

Integrated Resource Planning

Fall 2024 Webinar

Land Acknowledgement

The land we gather on today has been inhabited by and cared for by people Indigenous to Turtle Island since time immemorial.

We recognize and respect the historic connection to and harmonious stewardship by the Indigenous peoples over this shared land and, as such, we have a responsibility to preserve and care for the land, learn from the original inhabitants and move forward together in the spirit of healing, reconciliation and partnership.

Safety Message

Gas Fireplaces

Tips for safety

- Watch children & pets around glass
- Keep remotes out of reach of children
- Make sure your gas fireplace has a safety screen or gate
- Think about places outside of the home with fireplaces



Boiling water - 212°F



Baking a cake 350°F



Hair iron 400°F



Glass on fireplace 500°F



Agenda

- Integrated Resource Planning (IRP)
- System Planning Process
- Regional Projects
- IRP Process & Engagement
- IRP Pilot Project Update
- System Pruning
- Q&A



Integrated Resource Planning (IRP) Overview

Integrated Resource Planning



The energy landscape in Ontario is evolving

Integrated Resource Planning (IRP) is an enhanced planning strategy and process.¹

Enbridge Gas evaluates non-pipeline alternatives that could be used to defer, reduce or avoid implementing a traditional pipe project to meet a system need.

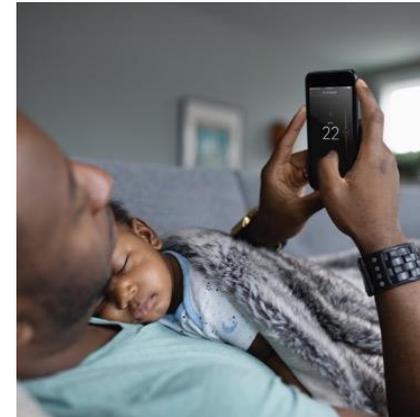
Consideration is given to safety, cost-effectiveness, and the ability of alternative solutions to meet customer demands reliably.

¹ IRP Framework was published by the OEB on July 22, 2021.

IRP alternatives (IRPAs)

Non-pipeline alternatives can include:

- **Demand side alternatives:**
 - Enhanced Targeted Energy Efficiency (ETEE) programs
 - Demand Response programs
- **Supply-side alternatives:**
 - Compressed natural gas (CNG)
 - Adding supply through upstream deliveries



Alternatives can be implemented individually or in combination to meet the system need cost-effectively and within the required timeframe.

IRP assessment process

Enbridge Gas uses a four-step IRP assessment process to determine the best approach to meet system needs:

1. Identification of constraints
2. Binary & Technical screening criteria (pass/fail)
3. Two-stage evaluation process
 - Technical evaluation
 - Economic evaluation
4. Periodic review

This allows Enbridge Gas to focus on investments where there is a reasonable expectation that a proposed project could efficiently and economically meet the system need.



System Planning Process

How we plan our system

Enbridge Gas considers various factors that impact future energy demands and utilizes the best available information to determine the system needs required to meet customer demands.

- **Forecast existing customer demands**
 - Regular rate customers
 - Large Volume Contract Customers (LVCC)
- **Layer growth and energy transition factors**
 - Known/approved growth
 - Econometric forecast
 - Peak hour adjustment
- **Determine system needs**
 - Facility alternatives
 - IRP alternatives



How we plan our system | LVCC

Non-Binding Expression of Interest (EOI) / Binding Reverse Open Season (ROS)

Enbridge implements this process for Large Volume Contract Customers (LVCC) to identify:

- Potential additional customer demands
- Opportunities to reduce existing contract customer demands
- Customer's interest to engage in additional natural gas conservation activities



This process ensures the system needs and project scopes are informed by best available customer demand information.

Energy transition adjustment factors

Enbridge Gas adjusts its forecasts to account for potential changes to its:

- customer count
- average annual use
- peak demand on its system

Enbridge Gas uses internal data and external factors to develop forecast adjustments such as:

- policy signals
- market trends
- and stakeholder feedback



How we plan our system | AMP

The system needs required to meet customer demands, determined through Enbridge Gas' system planning process, support the development of Enbridge Gas' Asset Management Plan (AMP).

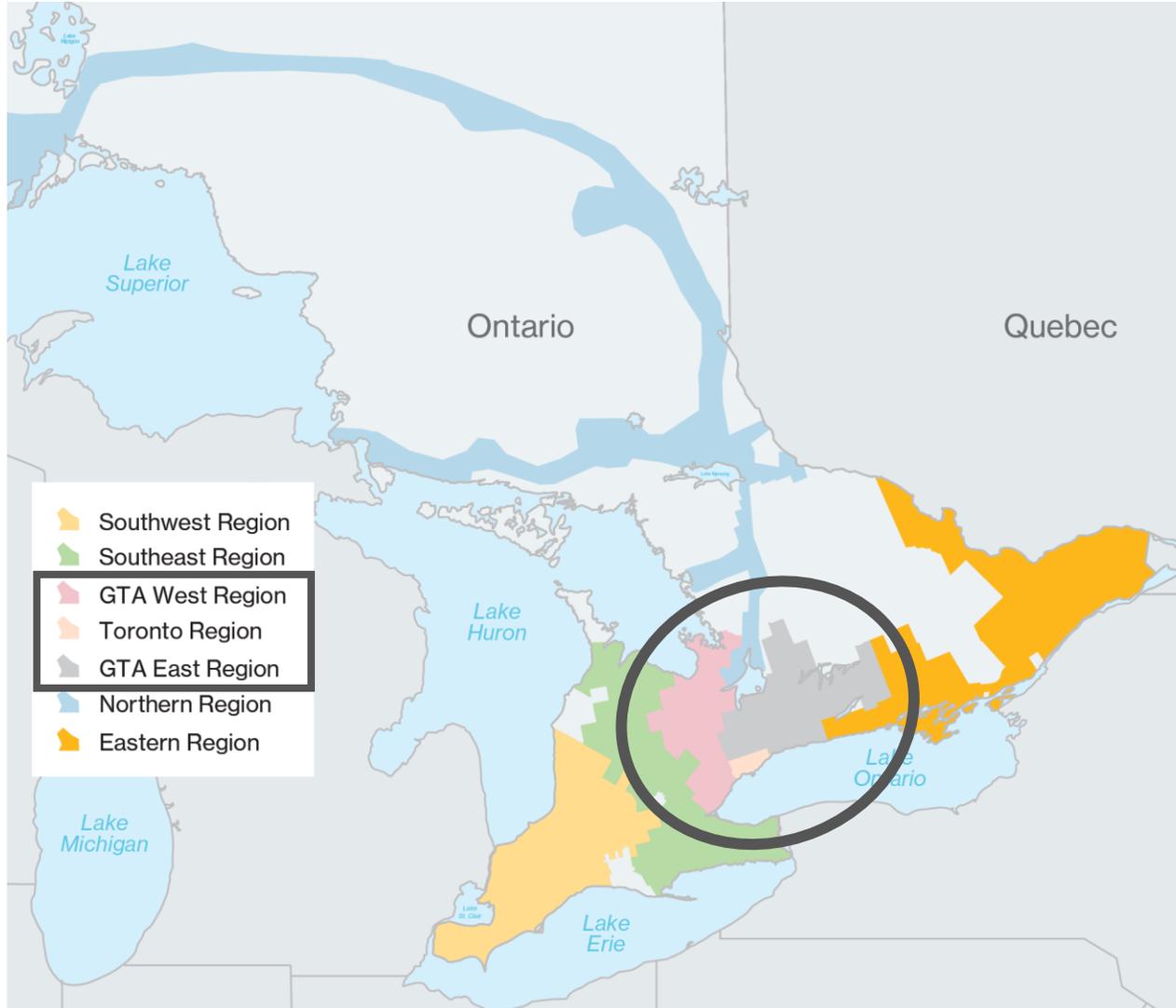
The 2025 – 2034 Asset Management Plan was filed on November 8, 2024

