

**JULY 21, 2021**

# Renfrew Scoping Assessment

## Regional Planning Engagement Webinar

**Presented by IESO**

# Objectives of Today's Working Group Meeting

- To provide an overview and status update of the regional planning process underway in the Renfrew region
- To discuss and seek feedback on the draft Renfrew 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 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)*
- 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 that should be examined?

**Please submit your written comments by email to [engagement@ieso.ca](mailto:engagement@ieso.ca)  
by **August 11****



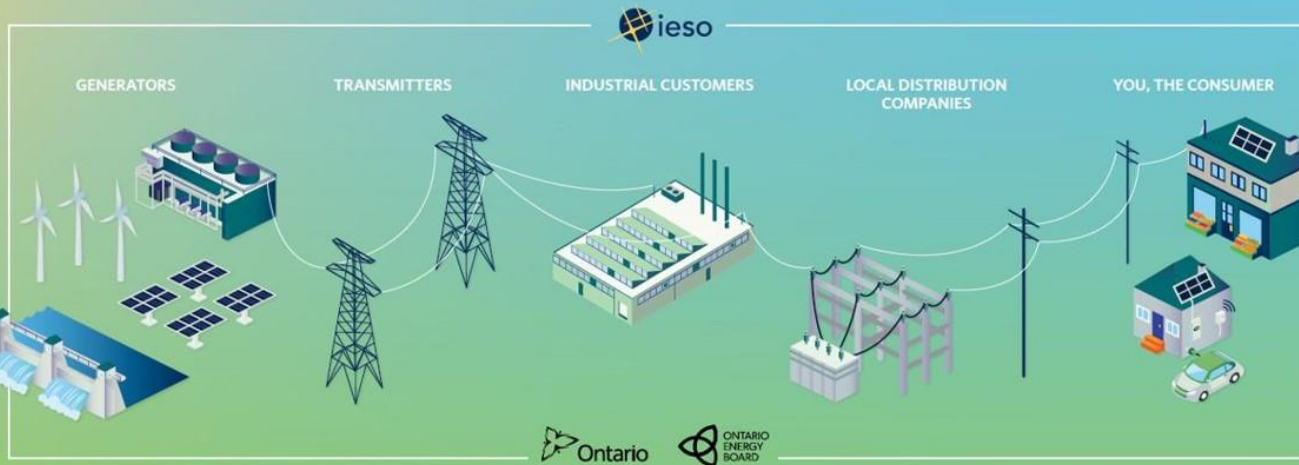
# Overview of the IESO and Regional Planning Activities

# 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



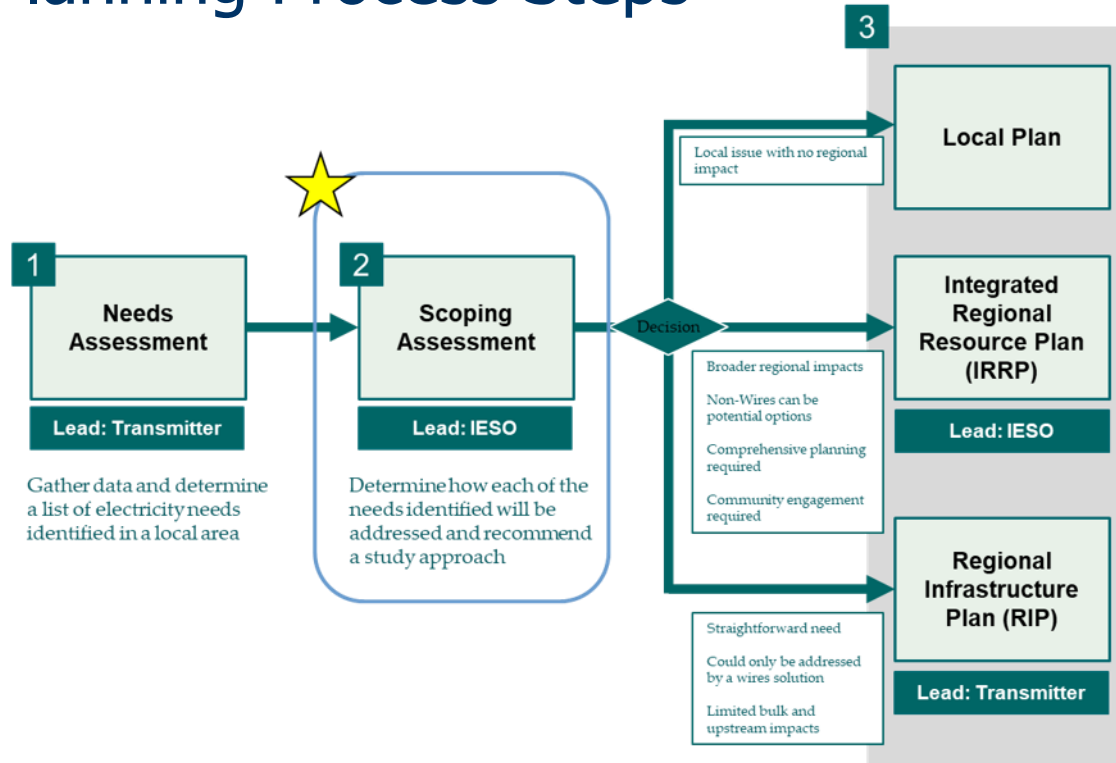
# 21 Electricity Regional Planning Regions

