



OCTOBER 14, 2020

South Georgian Bay/Muskoka Scoping Assessment Regional Planning Engagement Webinar

Objectives of Today's Engagement Webinar

- To provide an overview of the regional planning activities underway in the South Georgian Bay/Muskoka region
- To discuss and seek feedback on the draft South Georgian Bay/Muskoka Scoping Assessment that sets out the regional planning approach for the needs identified for further assessment
- To outline next steps

Seeking Input

Some key questions to consider when reviewing the Scoping Assessment:

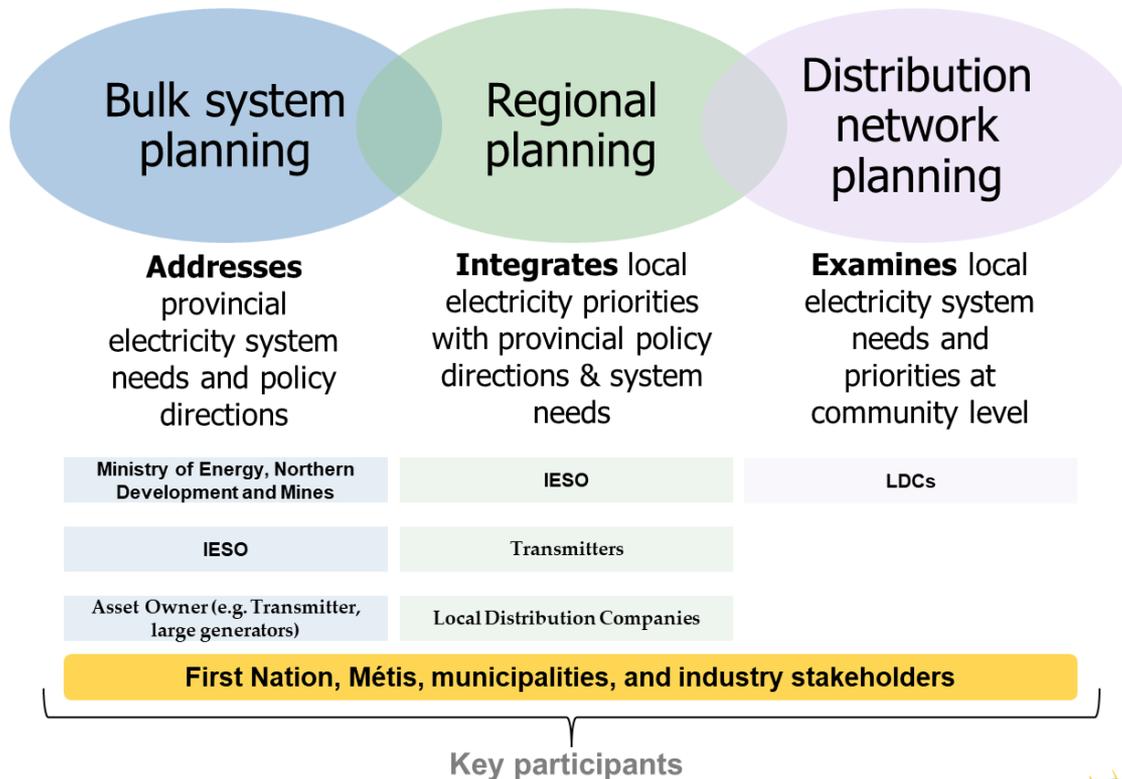
- Is there any additional information that should be considered as part of the Scoping Assessment?
 - *What key developments, projects or initiatives in your community should be considered in the electricity planning for the region? What other information should be taken into account that would influence the demand forecast? (e.g. growth, expansion or retirement of large customers/electricity users, industry trends or other local activities)*
- Do the areas identified as requiring further study through a regional planning approach resonate based on local developments?
- Are there other areas or specific considerations that should be examined through regional planning?

