

**SEPTEMBER 12, 2023**

# GTA North (York Region) Regional Planning Scoping Assessment Engagement Webinar

# Objectives of Today's Webinar


- To provide an overview of the regional planning work underway in the GTA North electricity planning region, also known as “York Region”.
- To discuss the draft York Region Scoping Assessment outcome and seek feedback
- To review engagement plan and discuss outreach opportunities in the regional planning process
- To provide a timeline and 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 based on local developments?
- 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 **September 26**



# Overview of the IESO and the Regional Planning Process

# Ontario's Electricity Sector

## Connecting Today. Powering Tomorrow.

The IESO works at the heart of Ontario's power system, ensuring that electricity is available where and when it is needed.

We oversee and evolve the electricity market, driving competition to maintain affordability.

We manage the grid in real-time, balancing supply and demand and directing the flow of electricity.



We plan for the future, forecasting demand and securing the resources required to meet Ontario's energy needs.



### We work with:

**Generators** produce large amounts of electricity to meet Ontario's needs. Ontario has one of the cleanest energy supplies in the world.

→ **Transmitters** transport electricity over long distances from power plants to communities.

→ **Local Distribution Companies** (the "local hydro company") deliver electricity directly to homes and businesses in your community.

→ **Energy consumers** and the communities they live in count on electricity being available.

