

An aerial photograph of a city, likely Niagara Falls, is shown with a semi-transparent blue overlay. The image captures a dense residential area with many trees and buildings. In the distance, a city skyline is visible under a clear blue sky with some light clouds. A yellow horizontal bar is positioned above the date text.

**AUGUST 3, 2021**

# Niagara Region Scoping Assessment

## Regional Planning Engagement Webinar

# Objectives of Today's Engagement Webinar


- To provide an overview of the regional planning activities underway in the Niagara region
- To discuss and seek feedback on the draft Niagara 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:

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

Please submit your written comments by email  
to [engagement@ieso.ca](mailto:engagement@ieso.ca) by **August 17**



# Overview of the IESO and the Regional Planning Process

# The Players in Ontario's Electricity Sector

## What the IESO does

The IESO works at the heart of Ontario's power system, balancing supply and demand for electricity on a second-by-second basis and directing its flow across Ontario's high-voltage transmission lines so it's available to you. Ensuring there is enough energy to meet Ontario's demand 24 hours a day, 7 days a week, is highly complex

and requires close coordination of the many parts that make up the system. These include generators, transmitters and distributors that own and operate the lines through which electricity travels, as well as the large and residential consumers that help us respond to changing needs.



The Government of Ontario sets the overall policy for the energy sector and the Ontario Energy Board regulates it.

# Who We Are and What We Do



Reliably operate Ontario's province-wide system 24/7



Support innovation



Create electricity market efficiencies



**Work closely with communities to explore sustainable options**



**Plan for Ontario's future energy needs**



Enable province-wide energy efficiency

# Electricity Planning in Ontario



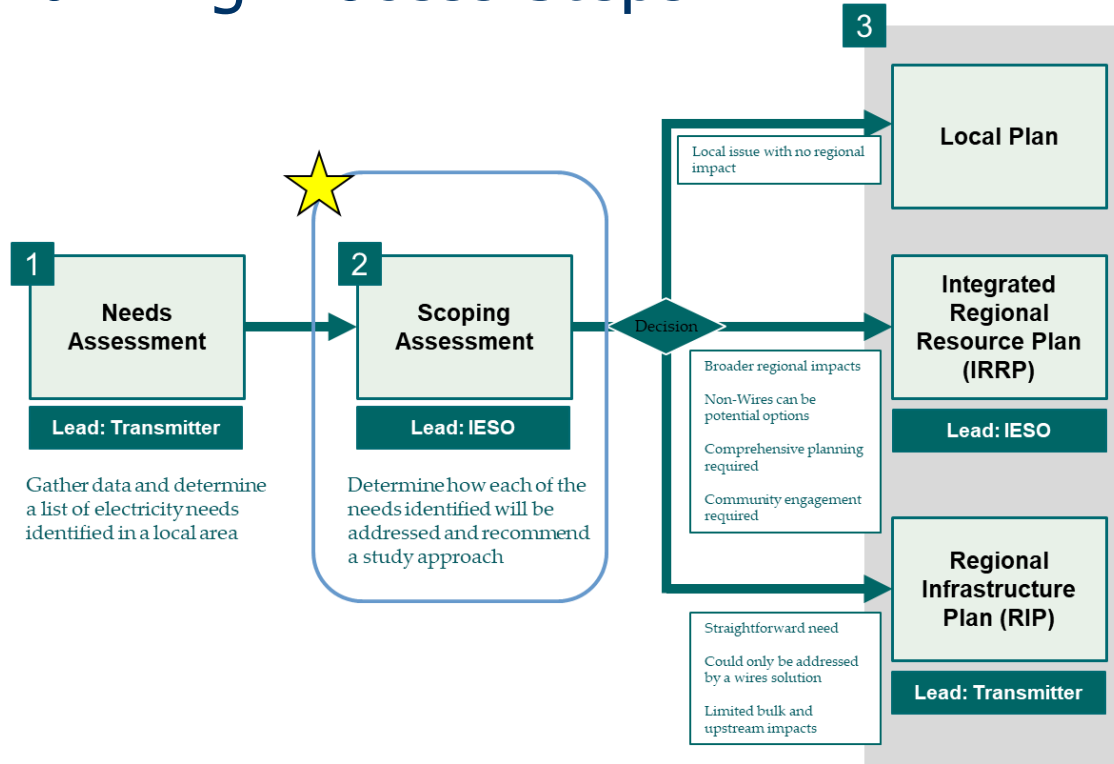
# 21 Electricity Regional Planning Regions

- 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

<b>Approach</b>	<b>Typical Considerations</b>	<b>Parties Involved</b>
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 Niagara Region Scoping Assessment