Please submit your written comments by email to engagement@ieso.ca by **November 4**



Overview of the Regional Planning Process

Planning for Ontario's Electricity System

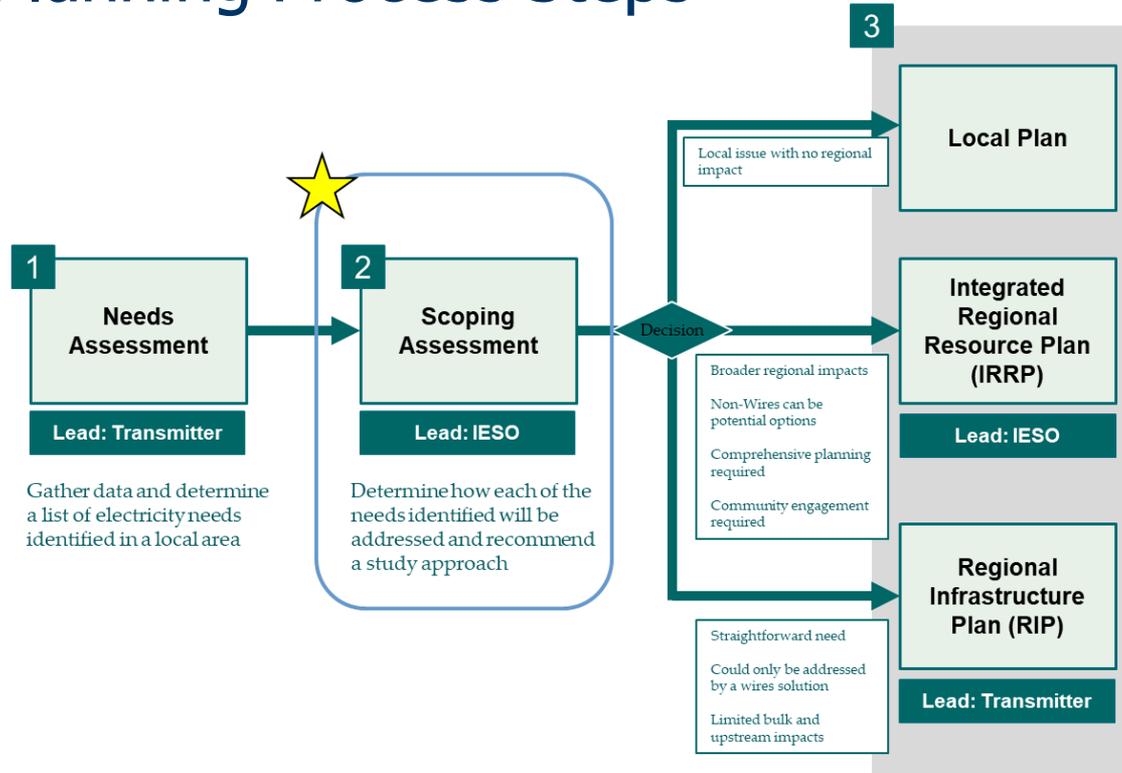


21 Electricity Regional Planning Regions

- Based on electricity infrastructure boundaries
- Planning based on each region's unique needs and characteristics



Regional Planning Process Steps



What is a Scoping Assessment?

- The Scoping Assessment is triggered following the completion of a Needs Assessment
- It is led by the IESO and includes the transmitter and local distribution companies (LDCs) in the region

Key Elements

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

Identifying the Planning Approach

Approach	Typical Considerations	Parties Involved
IRRP	Where a greater range of options, including non-wires, are to be considered, and/or closer coordination with communities and stakeholders is required	IESO (lead) Transmitter LDCs
Regional Infrastructure Plan (RIP)	Considers more straight-forward wires-only options with limited engagement	Transmitter (lead) LDCs IESO
Local Planning	No further regional coordination is needed	Transmitter LDCs



Draft South Georgian Bay/Muskoka Scoping Assessment

South Georgian Bay/Muskoka Region

Located in central Ontario, this region includes First Nation communities, Métis Nation of Ontario councils, and all or part of the following:

- County of Simcoe
- County of Dufferin
- District of Muskoka
- District of Parry Sound
- County of Grey

A complete list is found in the report.