# Who the IESO is 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**

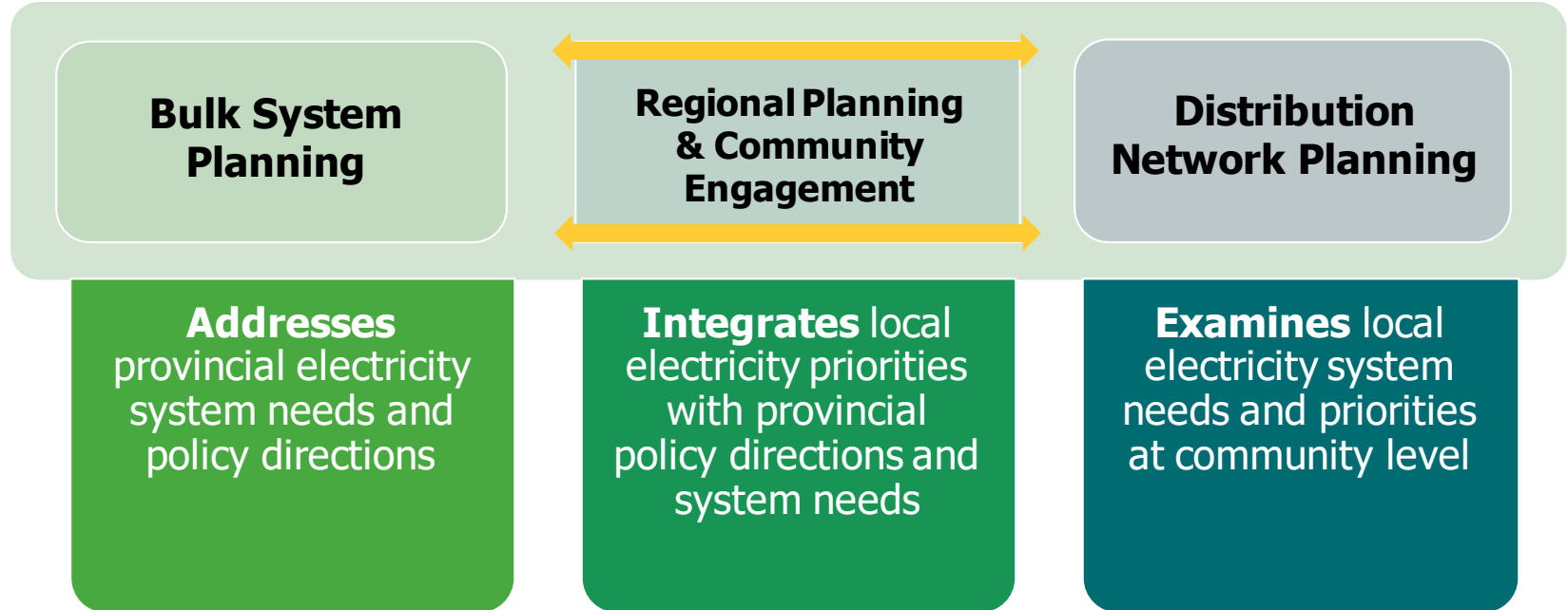


**Plan for Ontario's future energy needs**



Enable province-wide energy efficiency

# Electricity Planning in Ontario



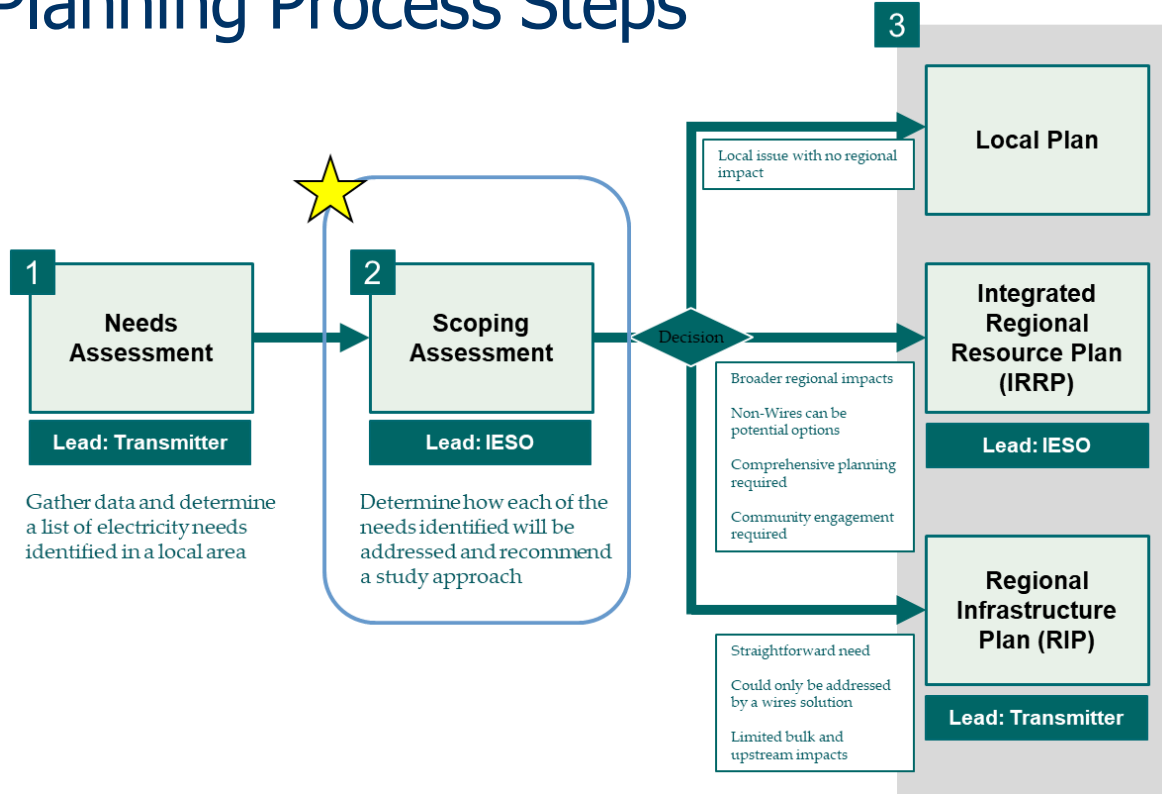
# 21 Electricity Regional Planning Regions

- 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 initiated following the completion of a Needs Assessment
- It is conducted by a working group led by the IESO that 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, if one is required, and composition of the Technical Working Group