- 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 Working Group

# Identifying the Planning Approach

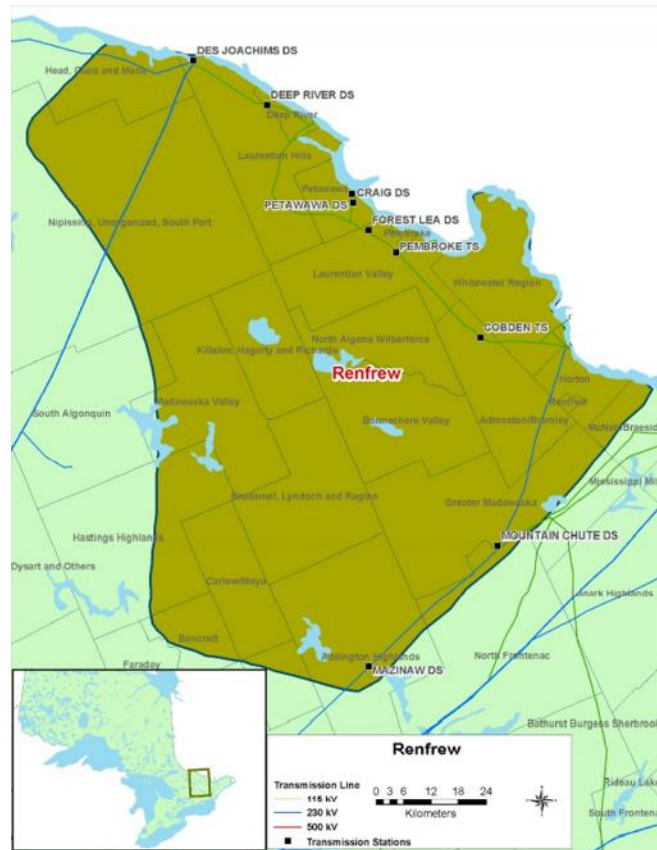
<b>Approach</b>	<b>Typical Considerations</b>	<b>Parties Involved</b>
IRRP	Where a greater range of options, including non-wires, are to be considered, and/or closer coordination with communities and stakeholders is required	IESO (lead) Transmitter LDCs
Regional Infrastructure Plan (RIP)	Considers more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



# Draft Renfrew Scoping Assessment

# Renfrew Region (1)

- The Renfrew region is located in eastern Ontario, west of Ottawa, and includes all or part of the following municipalities:  
Townships of Admaston/Bromley, Bonnechere Valley, Brudenell, Lyndoch, and Raglan, Greater Madawaska, Head, Clara, and Maria, Horton, Killaloe, Hagarty, and Richards, Laurentian Valley, Madawaksa Valley, McNab/Braeside, North Algona Wilberforce, and Township of Whitewater, Towns of Arnprior, Deep River, Laurentian Hills, Petawawa, Renfrew, and City of Pembroke.



## Renfrew Region (2)

- This region includes Algonquins of Pikwakanagan and Algonquins of Ontario Consultation Office. The Huron Wendat Nation of Quebec has expressed their interest in the Renfrew area due to their historical presence in southern Ontario.
- The Renfrew region also includes the MNO Ottawa Region Métis Council, with the MNO High Land Waters Métis Council located close by to the south.

