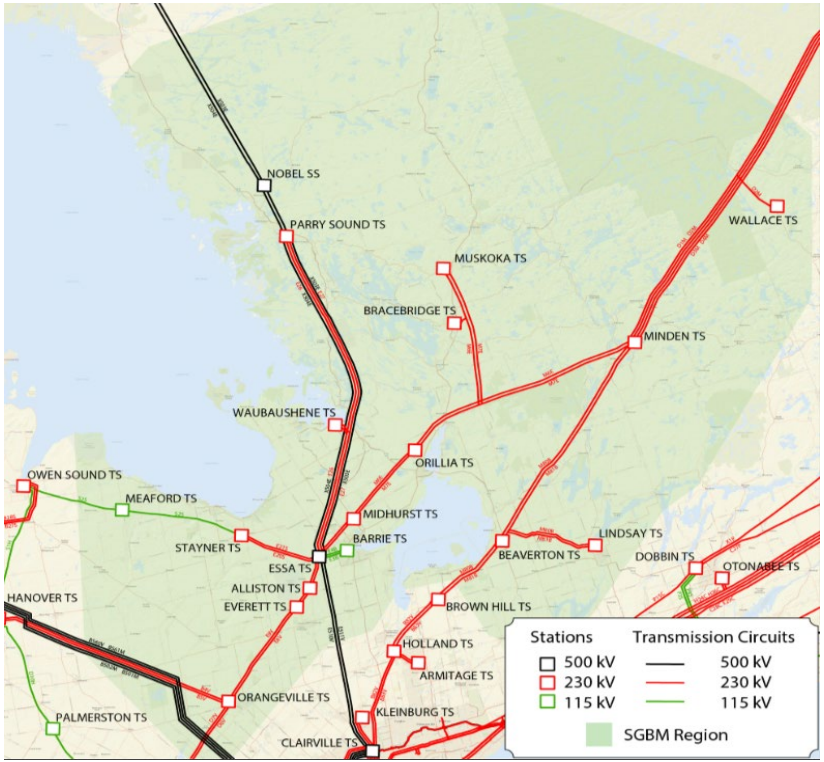
- 500kV, 230kV and 115kV transmission lines

Local generation:

- Internal generation from Henvey Inlet Wind Farm

Distribution infrastructure:

- Electricity is delivered through 16 Transformer Stations; these stations supply 44 kV and 27 kV distribution systems



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Draft Scoping Assessment

What is a Scoping Assessment?

The planning stage where the Technical Working Group determines the best planning approach to meet the electricity needs of the South Georgian Bay Muskoka 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 the composition of the Technical Working Group

Preliminary Needs Identified

The Technical Working Group, led by Hydro One, recently completed a Needs Assessment that looked at changes in demand and performed an initial screening to identify needs. The following electricity needs were 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.
- **Bulk System Considerations**: Bulk system potentially affecting broader economic operation and local system reliability.
- **Asset Replacement needs**: Based on the best available asset condition information at the time.

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 South Georgian Bay/Muskoka (1)

Preliminary electricity needs identified in the Needs Assessment:

Need Type	#	Impacted Equipment	Timing	Considerations
Station Capacity Ability of a station to deliver power from the grid down to the distribution system.	1	Everett TS (T1/T2)	2030–2033	Assess and reaffirm the need in IRRP
	2	Midhurst TS (T1/T2,T3/T4)	2030, 2029	Assess and reaffirm the need in IRRP
	3	Alliston TS (T3/T4)	2030 to 2040	Assess and reaffirm the need in IRRP
	4	Lindsay TS (T1/T2)	2032	Reassess high growth scenario in IRRP
	5	Muskoka TS (T1/T2)	2030	Reassess high growth scenario in IRRP
	6	Barrie TS (T3/T4)	N/A	New station scheduled for 2029
	7	Waubaushene TS (T5/T6)	N/A	New Transformers scheduled for 2028
Supply Capacity through the transmission lines to a local area.	8	230kV M6E/M7E		To further study in IRRP
	9	230kV E8V/E9V	N/A	Upgrade underway and planned for 2029