# Identifying the Planning Approach

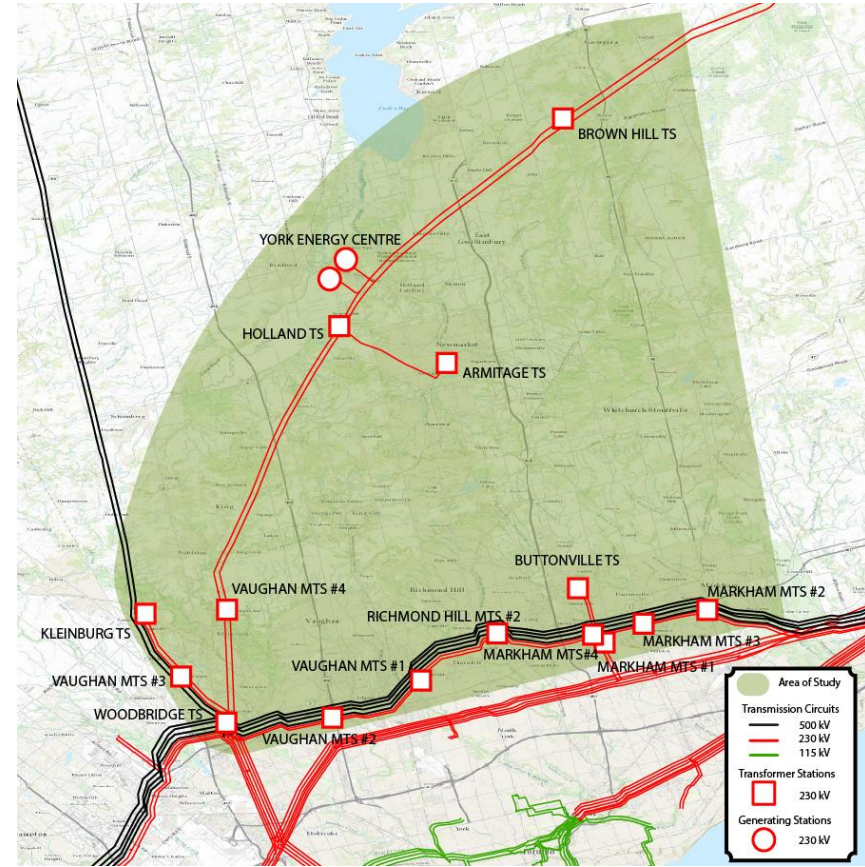
<b>Approach</b>	<b>Typical Considerations</b>	<b>Parties Involved</b>
Integrated Regional Resource Plan (IRRP)	Where a greater range of options, including non-wires, are to be considered, and/or closer coordination with communities and stakeholders is required	IESO (lead) Transmitter LDCs
Regional Infrastructure 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



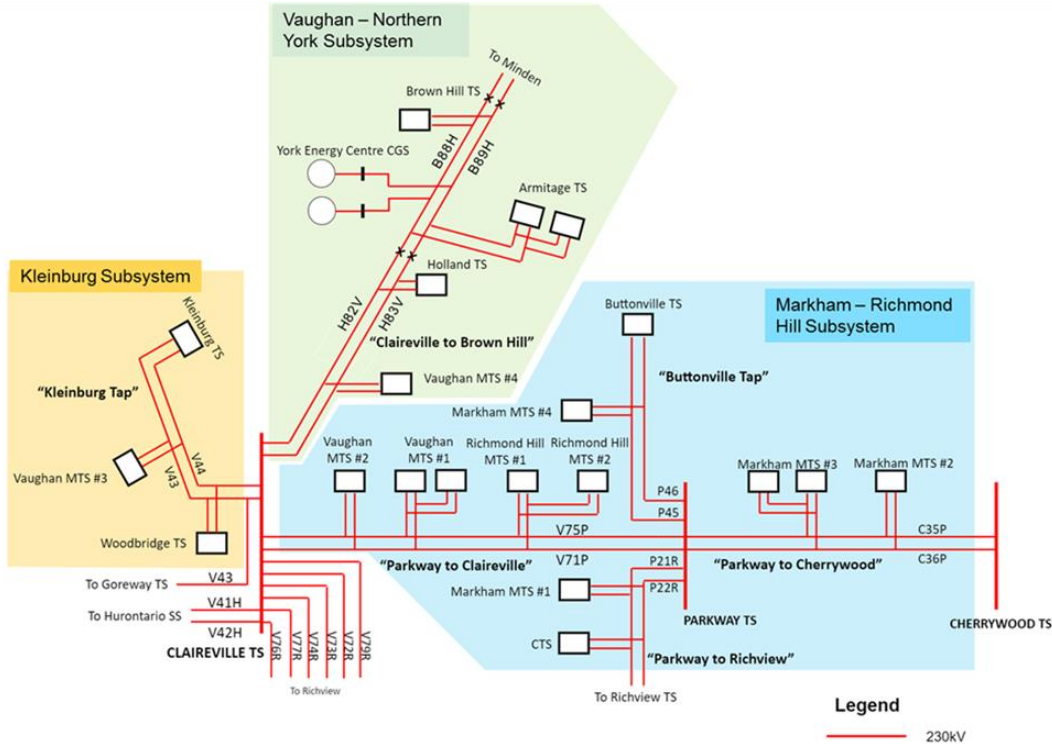
# Regional Planning in York Region

# York Region Electricity System

- The region's electricity system consists of 230 kV transmission lines and stations
- Additional supply is provided by local generation:
  - York Energy Centre (YEC), a 393 MW gas fired generator, located north of Holland TS
- 500 kV lines form the back bone of the power system and will be considered out of scope for regional planning