# 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”)
- Ottawa River Power Corporation (embedded)

## Previous Regional Planning Cycle: Renfrew

- The previous planning cycle was completed in 2016 following a Needs Assessment by the local transmitter (Hydro One) for this region
- The Needs Assessment found that there were no near- or long-term needs in the area at that time that required regional coordination
- A result of the previous planning cycle was that the performance of transmission circuit X1P was to be monitored closely



# 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

# Current Regional Planning Cycle



- The regional planning cycle is triggered at least every five years
- Needs Assessment (led by Hydro One) was completed in May 2021
- Final Scoping Assessment (led by IESO) report to be published by **August 13, 2021**

# 2021 Regional Planning Cycle for Renfrew – Preliminary Needs

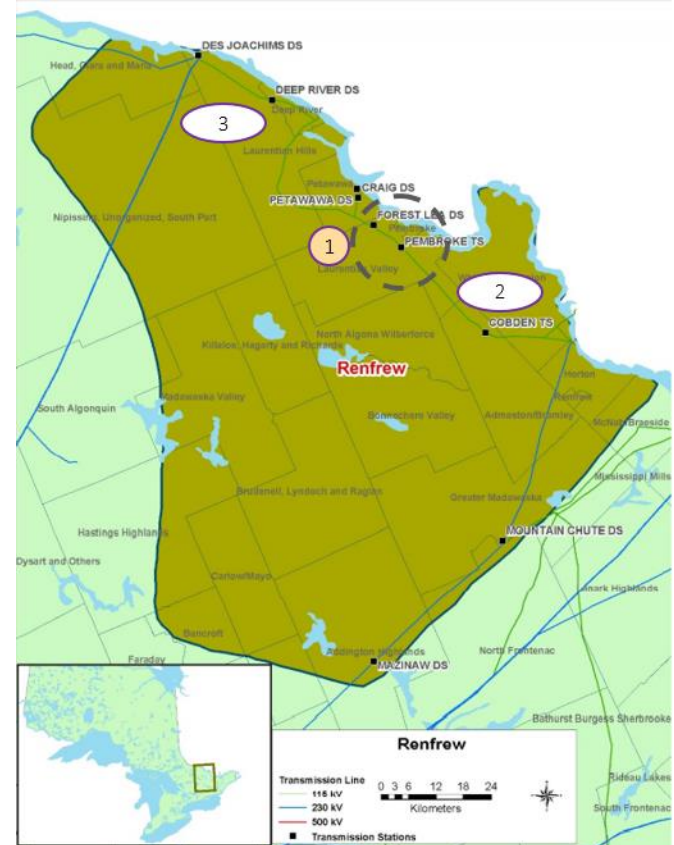
- The following categories of needs were identified in the Needs Assessment:
  - Station capacity
  - Asset end-of-life (EOL)
- The definition, timing and location of these needs are described at a high-level in the following slides
- A more detailed description of the needs is included in the draft Scoping Assessment (posted on the engagement page) and in the Needs Assessment (available online)