- 2,291 [\$9.3 Billion] investments related to gas carrying assets
- 2,088 [\$7.9 Billion] investments are Binary or Technically screened out of IRP Assessment Process
- 203 [\$1.4 Billion] investments passed Technical Screening
- 174 [\$1.3 Billion] investments in the queue for technical or economic evaluation



Regional Project Discussion

Regional overview: Toronto, GTA East and West



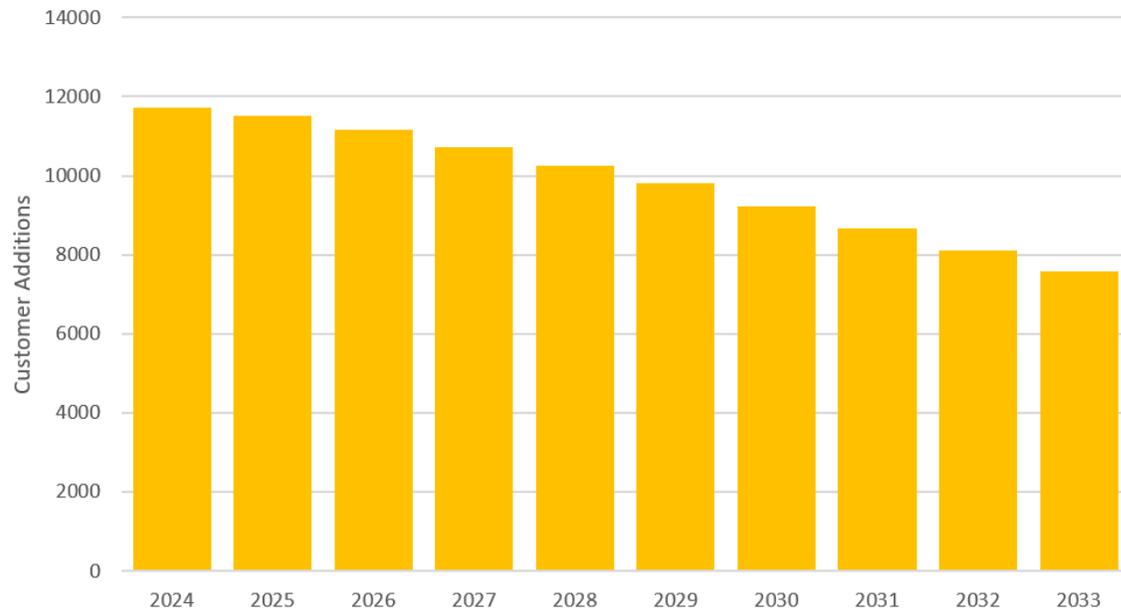
The Toronto, GTA East and West Regions currently have:

- 22 investments in the Growth Asset Class that have passed the technical screening stage of the IRP Assessment Process
- Corresponds to \$75.1M of the 2025 – 2034 capital forecast
- All have been technically evaluated and will progress towards the economic evaluation stage

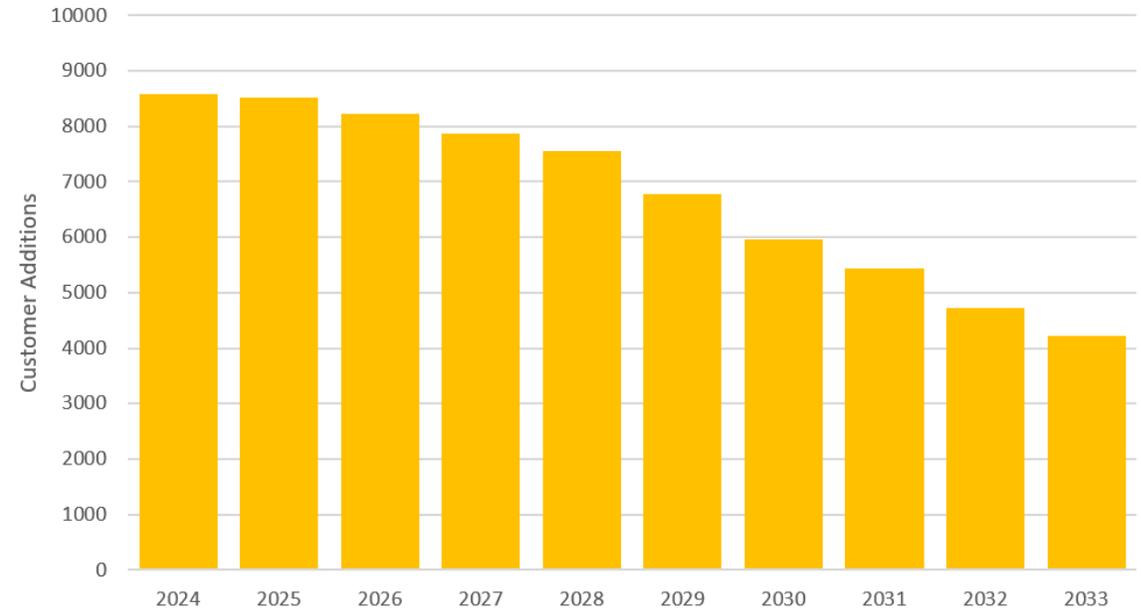
Forecasted Growth



GTA West



GTA East & Toronto



*A small amount of customers may be mis attributed to GTA East & Toronto due to a recent change in operating regions

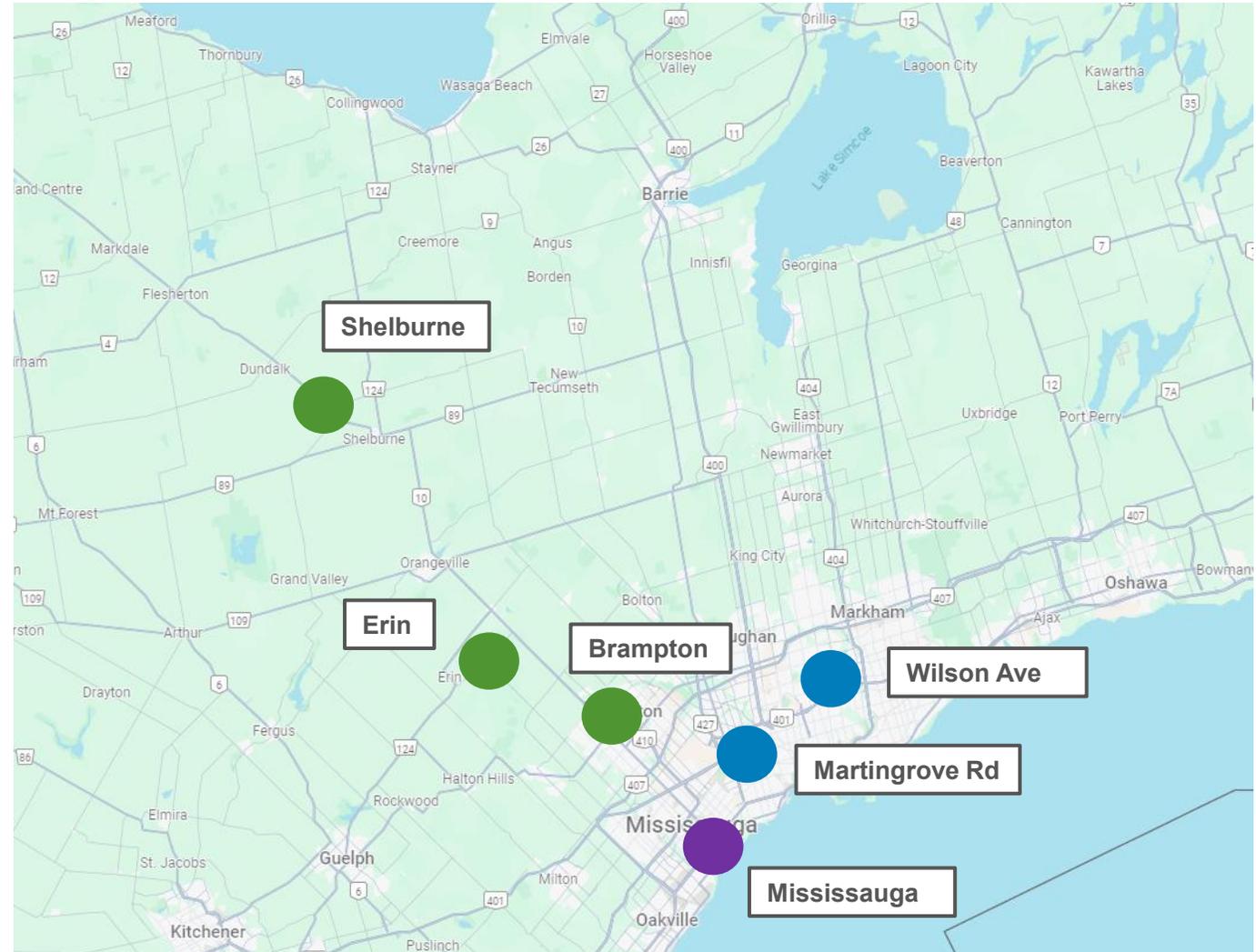
Key Projects: Toronto, GTA East & West Region