— 115 kV

— 230 kV

— 500 kV

Scoping Assessment Study Team

Team Lead, System Operator

- Independent Electricity System Operator (“IESO”)

Lead Transmitter

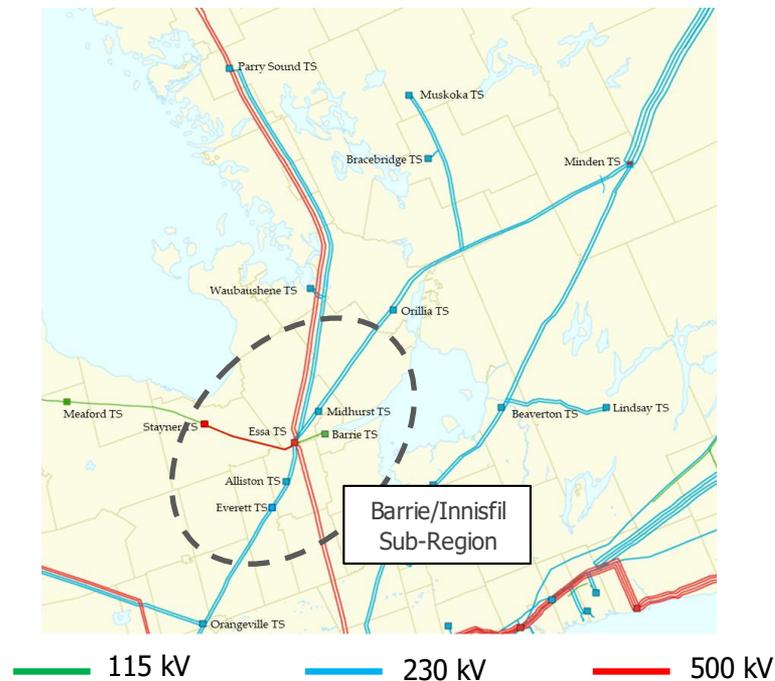
- Hydro One Networks Inc. (“Hydro One Transmission”)

Local Distribution Companies

- Hydro One Networks Inc. (“Hydro One Distribution”)
- Alectra Utilities
- InnPower Corporation
- Orangeville Hydro
- Elexicon Energy
- Lakeland Power
- EPCOR Electricity Distribution Ontario Inc.
- Newmarket-Tay Power Distribution Ltd.
- Wasaga Distribution Inc.

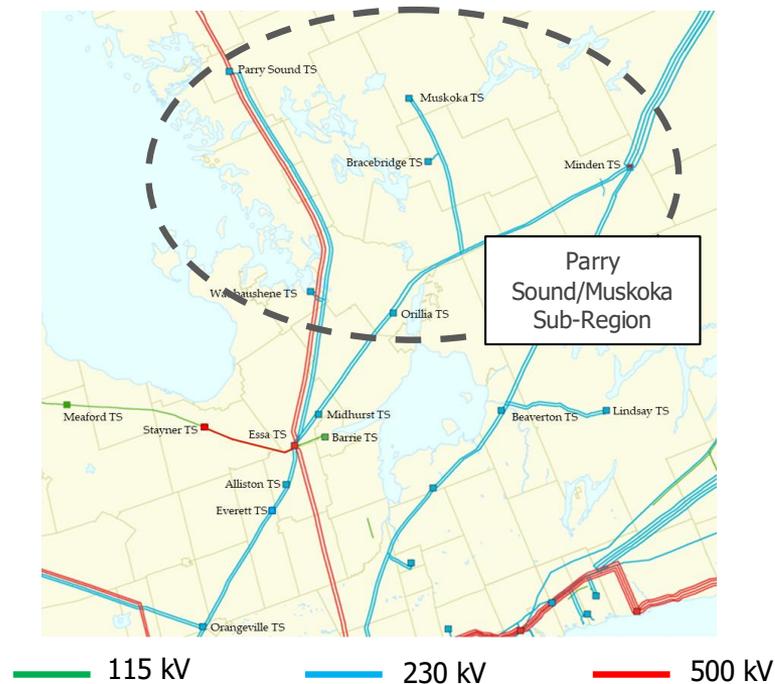
Previous Regional Planning Cycle: Barrie/Innisfil