# York Region Electricity System – Single Line Diagram



## York Region – Municipalities and Communities

- Regional Municipality of York and all nine municipalities are included in the region. These include the Cities of Markham, Richmond Hill and Vaughan, the Towns of Aurora, East Gwillimbury, Georgina, Newmarket, Whitchurch-Stouffville, and the Township of King.
- Indigenous communities including Alderville First Nation, Beausoleil First Nation, Curve Lake First Nation, Chippewas of Georgina Island First Nation, Hiawatha First Nation, Kawartha Nishnawbe, Mississaugas of Scugog Island First Nation, Rama First Nation, and the Mississaugas of the Credit First Nation are located in or have historical interest in the area.

# Scoping Assessment Working Group

Team Lead,  
System Operator

- Independent Electricity System Operator

Lead Transmitter

- Hydro One Networks Inc. (Transmission)

Local  
Distribution  
Companies

- Toronto Hydro Electric Systems Limited
- Alectra Utilities Corporation
- Newmarket-Tay Power Distribution Ltd. (NT Power)
- Hydro One Networks Inc. (Distribution)



## Previous York Region Plan and Updates

- The previous cycle of regional planning was completed in 2020 with the IESO publishing the IRRP, followed by Hydro One publishing the RIP.
- The previous plan identified long-term needs for York Region due to anticipated growth in population and economic activity.
- Various municipalities have since updated community energy plans to address challenges related to climate change.
- The IESO released a “Pathways to Decarbonization” report in December 2022 and the Ontario government responded with its Power Ontario Growth report in July 2023.



# York Region Draft Scoping Assessment Outcome

# 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

# Needs Identified in York Region

- Hydro One recently completed a Needs Assessment process that identified:
  - Station capacity needs
  - Line/system capacity needs
  - Load restoration needs
  - End-of-life needs
- These needs will be confirmed and additional needs may be identified as planning progresses
- The identified needs are briefly outlined in the following slides
- For more details, please refer to the draft Scoping Assessment Outcome Report or [Hydro One's Needs Assessment Report](#)

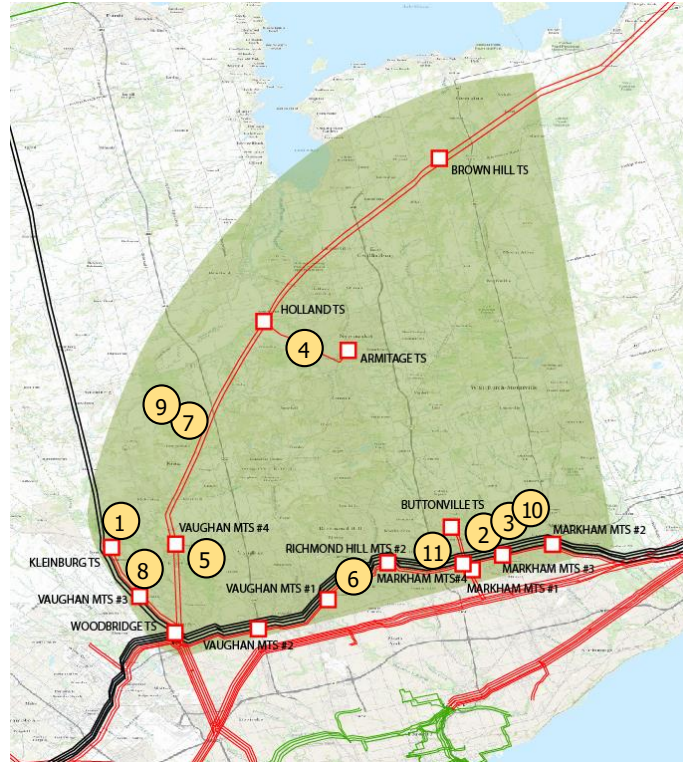
# 2023 Needs Requiring Regional Coordination (1)