# Niagara Region

- 230 kV and 115 kV transmission system located between Lake Ontario and Lake Erie
- Composed of one upper-tier municipality (Regional Municipality of Niagara) and 12 lower-tier municipalities:
  - Fort Erie, Grimsby, Lincoln, Niagara Falls, Niagara-on-the-Lake, Pelham, Port Colborne, St. Catharines, Thorold, Wainfleet, Welland, and West Lincoln
- Includes First Nation communities and Métis Nation of Ontario councils



# Scoping Assessment Working Group

Team Lead,  
System Operator

- Independent Electricity System Operator

Lead Transmitter

- Hydro One Networks Inc. (Transmission)

Local Distribution  
Companies

- Alectra Utilities
- Canadian Niagara Power Inc.
- Grimsby Power Inc.
- Hydro One Networks Inc. (Distribution)
- Niagara on the Lake Hydro Inc.
- Niagara Peninsula Energy Inc.
- Welland Hydro Electric System Corp.

## Previous Regional Planning Cycle

- Previous Niagara Needs Assessment was published in April 2016
  - Concluded that no further coordinated planning was required
- One need was assessed through a Local Plan
  - Thermal overload of a 115 kV circuit under high generation output conditions
  - Conductor has since been upgraded
- Another need at Thorold TS (low power factor) would continue to be monitored between Hydro One Transmission and Distribution

# Preliminary Needs in Niagara

- The Needs Assessment identified:
  - Station capacity needs
  - Assets reaching end-of-life
- Needs could be refined, and additional needs identified, following more detailed forecasting and evaluations during subsequent stages of planning
- Sustainment plans are assumed to proceed as described in the Needs Assessment unless an opportunity arises for right-sizing
- 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](#)



# 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

## 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

## 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

# Station Capacity Needs

Need	Station	Description of Need
1	Beamsville TS	<ul style="list-style-type: none"> <li>• Summer station capacity will be exceeded in 2027</li> <li>• Gradual load growth (&lt;6 MW) over the next 10 years</li> </ul>
2	Crowland TS	<ul style="list-style-type: none"> <li>• Summer station capacity will be exceeded in 2028</li> <li>• Current end-of-life transformers will be replaced by 2024</li> <li>• ~20+ MW increase over the next 10 years</li> </ul>



# 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

- Integrated Regional Resource Planning is recommended for the Niagara region due to:
  - The potential for exploring multiple types of options to meet the needs (including non-wires alternatives)
  - The opportunity for public engagement and coordination with community-level energy plans and local development projects
  - The potential coordination required between distributors

# IRRP Scoping and Sizing

To improve the efficiency of the Niagara IRRP, the scope of work will reflect the complexity and needs of the region.

- Full 18-months
- Requires broad coordination
- Comprehensive forecast for each station
- Many urgent/complex needs
- Bulk impact
- Stakeholder engagement

Large IRRP

- Some urgent/complex needs
- Requires coordination
- Some bulk/upstream impact
- Detailed forecast for some stations
- Stakeholder engagement

Medium IRRP

- Few/small needs
- Requires coordination
- No bulk impact
- Detailed forecast for select stations
- Stakeholder engagement

Small 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

# Your Feedback is Important

Some key questions to consider when reviewing the Scoping Assessment:

- What additional information that should be considered as part of the Scoping Assessment?
- What other considerations should be made regarding the areas identified as requiring further study through a regional planning approach resonate based on local developments?
- What 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](mailto:engagement@ieso.ca)*

## Next Steps

- Feedback due to [engagement@ieso.ca](mailto:engagement@ieso.ca) August 17
- IESO to post and respond to feedback, as well as the final Scoping Assessment by August 24
- Further engagement to follow

# How You Can Stay Involved

- Subscribe to receive updates on the Niagara regional initiatives on the [IESO website](#)
- Follow the Niagara regional planning activities [online](#)
- Comments and questions on the draft Scoping Assessment Outcome Report can be submitted to [engagement@ieso.ca](mailto:engagement@ieso.ca) by **August 17**



# Appendix

# IRRP Activities, Timelines, & Accountabilities

Activity or Deliverable	Lead Responsibility	Timeframe
1. Develop long-term planning forecast for the region	IESO	Q3 – Q4 2021
2. Provide information on load transfer capabilities under normal and emergency conditions	LDCs	Q3 – Q4 2021
3. Provide and review relevant community plans, if applicable	All	Q4 2021 – Q1 2022
4. Complete system studies to identify needs over a 20-year time horizon	IESO	Q1 – Q2 2022
5. Develop options and alternatives to address needs	All	Q1 – Q2 2022

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

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

- More detailed activities will be found in the Terms of Reference



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# Thank You

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