Growth Driven Investments

- Shelburne – Blind Line
- Erin – Charleston Sideroad
- Brampton – Hurontario St
- Mississauga Reinforcement
- 18 other growth projects

Non- Growth Driven Investments

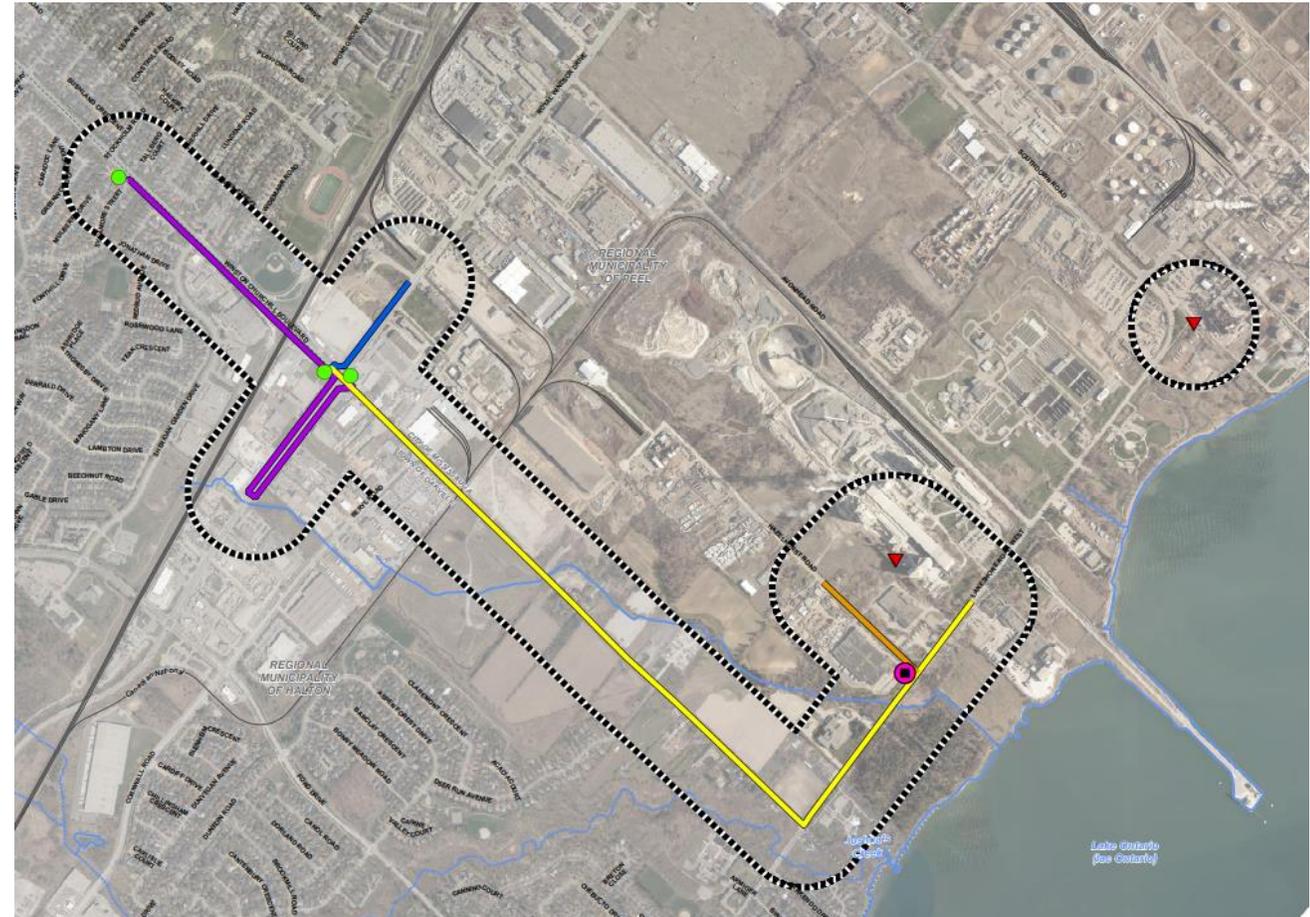
- Martingrove Rd Replacement
- Wilson Ave Replacement