	Location of Need	Need Type	Description
1	Kleinburg	Station Capacity	Significant new load is forecast to connect at the 44kV bus in the 2023-2024 period, exceeding its capacity.
2	Markham	Station Capacity	Markham area stations are expected to exceed their capacities by 2028
3	Buttonville Tap transmission corridor	System Capacity	Circuits supplying Markham MTS #4 and Buttonville TS are expected to exceed their capacities by 2028
4	Northern York Region	Station Capacity	Northern York region is expected to reach the area's stations' capacity by 2027
5	Vaughan	Station Capacity	Vaughan area stations are expected to exceed their capacities by 2030
6	Richmond Hill	Station Capacity	Richmond Hill area stations are expected to exceed their capacities by 2032

## 2023 Needs Requiring Regional Coordination (2)

	Location of Need	Need Type	Description
7	Claireville to Brown Hill transmission corridor	System Capacity	Loading on the Claireville TS x Brown Hill TS corridor is expected to exceed its capacity by the early 2030s.
8	Kleinburg Tap transmission corridor	Load Restoration	Inability to restore customer loads within the timelines established by planning criteria following a major system disturbance
9	Claireville to Brown Hill transmission corridor	Load Restoration	Inability to restore customer loads within the timelines established by planning criteria following a major system disturbance.
10	Buttonville Tap transmission corridor	Load Restoration	Inability to restore customer loads within the timelines established by planning criteria following a major system disturbance.
11	Parkway to Claireville transmission corridor	Load Security	The loss of this line can result in an interruption to over 600 MW of customer load, which is more than permitted by planning criteria

# Geographic Location of Identified Needs



# Types of Options Considered in Regional Plans

Option Type	Description
Wires	Traditional transmission assets such as switching stations, transformer stations, or transmission lines; may also include protection schemes and control and operational actions such as load rejection
Non-wires	Local load modifying solutions such as distributed energy resources (including distributed generation/storage and demand response) or energy efficiency measures - and/or - Large, utility-scale resource options located to alleviate a local reliability need



# 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, in whole or in part, by non-wires solutions
- Have potential for coordination with bulk power system needs
- Could potentially be addressed in an integrated manner
- Impact multiple LDCs in the region
- Would require engagement and coordination with community-level energy planning activities

# Pathways to Decarbonization Report (1)

- The IESO published the Pathways to Decarbonization (P2D) report in December 2022. It identifies risks and opportunities arising from the energy transition, including York Region.
- In the report, the IESO commits to ensuring “that regional planning processes for Toronto and York Region address the unique challenges for local reliability of phasing out natural gas.”
- The Ontario government also released its Power Ontario’s Growth report, highlighting the need to act today to ensure growth and electrification needs are met.

## Pathways to Decarbonization Report (2)

- The IRRP will study a scenario where transmission-connected gas generation (i.e., YEC) is phased out per the timelines in the Pathways to Decarbonization report.
- Consideration will also be given to a separate a “high electrification” demand forecast that would examine and evaluate the needs that arise on the electricity system in York Region associated with a net zero energy system and provide recommendations on near-term actions to facilitate this transition.

# Draft Scoping Assessment Recommendations

Similar to the previous planning cycle, the proposed York Regional planning study will cover the entire GTA North region to develop a coordinated plan to address the Region's electricity needs. No sub-regions are proposed.

An Integrated Regional Resource Plan (IRRP) approach is recommended due to:

- The potential linkages between the identified needs
- 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
- The opportunity to explore effects of a high electrification scenario in York Region

# Reasons for Recommending an IRRP for York Region

- Needs are primarily driven by growth in peak capacity needs, but load security and restoration needs were also identified. Multiple needs may be addressed by common solutions.
- The close proximity of loads, and high anticipated growth rates from new development and intensification present opportunities to consider needs in a coordinated manner
- Options to address needs may include conventional infrastructure and non-wires alternatives
- Uncertainties around demand growth from electrification/decarbonization of industry located in the region
- The area is also in close proximity, and shares key infrastructure, with parts of the bulk power system
- Investigate options to supply region without local gas generation (i.e., without YEC)

# IRRP Scoping and Sizing

- Due to the significant anticipated scope of the study, the full 18-month timeline for completion is required
- The composition of the IRRP Working Group will include the IESO, Alectra Utilities, Hydro One Distribution, NT Power, and Hydro One Transmission.
  - Other Local Distribution Companies in the region will be informed of any needs or solutions that may affect their facilities or customers