- The first regional planning cycle for South Georgian Bay/Muskoka divided the area into two sub-regions: Barrie/Innisfil and Parry Sound/Muskoka
- Both IRRPs were published in December 2016, followed by a RIP in August 2017
- In Barrie/Innisfil, a number of near-term needs (step-down transmission facilities and a transmission line upgrade) were identified



Previous Regional Planning Cycle: Parry Sound/Muskoka

- In Parry Sound/Muskoka, the following were identified:
 - Near-term needs for new switches and one step-down transmission facility
 - Medium-term needs for two step-down transmission facilities
- More details on previous needs and solutions can be found in the appendix



Preliminary Needs in South Georgian Bay/Muskoka

The following categories of needs were identified/reaffirmed in the Needs Assessment:

- Station capacity needs
- System capacity needs
- Asset end-of-life needs

Needs could be further refined, and additional needs identified, following more detailed forecasting and evaluations which take place during subsequent stages of planning.

- The definition, timing, and location of these needs are described at a high-level in the following slides
- A more detailed description of the needs is included in the draft Scoping Assessment (posted on the [engagement page](#)) and in the Needs Assessment (available [here](#))

Categories of Needs

Capacity Needs

- Station capacity refers to the ability to convert power from the transmission system down to distribution system voltages
- System capacity (or “load meeting capability”) refers to the ability of the electricity system to supply power to customers in the area, either by generating the power locally, or bringing it in through the transmission system

Load Restoration and Supply Security Needs

- Load restoration describes the electricity system’s ability to restore power to those affected by a major transmission outage within reasonable timeframes
- Supply security describes the total amount of load interrupted following major transmission outages

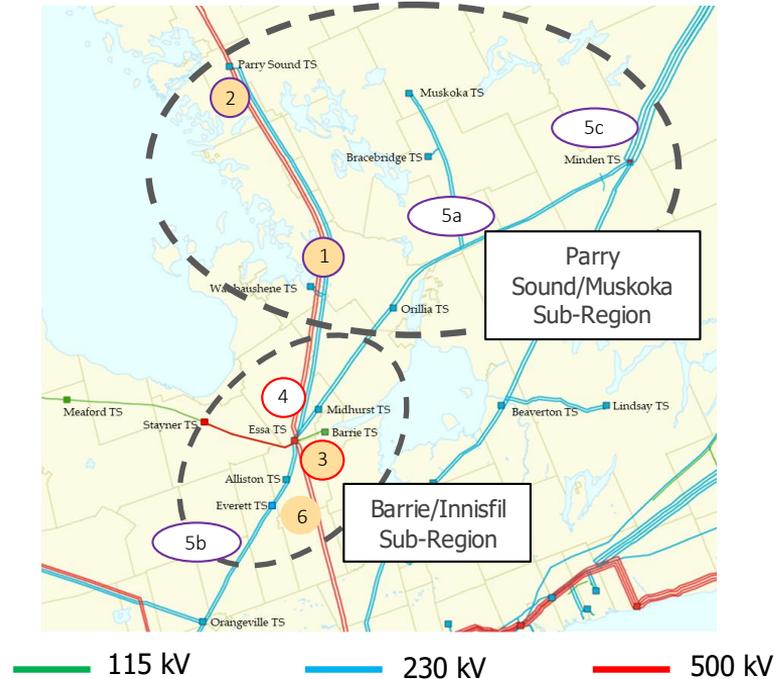
End-of-Life Asset Replacement Needs

- Based on the best available asset condition information at the time
- Evaluated to decide if the facility should be replaced “like-for-like”, “right-sized”, or retired

Areas with Anticipated Needs

Numerated, detailed list of needs can be found in the appendix.