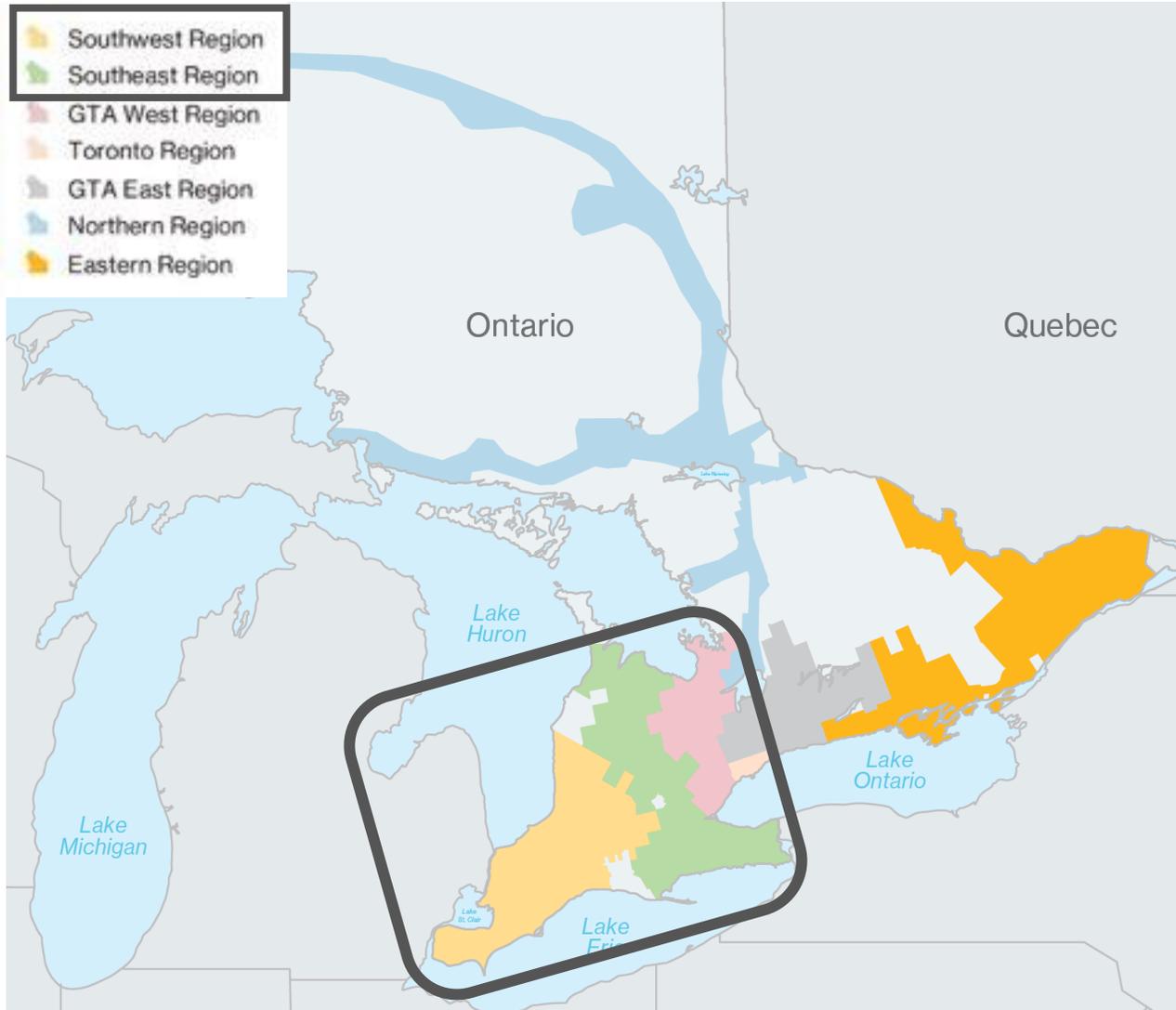
Mississauga Reinforcement Project

Project Summary

- Several information sessions have taken place, one in person and two virtual (July- Sept)
- An Expression of Interest (EOI) and Reverse Open Season (ROS) were conducted in the area to confirm demands for Large Volume Contracts
- Preferred facility alternative (yellow) is 3.1km NPS 6 pipe, as well as rebuilding two customer stations and a new feeder station
- This project fails IRP assessment since the project is a customer driven allocated to the large volume customers signing long term contracts
- OEB Leave to construct application is planned for Q1 2025



Regional Overview – Southeast & Southwest



The Southeast and Southwest regions currently have:

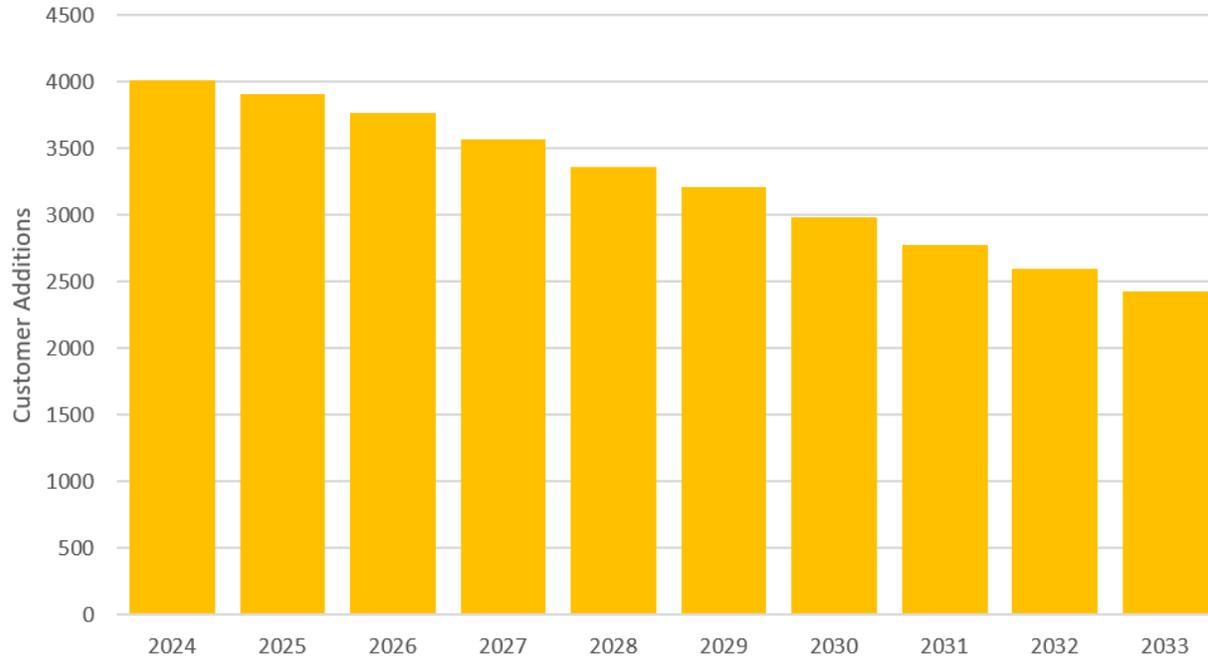
16 investments in the Growth Asset Class that have passed the technical screening stage of the IRP Assessment Process

- Corresponds to \$63.6 M of the 2025-2034 capital forecast
- All have been technically evaluated and will progress towards the economic evaluation stage

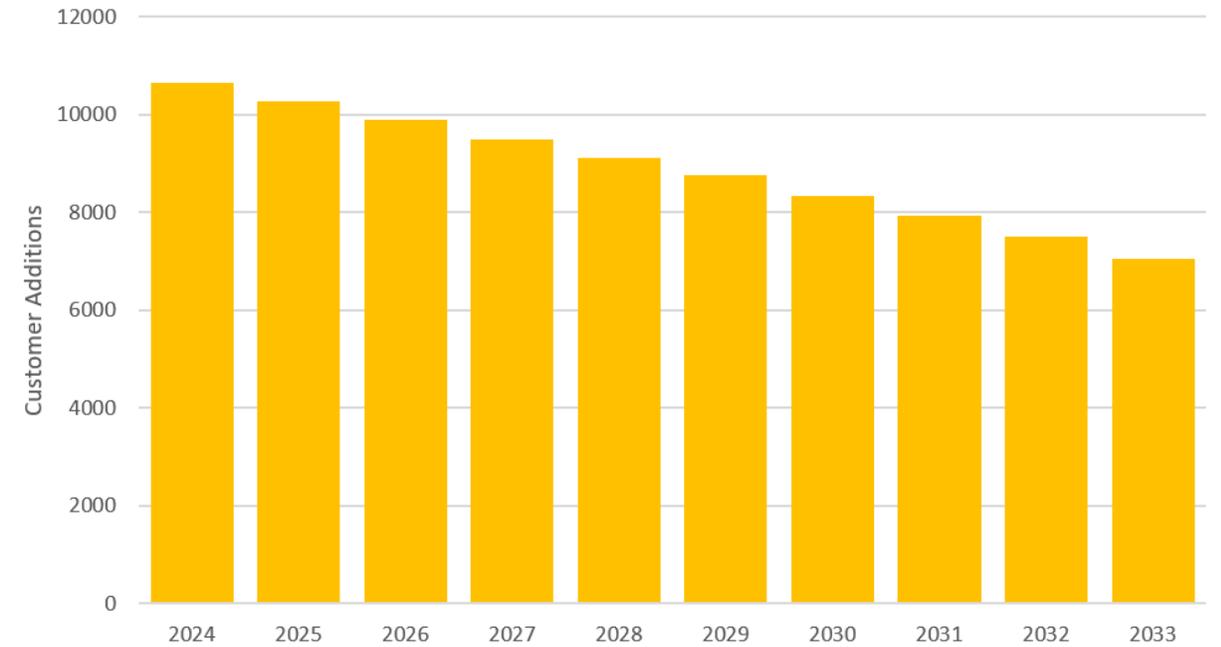
Forecasted Growth



Southwest



Southeast



Key Projects: Southwest & Southeast Regions

Growth Driven Investments

- Panhandle Regional Expansion
- Listowel
- Hamilton Industrial
- Owen Sound
- Grimsby-Lincoln Expansion
- 12 other growth projects