Preliminary Electricity Needs Identified for South Georgian Bay/Muskoka (2)

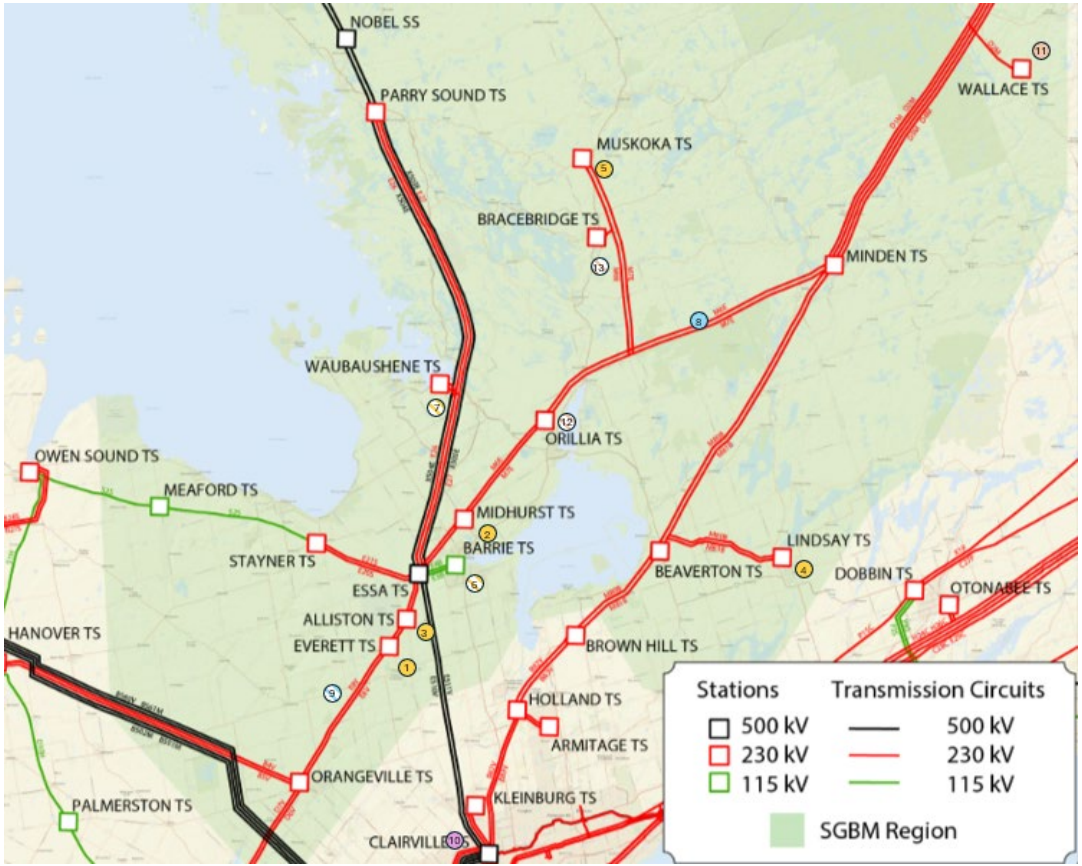
Preliminary electricity needs identified in the Needs Assessment:

Need Type	#	Impacted Equipment	Timing	Considerations
Bulk System Considerations Potential to affect local reliability.	10	Claireville Area North and Flow North		Operational issues identified, will be studied in the area Bulk System Plan
Asset Replacement Needs Based on the best available asset condition information at the time.	11	Wallace TS	2029	T3/T4 transformers will be replaced with new like for like 230/44kV 42MVA standard step-down transformers, but high growth scenario shows need in 2029
	12	Orillia TS	N/A	T2 transformer will be replaced in 2026 with new like for like 230/44kV 125MVA standard step-down transformers
	13	Bracebridge TS	N/A	T1 transformer will be replaced in 2026 with new like for like 230/44kV 83MVA standard step-down transformers

