NORTHLAND POWER

Thorold Expansion Bid

Municipal Endorsement

Northland Overview

- Northland is a **leading global power producer** at the forefront of the **global energy transition**
- **Over 35 years of success** developing, constructing and operating power projects across a range of technologies
- Well-diversified portfolio of high-quality power infrastructure assets: over **3 GW of operating capacity**
- **Majority of revenues** under long-term contracts with highly creditworthy government counterparties
- **Significant development opportunities** across multiple markets and technologies: **20 GW** development pipeline to support growth
- **Significant depth of management experience** across a number of disciplines including renewable power project development, project finance, construction and operations.
- **Strong environmental and health & safety record**

Responding to IESO's Call to Enhance Reliability

The IESO is running a series of procurements, targeting 1,500 MW of new natural gas capacity*, including a Long-Term (LT1) RFP that seeks resources to be in-service between 2026 and 2028 to address provincial and regional needs.

A key partner in Ontario's energy sector, Northland is answering this call with **plans to bid a new 200 MW peaking plant at Thorold into the IESO's LT1 RFP** – enough to power over 100,000 homes at peak.

As a trusted and experienced operator of natural gas facilities, Northland is dedicated to optimizing its facilities for operational excellence and community benefits.

Municipal Endorsement

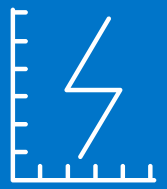
Northland Power is seeking a municipal endorsement from the City of Thorold to support the development, construction, and operation of an expansion at the existing Thorold power plant.

*IESO's Resource Eligibility Interim Report

Project Benefits

Local Employment

Thorold will continue to support 19 full time positions until 2040. The expansion will also extend the life of employment for contractors, adding approx. 200-500 new opportunities for construction contract employment in 2025 and 2026.



Economic Boost

Local businesses will experience increased activity due to the spin-off opportunities created by the expansion during development, construction, and operations.

Property Taxes

Thorold's property tax contribution will be secured until at least 2040 and will increase with the construction of a new building to house the expansion project.

Reliable Grid Capacity

Provincial and regional capacity/reliability will increase by 200 MW – enough to power over 100,000 homes at peak.

OUR FOOTPRINT IN ONTARIO

Our Footprint in Ontario

Our story begins in Ontario, Canada in 1987. Today, we remain true to our Canadian roots with an active and growing portfolio of projects.

- Northland has been building and operating efficient natural gas facilities since 1990. Located in Ontario and Saskatchewan, our gas turbines generate **3,308 GWh annually.**
- Our four facilities – **Kirkland Lake, North Battleford, Spy Hill and Thorold** – use turbines to produce electricity in an efficient, reliable and environmentally responsible manner.
- Beyond natural gas, Northland owns and **operates 4 onshore wind farms, 11 solar farms, and has 2 energy storage projects** in development.

Growing Demand for Electricity in Ontario

Ontario continues to require, as identified by the IESO*, **a robust supply of energy from natural gas** to maintain cost-effective reliability, as capacity gaps emerge and to support existing and new clean technologies.

Reduction in energy supply due to:

- Retirement of the Pickering Nuclear Generating Station
- Other nuclear refurbishment outages
- Expiring contracts

Increase in energy demand due to:

- Population growth

  Electrification of certain sectors, including the transportation sector and electric vehicles
- Economic growth in the mining, industrial, and agricultural sectors

*IESO's Resource Eligibility Interim Report

The Role of Natural Gas in the Short Term

Northland's bid for a new simple cycle peaking plant at Thorold Cogeneration Station will add 200 MW of capacity, not energy, with IESO's expectation that it will act as a back-up resource to support and stabilize the regional energy grid, producing little energy and emissions*.

- Natural gas provides Ontario's electricity system with flexibility, reliability and security as population and economic growth across the province continues to drive demand for electricity.
- Thermal is necessary to balance out the province's renewable portfolio and is used in times of variability when the wind isn't blowing or the sun isn't shining
- Without new natural gas capacity to fill gaps in the short-term, IESO would be reliant on emergency actions such as rolling blackouts to stabilize the grid.
- Natural gas expansions can be located closer to demand sources and on existing footprints, reducing the need for large transmission upgrades.
- Continuing to use natural gas in a limited way will allow businesses and consumers to continue with their electrification plans and decarbonize the electricity system without risking reliability or economic growth.

*IESO's Resource Eligibility Interim Report
IESO's Pathways to Decarbonization Report

Plant Specifications and Considerations

- The new 200 MW 7F.04 simple cycle peaking plant will have enough capacity **to power over 100,000 homes at peak**.
- Emissions from the new high-efficiency gas turbine will be **40% lower than government standards**, mitigating environmental impact.
- The power contract from the IESO is for **capacity only, not energy** – meaning that the expansion project will only operate during high demand times when electrical energy is most needed.
- This gas turbine is **designed to ramp up and down very quickly (40MW/minute)** to balance the load of Ontario's renewable generation portfolio while enabling further penetration.
- The new simple cycle peaking plant will be capable of burning a natural gas and hydrogen blend, and **with modifications could run on 80% hydrogen* in the future** as we look to transition to further clean energy solutions.