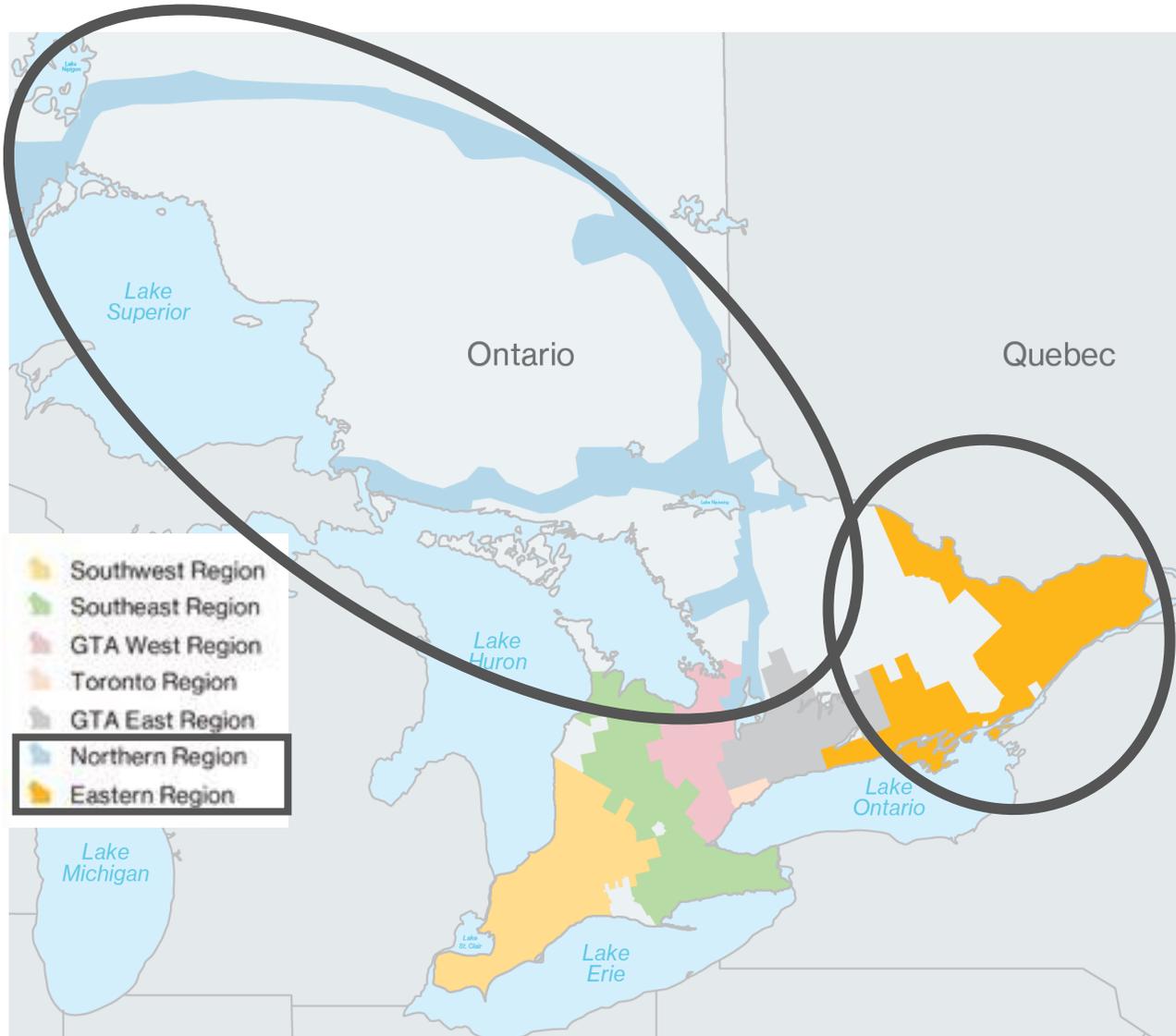
Panhandle Regional Expansion Project

Project Summary

- Enbridge is constructing a 19km NPS 36 6040 kPa pipeline and associated ancillary facilities along the existing NPS 20 Panhandle corridor
- Leave to construct approval was issued by the OEB on May 14, 2024
- This project Failed IRP Technical evaluation as both demand side (ETEE) and supply side (CNG/LNG/supply) alternatives were determined not feasible for the significant incremental demand needs
- Project construction is ongoing this year
- Visit the OEB website or Enbridge website below for more information on this application



Regional Overview – Northern & Eastern

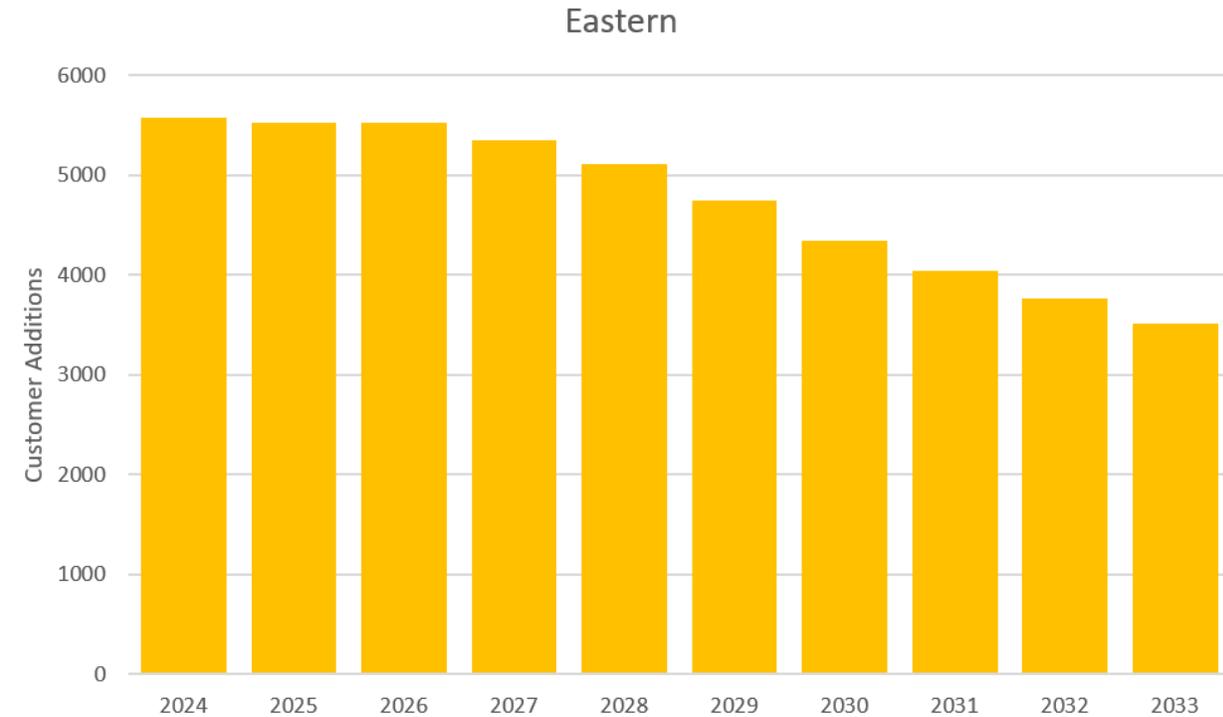
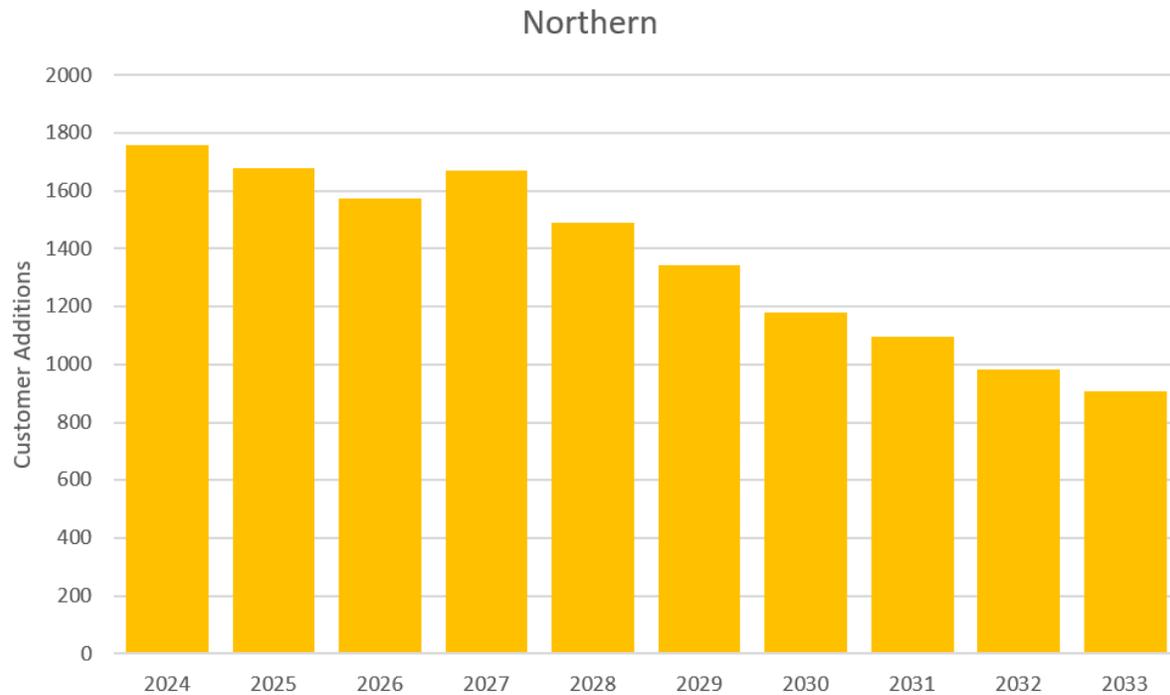