-  Station Capacity Needs
-  System Capacity Needs
-  Restoration/Security Needs
-  End-of-life Needs



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 LDCs in the sub-region
- Would require engagement and coordination with community-level energy planning activities

Draft Scoping Assessment Recommendations

Similar to the previous planning cycle, the entire South Georgian Bay/Muskoka region will be in scope for the IRRP, but split into two sub-regions to better address their needs:

- Barrie/Innisfil
- Parry Sound/Muskoka

Integrated Regional Resource Planning is recommended 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

Barrie/Innisfil and Parry Sound/Muskoka IRRPs

To improve the efficiency of the IRRPs, the scope of work will reflect the complexity and urgency of the needs in each sub-region.

Mixture of larger, more urgent system capacity needs, and mid-term end-of-life and station capacity needs

Barrie/Innisfil IRRP

Near- to mid-term end-of-life and station capacity needs of relatively small magnitude

Parry Sound/Muskoka IRRP



Stakeholder Engagement and Next Steps

Regional and Community Engagement

- Broaden community engagement efforts
- Increase communication channels
- Enhance engagement process for regional planning



Who Should Participate?

- Municipalities
- Chambers of Commerce/Boards of Trade
- Large energy users
- Community groups and associations (e.g. community/resident associations, Business Improvement Areas, home builders associations, etc.)
- Academia and research organizations
- Energy service providers

Future Engagement Opportunities

- Further opportunities for engagement may include seeking input on the following major components of the IRRP:
 - Identifying needs
 - Considering options
 - Proposed recommendations

Seeking Input

Some key questions to consider when reviewing the Scoping Assessment:

- Is there any additional information that should be considered as part of the Scoping Assessment?
 - *What key developments, projects or initiatives in your community should be considered in the electricity planning for the region? What other information should be taken into account that would influence the demand forecast? (e.g. growth, expansion or retirement of large customers/electricity users, industry trends or other local activities)*
- Do the areas identified as requiring further study through a regional planning approach resonate based on local developments?
- Are there other areas or specific considerations that should be examined through regional planning?

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Questions?

Do you have any questions for clarification on the material presented today?

Submit questions via the web portal on the webinar window, or by email to engagement@ieso.ca

Next Steps

- Feedback due to engagement@ieso.ca November 4
- IESO to post and respond to feedback, as well as the final Scoping Assessment by November 23
- Further engagement to follow

How You Can Stay Involved:

- Subscribe to receive updates on the South Georgian Bay/Muskoka regional initiatives on the IESO website <http://www.ieso.ca/subscribe>
- Follow the South Georgian Bay/Muskoka regional planning activities online <http://www.ieso.ca/Get-Involved/Regional-Planning/GTA-and-Central-Ontario/South-Georgian-Bay-Muskoka>
- Comments and questions on the draft Scoping Assessment Outcome Report can be submitted to engagement@ieso.ca by **November 4**

Seeking Input on the Webinar

- Tell us about today
- Was the material clear? Did it cover what you expected?
- Was there enough opportunity to ask questions?
- Is there any way to improve these gatherings, i.e. speakers, presentations or technology?

Chat section is open for comments



Appendix

Previous Regional Planning Cycle

IRRP	Specific Need	Solution and Timing
Barrie/Innisfil Sub-Region	<ul style="list-style-type: none"> Insufficient capacity at Barrie TS and Barrie/Essa 115 kV system End-of-life (EOL) Barrie TS, E3/4B circuits, Essa 230/115 kV autotransformers 	<ul style="list-style-type: none"> BATU project (rebuild and uprate Barrie TS and E3/4B circuits to 230 kV, and retire Essa T1/T2) In-service in 2022
Parry Sound/Muskoka Sub-Region	<ul style="list-style-type: none"> Insufficient capacity at Parry Sound TS EOL Parry Sound transformers 	<ul style="list-style-type: none"> Transformer upsizing (new 230/44 kV 83 MVA) In-service in 2024
	<ul style="list-style-type: none"> Load restoration criteria violations under M6E+M7E contingency 	<ul style="list-style-type: none"> Installation of 230 kV switches on M6E/M7E at Orillia TS In-service in 2021
	<ul style="list-style-type: none"> EOL 230/44 kV 42 MVA Minden TS transformers and station capacity need 	<ul style="list-style-type: none"> Replacement with 83 MVA units In-service in 2021