# 2021 Regional Planning Cycle: Preliminary Needs

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

-  Station Capacity Needs
-  End-of-life Needs

1. Pembroke TS overload
2. Cheneaux auto transformers replacement
3. D6 End-of-Life Line Refurbishment



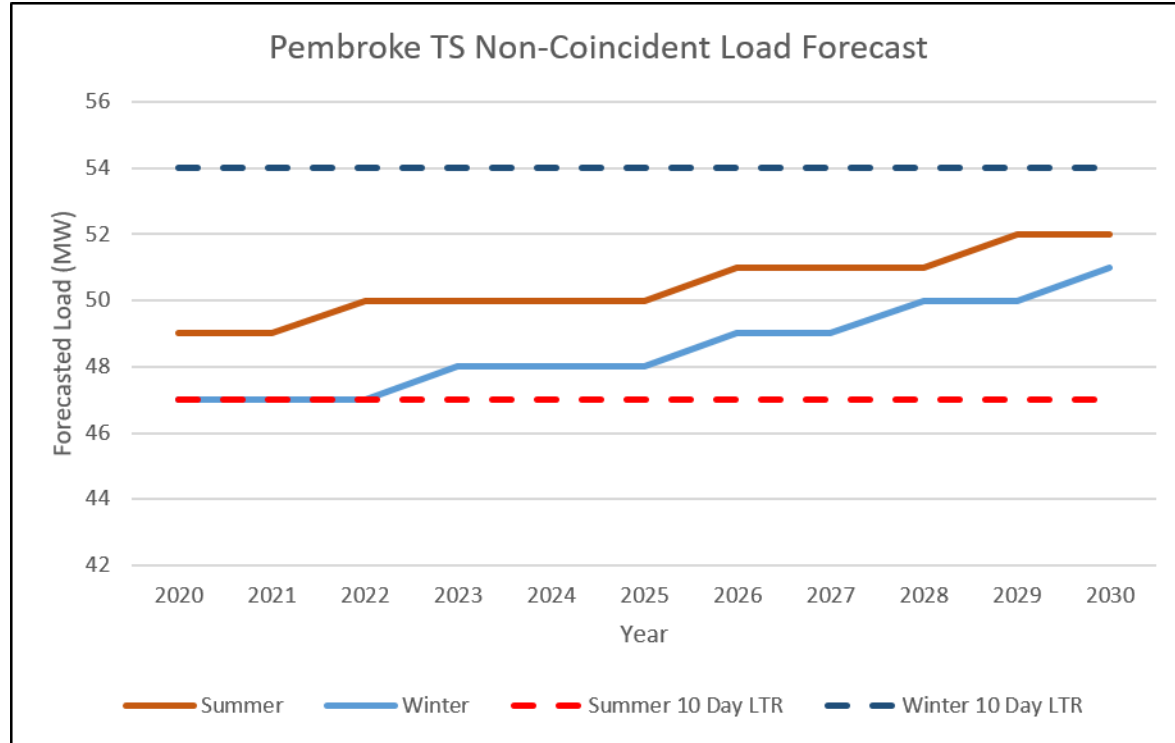
# Draft Scoping Assessment Considerations

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 region
- Would require engagement and coordination with community-level energy planning activities

# Pembroke TS Need

- Historical loading has exceeded the station's summer emergency rating of 47 MW (referred to as the long-term emergency rating or LTR)
- Station load is projected to exceed the station's emergency rating by 5 MW in the mid term (2030)

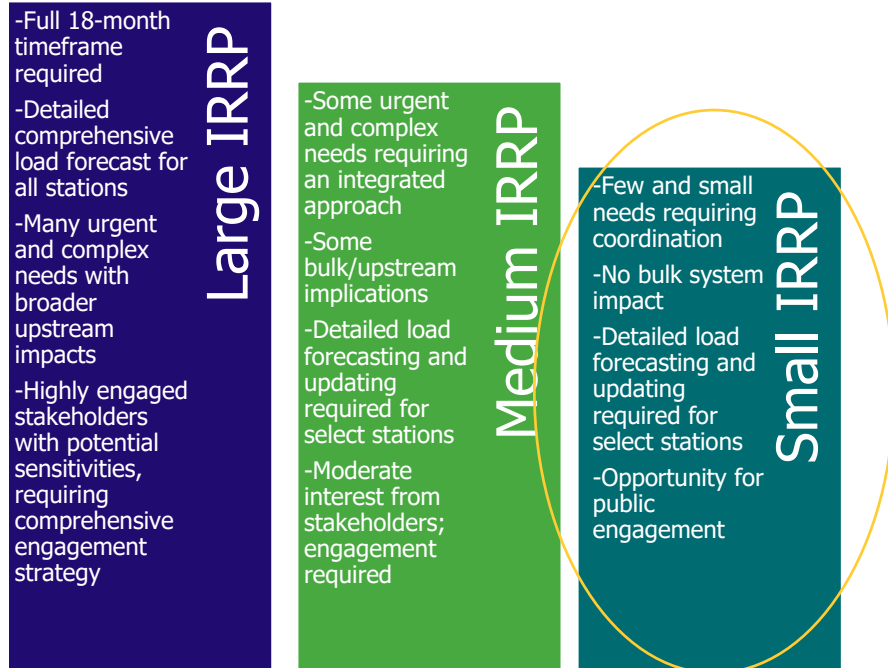


# Recommendation to Proceed with an IRRP

- The Renfrew region will be studied through an IRRP with a focus on the Pembroke TS capacity need. An IRRP is recommended because of:
  - The potential for exploring multiple types of options to meet the needs (including non-wires alternatives)
  - The opportunity for public engagement; an IRRP will provide an opportunity to engage with stakeholders in the region and determine whether additional needs should be brought into scope
- Are there any other issues that should be included in IRRP?