The Northern and Eastern regions currently have:

11 investments in the Growth Asset Class that have passed the technical screening stage of the IRP Assessment Process

- Corresponds to \$17.0 M of the 2025-2034 capital forecast
- All have been technically evaluated and will progress towards the economic evaluation stage

Forecasted Growth



*A small amount of customers may be mis attributed to Eastern due to a recent change in operating regions

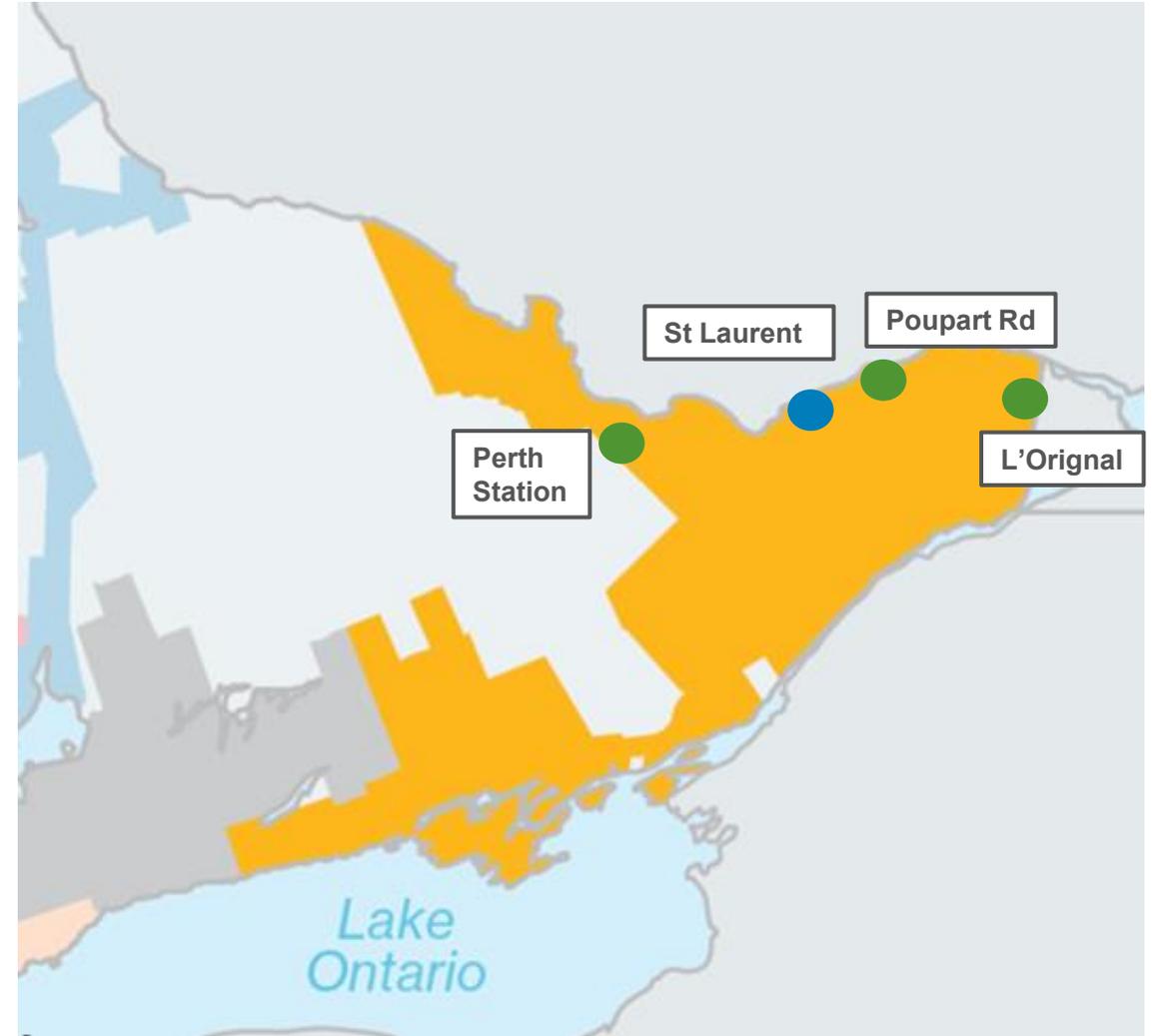
Key Projects: Northern & Eastern Regions

Growth Driven Investments

- L'Original Reinforcement
- Perth Station
- Poupart Rd Rockland
- 8 other growth projects