Geographic Areas with Identified Needs

Legend

- Station Capacity Needs
- Supply Capacity Needs
- Load Restoration Needs
- End-of-Life Asset Replacement Needs
- Need addressed



Draft Scoping Assessment Considerations

In determining the planning approach for coordinated needs, 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 South Georgian Bay/Muskoka 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 Outcome Report and Terms of Reference, which can be found on the South Georgian Bay/Muskoka engagement webpage here.

Components of an IRRP

Demand Forecast	Needs	Potential Solutions	Recommendations
How much power is needed over the planning timeframe?	What needs are emerging in the region that need to be addressed?	What kinds of solutions can meet the future needs for the region?	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, electricity Demand Side Management (eDSM), 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.

Protecting Strategic Corridors

To support electrification, residential growth, and economic development, early action is underway to identify and protect strategic transmission corridors across the province.

- **Barrie to Markham Corridor** is a key focus of regional electricity planning in the South Georgian Bay/Muskoka region. Preserving land for a future transmission line between Barrie and Markham will strengthen the connection between Northern and Southern Ontario by enabling growth in the North and providing Southern Ontario with access to diversified energy resources.

Additional Ontario-Wide Studies:

- **Parkway Belt West:** Assessing future transmission and transformer sites to meet GTA demand and integrate new generation.
- **Northwest GTA:** Refining plans near Highway 413 to support growth in York, Peel, and Halton.

These studies are essential for preserving land and evaluating options to meet Ontario's long-term electricity needs. Opportunities for public engagement will be shared as planning progresses.

Engagement and Next Steps

Next Steps

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

November 18, 2025: Written feedback due

November 27, 2025: Feedback and the IESO's response to feedback posted, along with Final Scoping Assessment Report

IRRP Timelines

Q1-Q2 2026: Demand forecasts presented in a public engagement webinar

2026: Needs and options 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

Q4 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?
- What additional considerations, informed by local developments, should be taken into account for the areas identified as needing further analysis?
- What other areas or specific considerations should be examined through regional planning?

Please submit your written comments by email to engagement@ieso.ca by November 18, 2025

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 South Georgian Bay/Muskoka Region

Follow the South Georgian Bay/Muskoka regional planning activities online

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Appendix

Customer Reliability

Customer reliability refers to how often and how long customers experience power interruptions. It is measured by **frequency** and **duration** of interruptions.

Interruptions can occur at any stage: **generation**, **transmission**, or **distribution**.

Key roles:

Local Distribution Companies (LDCs) are responsible for delivering electricity directly to homes and businesses. If you're experiencing issues like frequent outages, flickering lights, low voltage, or damage to electrical equipment, these are typically caused by problems in the local distribution system, such as power lines, transformers, or substations, and should be reported to your LDC, since they own and maintain this infrastructure.

The Independent Electricity System Operator (IESO) manages the reliability of Ontario's broader electricity grid and leads long-term regional planning through the Integrated Regional Resource Plan (IRRP). While the IESO can document reliability concerns and explore system-wide solutions, issues related to local infrastructure and day-to-day service disruptions fall outside its scope and should be directed to your LDC.

Electricity Investment Costs

Cost allocation for transmission investment is set by the Ontario Energy Board (OEB), using two key principles:

1. Approved projects have to be "just and reasonable"
   - Firm loads will drive near-term expenditures
   - Other scenarios will be used to develop plans for additional growth, but conditional on the load materializing, so as to not overburden the customers ahead of commitments
2. Benefactor pays approach
   - Costs associated to connection facilities are allocated to the connecting customer since they are dedicated to one or a small group of customers
   - Costs associated with network facilities are typically allocated to all ratepayers since they form part of a transmission system that is shared by all users