# IRRP Scoping and Sizing

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







# 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 and Indigenous communities
- 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 Your Input

## Some key questions to consider when reviewing the draft Scoping Assessment:

- What additional information that should be considered as part of the Scoping Assessment?
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by **August 11****

# 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 11. A feedback form can be found online.
- IESO to post and respond to feedback, as well as the final Scoping Assessment by August 13
- Further engagement to follow to inform the development of the IRRP

# How You Can Stay Involved:

- Subscribe to receive updates on the Renfrew regional initiatives on the IESO website

<http://www.ieso.ca/subscribe>

- Follow the Renfrew regional planning activities online

<https://ieso.ca/en/Sector-Participants/Engagement-Initiatives/Engagements/Regional-Electricity-Planning-Renfrew>

- Comments and questions on the draft Scoping Assessment Outcome Report can be submitted to [engagement@ieso.ca](mailto:engagement@ieso.ca) by **August 11**





# Appendix

# Needs Assessment Outcomes (New Needs)

Specific Need	Solution and Timing
<ul style="list-style-type: none"><li>End-of-life Chenux TS transformers</li></ul>	<ul style="list-style-type: none"><li>Transformer replacement T3, T4 (new 200/115 kV 75/100/125 MVA)</li><li>In-service in 2021</li></ul>
<ul style="list-style-type: none"><li>End-of-life D6 Line</li></ul>	<ul style="list-style-type: none"><li>Complete line refurbishment between Des Joachims TS and Petawawa/ Craig DS (all EOL assets, conductor to be 411 kcmil)</li><li>In-service in 2022</li></ul>
<ul style="list-style-type: none"><li>Supply capacity exceeded in 2019</li></ul>	<ul style="list-style-type: none"><li>To be determined through planning process</li></ul>

# IRRP Activities, Timelines, & Accountabilities

<b>Activity or Deliverable</b>	<b>Lead Responsibility</b>	<b>Renfrew IRRP Timeframe</b>
1. Prepare Terms of Reference considering stakeholder input	IESO	Q3 2021
2. Develop the planning forecast	IESO, LDCs	Q3 2021
3. Reconfirm load transfer capabilities	LDCs	Q4 2021
4. Provide and review relevant community plans, if applicable	LDCs, First Nations, and IESO	Q4 2021
5. Complete system studies to identify needs	IESO, Hydro One Transmission	Q1 2022

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

<b>Activity or Deliverable</b>	<b>Lead Responsibility</b>	<b>Renfrew IRRP Timeframe</b>
6. Develop options and alternatives	All	Q2 2022
7. Plan and undertake community & stakeholder outreach and engagement	IESO	Ongoing
8. Develop long-term recommendations and implementation plan based on community and stakeholder input	IESO	Q3 2022
9. Complete the IRRP report detailing the recommended near, medium and long-term plan for approval by Technical Working Group	IESO	Q3 2022

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

# Indigenous communities and organizations in the region

- Algonquins of Pikwakanagan
- Algonquins of Ontario (AOO Consultation Office)
- Huron Wendat
- Métis Nation of Ontario Ottawa Region Métis Council
- Métis Nation of Ontario High Land Waters Métis Council are located close by to the south

# Municipalities in the region

- Township of Killaloe, Hagarty, and Richards
- Township of Laurentian Valley
- Township of Madawaksa Valley
- Township of McNab/Braeside
- Township of North Algona Wilberforce
- Township of Whitewater Region
- Township of Admaston/Bromley
- Township of Bonnechere Valley
- Township of BrudenellLyndoch, and Raglan
- Township of Greater Madawaska
- Township of Head, Clara, and Maria
- Township of Horton
- Town of Arnprior
- Town of Deep River
- Town of Laurentian Hills
- Town of Petawawa
- Town of Renfrew
- City of Pembroke

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# Thank You

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