Non- Growth Driven Investment

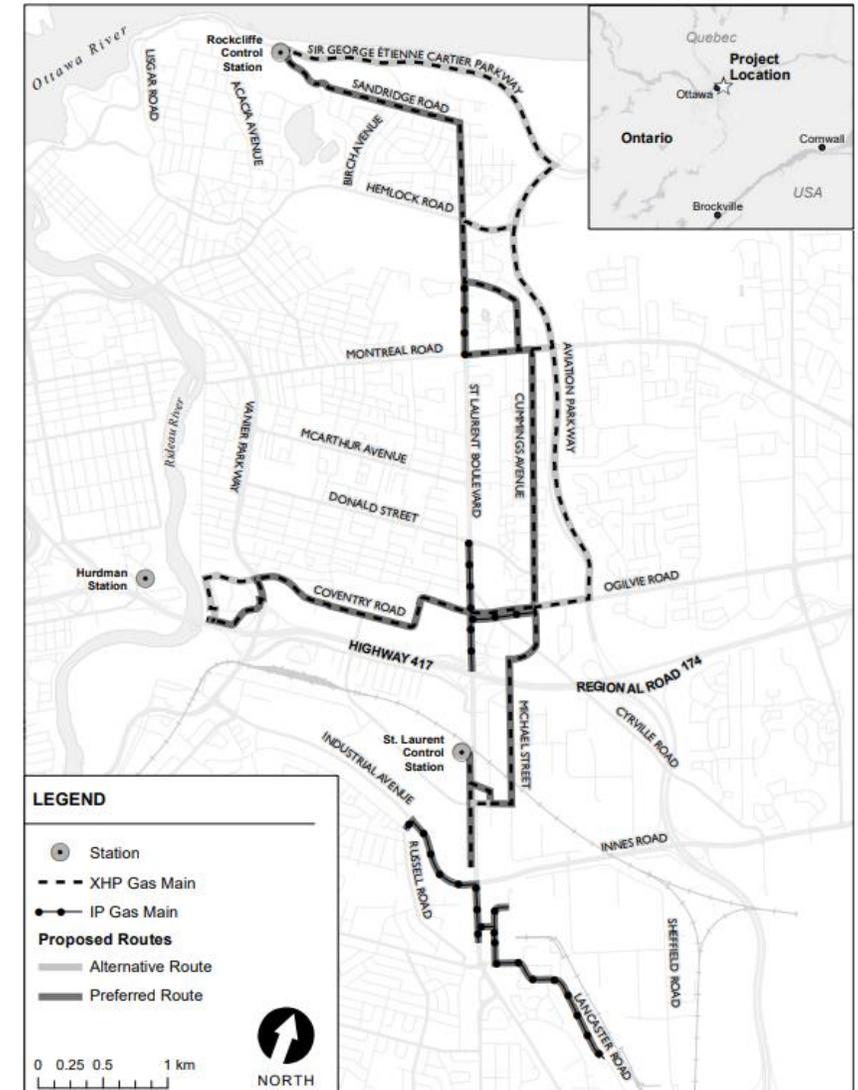
- St Laurent Replacement



St Laurent Pipeline Replacement Project

Project Summary

- Enbridge is proposing a replacement of this pipe system to ensure continued safe and reliable delivery of natural gas service to customers in the Ottawa region as well as the surrounding area including in Gatineau, Quebec
- The proposed facility replacement is 13 km of new NPS 12 and 16 extra high-pressure pipe, as well as additional intermediate pressure pipe and some ancillary facilities
- This project Fails IRP Technical evaluation,
 - ETEE is not a technically feasible alternative to downsize the NPS 16 pipeline
 - CNG cannot offset or defer a risk driven replacement project
- Project construction is anticipated for 2025 contingent on LTC approval
- Leave to construct application is currently ongoing – visit the OEB website or Enbridge website below for more information



IRP Process & Engagement

IRP process and engagement



System planning

Stakeholders: Municipal staff, LDCs, IESO and LVCCs

Determine adjustment factors based on information requests.



IRP assessment

Initiate assessment process

Conduct initial, binary and technical screening, followed by technical and economic evaluation.

Stakeholders: Municipal staff, council, LDCs, IESO, local customers and community

Inform stakeholders of potential IRPAs and gather feedback to refine the development of a potential IRP plan.



IRP plan application

IRP plan submission to OEB for approval



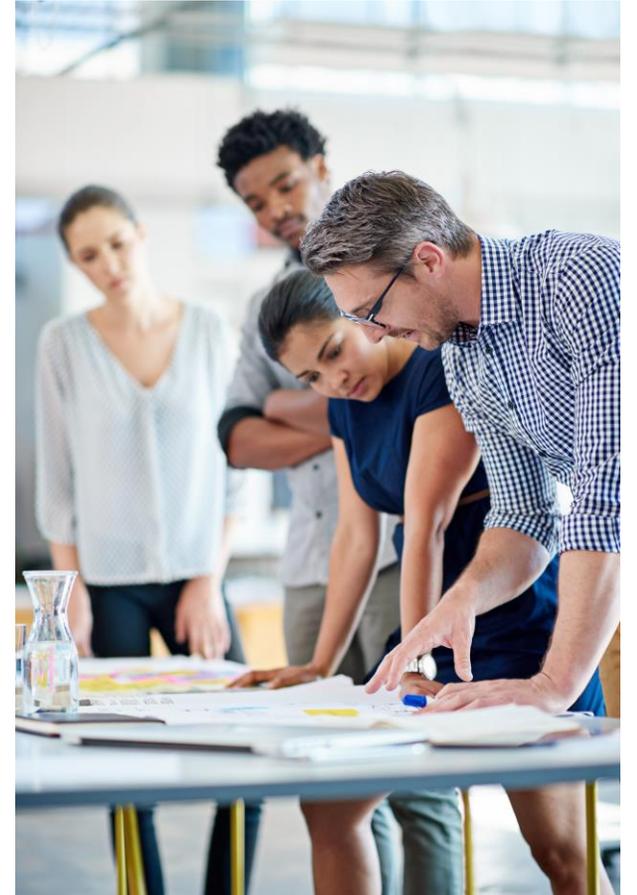
IRP plan engagement

Stakeholders: Municipal staff, council, local community

Engage community stakeholders to find synergies in programs and outreach, to support and drive participation.

System planning

- **Purpose:** Targeted regional engagement meetings to determine the need to adjust demand forecasting
- **Stakeholders:** Municipalities, LDCs (local distribution companies), IESO, and LVCCs (if applicable)
- **Information requested:** Municipal draft zoning plans, climate action or energy plans bylaws, green building or development standards, electric system capacity and constraints



IRP Assessment

- **Purpose:** Inform stakeholders of potential IRPAs and gather feedback to refine the development of a potential IRP Plan and secure support from local council
- **Stakeholders:** Municipalities, LDCs, IESO, local community
- **Information requested to inform an IRP Plan:**
 - Feedback on potential IRPAs
 - Local energy efficiency demand response programs for collaboration opportunities and synergies
 - Potential impact to demand forecast or system planning design elements

IRP Plan Engagement

- **Purpose:** Engage community stakeholders to explore program collaboration opportunities and synergies in outreach in support of promoting programs and driving participation
- **Stakeholders:** Municipalities, LDCs, local contractors and community



IRP Pilot Project and System Pruning

IRP Pilot Project Overview

Enbridge Gas has filed an application for an IRP Pilot Project in the Southern Lake Huron area

Key Pilot Objectives

- Develop an understanding of Enhanced Targeted Energy Efficiency (ETEE) and Demand Response (DR) programs impacts on peak hour flow/demand.
- Develop an understanding of the design, deployment and evaluation of ETEE and DR programs.

Proposed Pilot Budget: \$14.2M

Proposed Pilot Term: 2024 to 2027



Map of Southern Lake Huron pilot area

IRP Pilot Project overview

The Pilot Project will provide increased engagement and marketing efforts and additional incentives towards implementation of select energy saving measures to meet the objectives.