# IRRP Timelines (1)

<b>Schedule of Activities</b>	<b>Lead Responsibility</b>	<b>Time Frame</b>
Finalize Terms of Reference and Scoping Assessment Outcome Report	IESO	October 2023
Develop planning forecast and planning scenarios for the region	IESO and LDCs	Q4 2023 – Q1 2024
Provide information on load transfer capabilities under normal and emergency conditions and any end-of-life assets	LDCs and Hydro One Transmission	Q1 2024
Provide and review relevant community plans, if applicable	LDCs and IESO	Q1 2024

## IRRP Timelines (2)

<b>Schedule of Activities</b>	<b>Lead Responsibility</b>	<b>Time Frame</b>
Complete system studies to identify needs	IESO, Hydro One Transmission	Q2 – Q3 2024
Develop options and alternatives	All	Q3 – Q4 2024
Plan and undertake community & stakeholder engagement	IESO	Ongoing as required
Develop long-term recommendations and implementation plan based on community and stakeholder input	IESO	Q1 2025
Prepare the IRRP report detailing the recommended near, medium and long-term plan for approval by all parties	IESO	April 2025

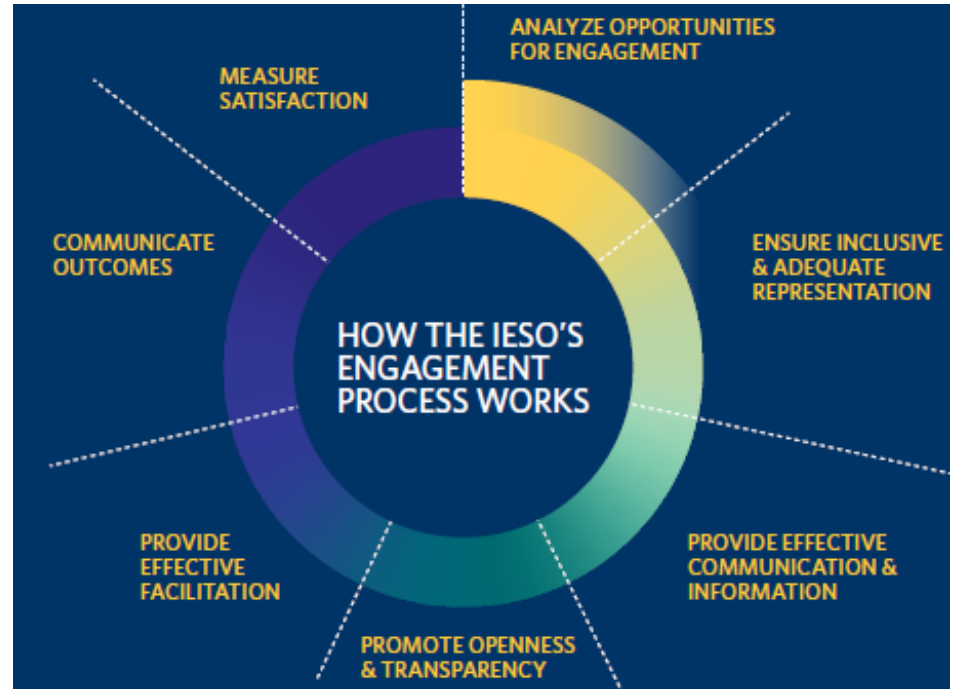




# Engagement

# Regional and Community Engagement

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



# Who Should Participate?

- Indigenous Communities
- 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)
- 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
- The IESO is committed to increasing the information available to stakeholders and communities throughout the IRRP development process
  - For example, the engagement plan will seek to include enhanced detail about the objectives of each engagement activity and the type of supporting data that will be made available. The draft engagement plan will be posted for public comment.

## Reminder- 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 based on local developments?
- 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 **September 26**

# Questions?

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

*Submit questions using the raise hand function, or by email to [engagement@ieso.ca](mailto:engagement@ieso.ca)*

## Next Steps

- Feedback due to [engagement@ieso.ca](mailto:engagement@ieso.ca) by **September 26**
- IESO to post and respond to feedback, as well as the final Scoping Assessment by **October 12**
- Further engagement to follow

# How You Can Stay Involved:

- Subscribe to receive updates on York regional planning initiatives on the IESO website <http://www.ieso.ca/subscribe>
- Follow the 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 **September 26**



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# Thank You

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