Needs Assessment Outcomes (New Needs)

Proposed IRRP	Need #	Station/Circuit	Description of Need
Parry Sound/Muskoka Sub-Region IRRP	1	Waubauskene TS	<ul style="list-style-type: none">Supply capacity exceeded in 2020
	2	Parry Sound TS	<ul style="list-style-type: none">Current transformers reach EOL in near-termStation capacity need between 2020-2024, before larger replacement transformers are in-service
Barrie/Innisfil Sub-Region IRRP	3	Barrie TS/Innisfil Area	<ul style="list-style-type: none">Subsequent to BATU, InnPower has a supply capacity constraint on the 44 kV feeder level starting in 2025Up-sized Barrie TS will have a station capacity need arising in 2029

Needs Assessment Outcomes (New Needs) (cont'd)

Proposed IRRP	Need #	Station/Circuit	Description of Need
Barrie/Innisfil Sub-Region IRRP	4	M6E/M7E	<ul style="list-style-type: none"> Thermal overload (exceeding Long-Term Emergency, LTE, rating) between Essa TS x Midhurst TS starting in 2023 (assuming four Des Joachims GS units are out of service)
	5	M6E/M7E E8V/E9V D1M/D2M	<ul style="list-style-type: none"> Various sections to be refurbished due to EOL needs <ol style="list-style-type: none"> M6E/M7E: in-service 2026 E8V/E9V: in-service 2026 D1M/D2M: in-service 2028
	6	Everett TS	<ul style="list-style-type: none"> Full utilization of the existing station supply capacity is limited due to a limiting component within the low voltage yard; need arises in 2026 (rather than 2027, as identified in the last IRRP) CT ratio setting on the low voltage bushing of the transformer breaker can be modified to allow full transformer limited time rating (LTR) capability

IRRP Activities, Timelines, & Accountabilities

Activity or Deliverable	Lead Responsibility	Barrie/Innisfil IRRP Timeframe	Parry Sound/Muskoka IRRP Timeframe
1. Develop long-term planning forecast for the sub-region	IESO	Q4 2020 – Q1 2021	Q4 2020 – Q1 2021
2. Provide information on load transfer capabilities under normal and emergency conditions	LDCs	Q4 2020 – Q1 2021	Q4 2020 – Q1 2021
3. Provide and review relevant community plans, if applicable	All	Q4 2020 – Q1 2021	Q4 2020 – Q1 2021
4. Complete system studies to identify needs over a 20-year time horizon	IESO	Q1 – Q2 2021	Q1 – Q2 2021
5. Develop options and alternatives to address needs; issue hand-off letter for wires option if required	All	Q2 – Q3 2021	Q2 – Q3 2021

IRRP Activities, Timelines, & Accountabilities (cont'd)

Activity or Deliverable	Lead Responsibility	Barrie/Innisfil IRRP Timeframe	Parry Sound/Muskoka IRRP Timeframe
6. Plan and undertake community & stakeholder engagement	All	Ongoing, as required	Ongoing, as required
7. Develop long-term recommendations and implementation plan based on community and stakeholder input	IESO	Q3 – Q4 2021	Q3 – Q4 2021
8. Prepare the IRRP report detailing recommended near-, medium, and long-term plan for approval by all parties	IESO	Q1 – Q2 2022	Q1 – Q2 2022

More detailed timelines can be found in the Terms of Reference.

Thank You

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