- **Residential offerings proposed:**

- Whole home offering with enhanced incentives towards building envelope measures, cold climate air source heat pumps, and ground source heat pumps
- Advanced technology offering with incentives towards select measures that reduce peak natural gas demand through a direct install delivery model
- Demand Response (DR) offering with incentives for customers who opt-in the program, allowing their smart thermostat setpoint temperature to be controlled during DR events

- **Commercial/Industrial offerings proposed:**

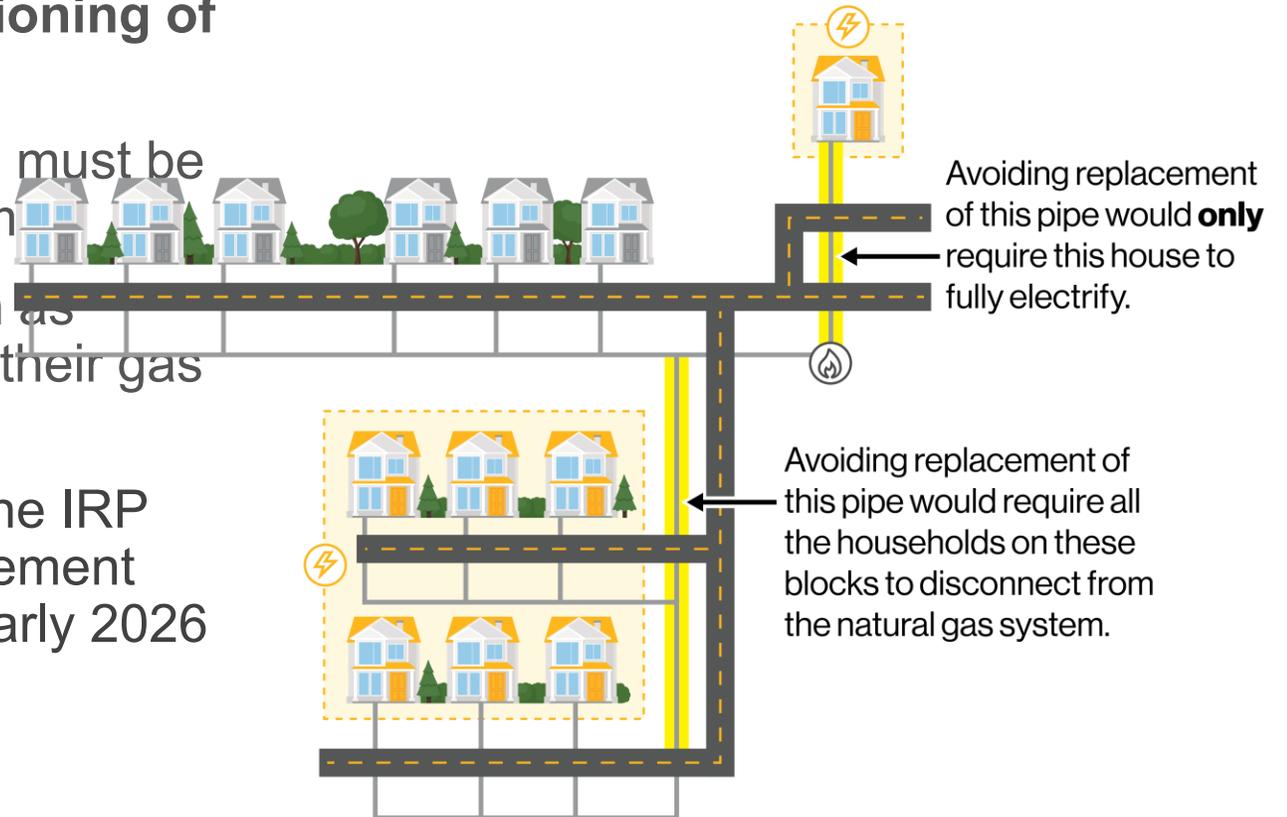
- Direct install, prescriptive and/or custom offerings with enhanced incentives for select measures impacting space heating

Enbridge Gas is awaiting a decision from the OEB on the Pilot Project Application
with planned launch of the Pilot in 2025

System Pruning

System pruning is the strategic decommissioning of a portion of the natural gas system.

- All customers served by that pipeline system must be willing to disconnect from the pipeline system
- Could be supported by an IRP solution, such as incentivizing existing customers in replacing their gas equipment with electric equipment
- Enbridge Gas is committed to working with the IRP technical working group to develop and implement one or two system pruning pilot projects in early 2026

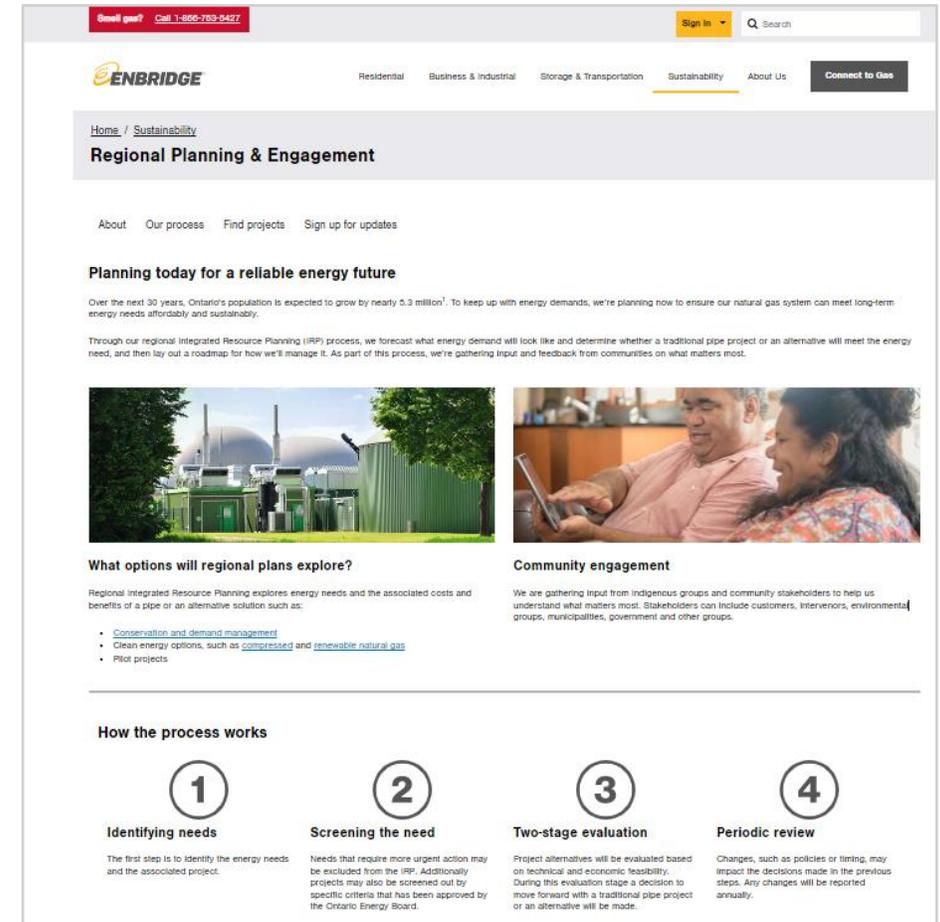


How to stay involved

Visit our Regional Planning webpage to:

- Sign up for email updates to receive information on upcoming stakeholder events and webinars
- Register for events
- Contact us at IRP@enbridge.com

Sign up for email updates today!



The screenshot shows the ENBRIDGE website's 'Regional Planning & Engagement' page. At the top, there is a navigation bar with the ENBRIDGE logo, a search bar, and links for 'Residential', 'Business & Industrial', 'Storage & Transportation', 'Sustainability', 'About Us', and 'Connect to Gas'. Below the navigation bar, the page title is 'Regional Planning & Engagement'. The main content area includes a sub-header 'Planning today for a reliable energy future' and a paragraph explaining the regional Integrated Resource Planning (IRP) process. There are two images: one of a gas processing facility and one of a man and a woman looking at a laptop. Below the images, there are two sections: 'What options will regional plans explore?' and 'Community engagement'. The 'What options...' section lists 'Conservation and demand management', 'Clean energy options, such as compressed and renewable natural gas', and 'Pilot projects'. The 'Community engagement' section explains that input is gathered from indigenous groups and community stakeholders. At the bottom, there is a section titled 'How the process works' with four numbered steps: 1. Identifying needs, 2. Screening the need, 3. Two-stage evaluation, and 4. Periodic review. Each step has a brief description of what it involves.

enbridgegas.com/sustainability/regional-planning-engagement

Q&A

Thank you