*GE 7F Heavy Duty Gas Turbine Fact Sheet

COMMUNITY PARTICIPATION

Community Investment

Building strong relationships with local communities is rooted in Northland's values.

Northland Power has been active and contributing members of the City of Thorold for more than 10 years. Over this time, we have provided funding for various locally-inspired programs and initiatives including:

- McAdam Park Thorold Community Splash Pad
- Endangered species plantation
- Wildflowers and shrubs plantation
- Rain Garden & Native tree infilling

A few of our supported organizations:

Community Engagement Planning

- Northland will be running community engagement prior to formally asking the municipality for a letter of endorsement, including:
  - A project website where viewers can learn more about the project
  - Contact information to ask questions about the project
  - Two town hall meetings (one in person and one virtual)
  - A community open house and BBQ
  - Notification of the project sent to our neighbors
- Formal request for endorsement will be made at the Council meeting on August 1.
- Project Timelines:

Milestone	Timing
Community Engagement	June through July 2023
Formal Endorsement Request	August 1, 2023
Project Bid Due	October/November 2023
Bid Award	Q1/Q2 2024
Project In-service	May 1, 2027

Plant Statistics and Location

- **19** People On-Site
- 4748 Consecutive days without a **Lost Time Accident**

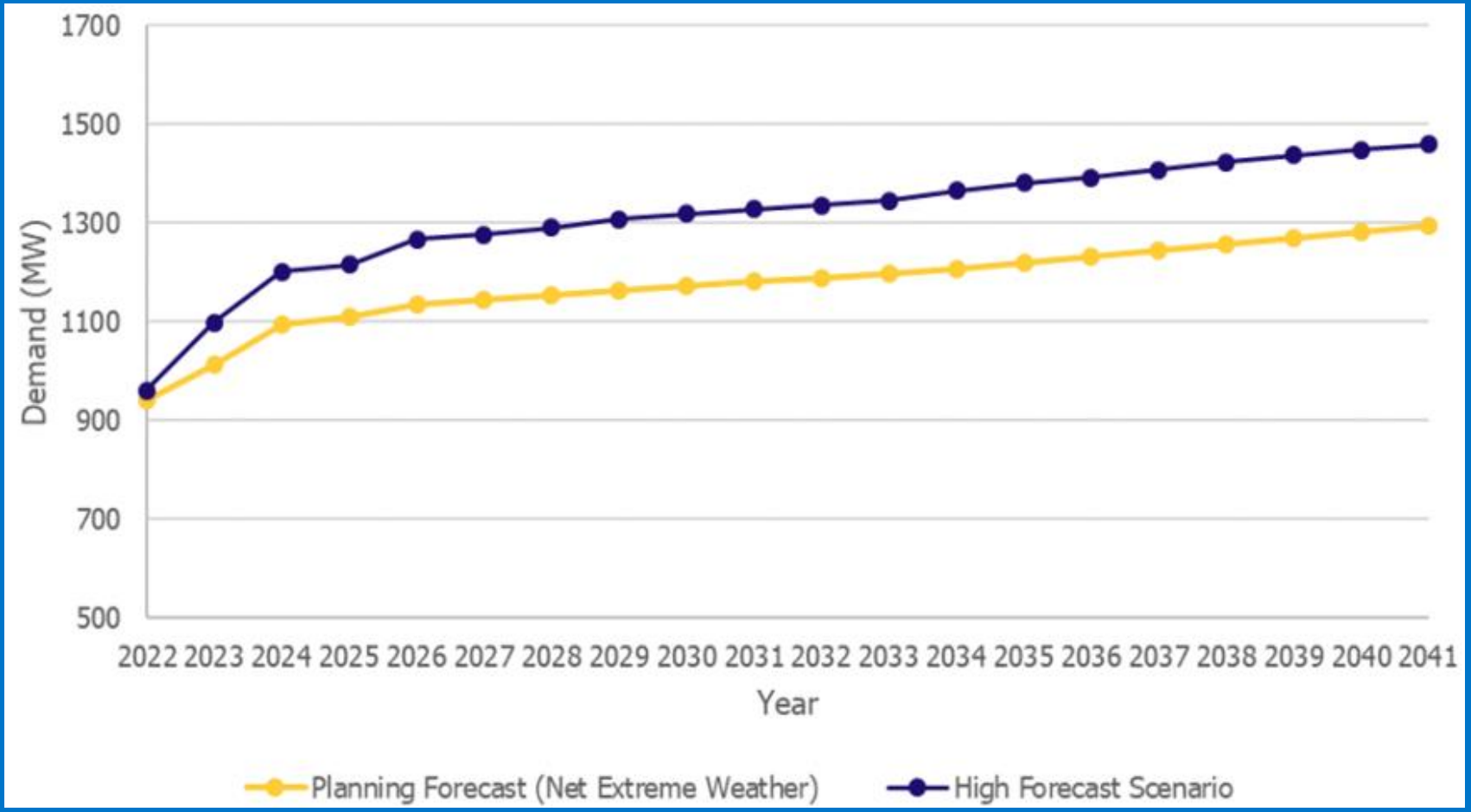
90 Allanburg Rd

Thorold, ON L2V 0A8

APPENDIX

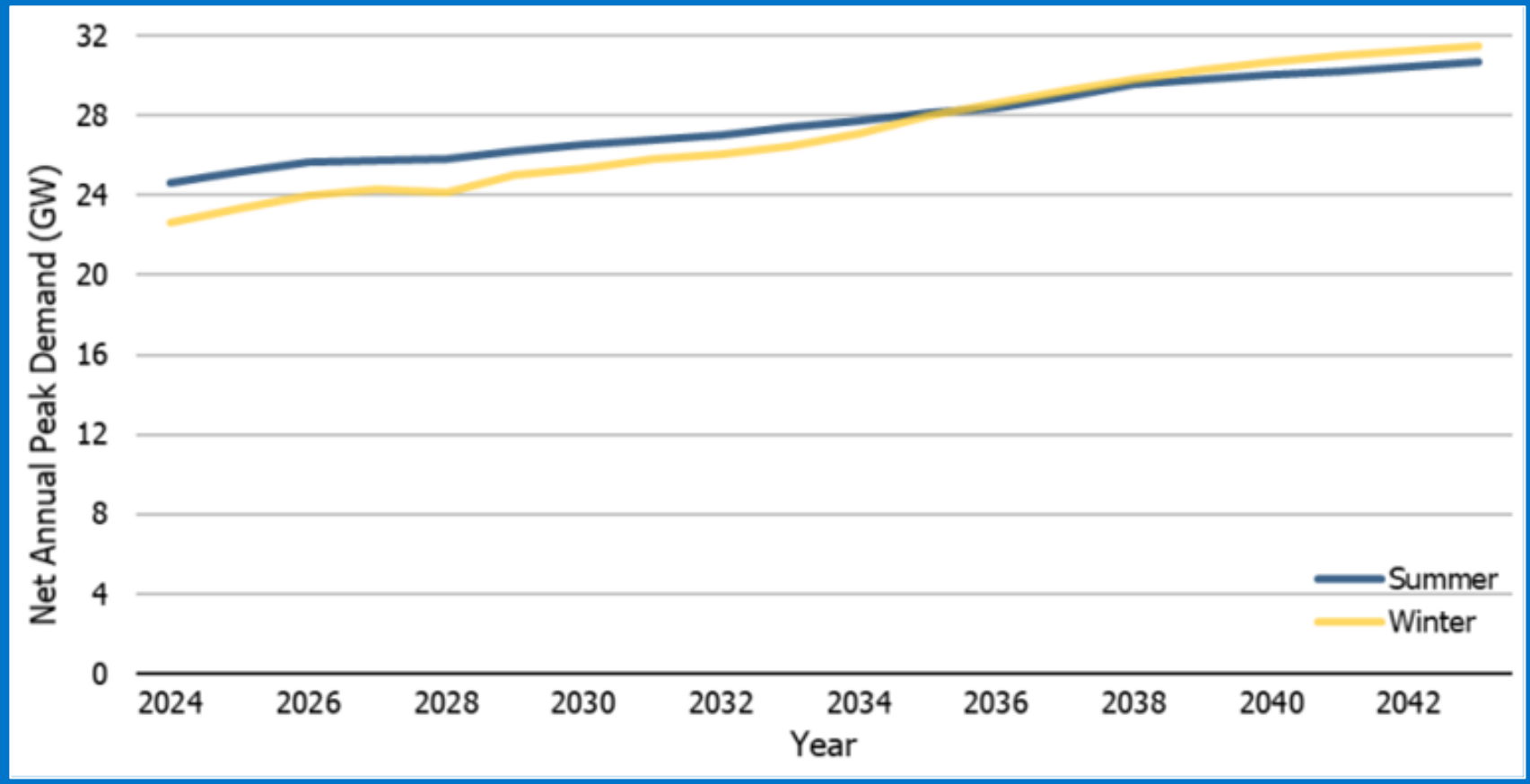
Demand Forecast

Niagara Regional Demand Forecast



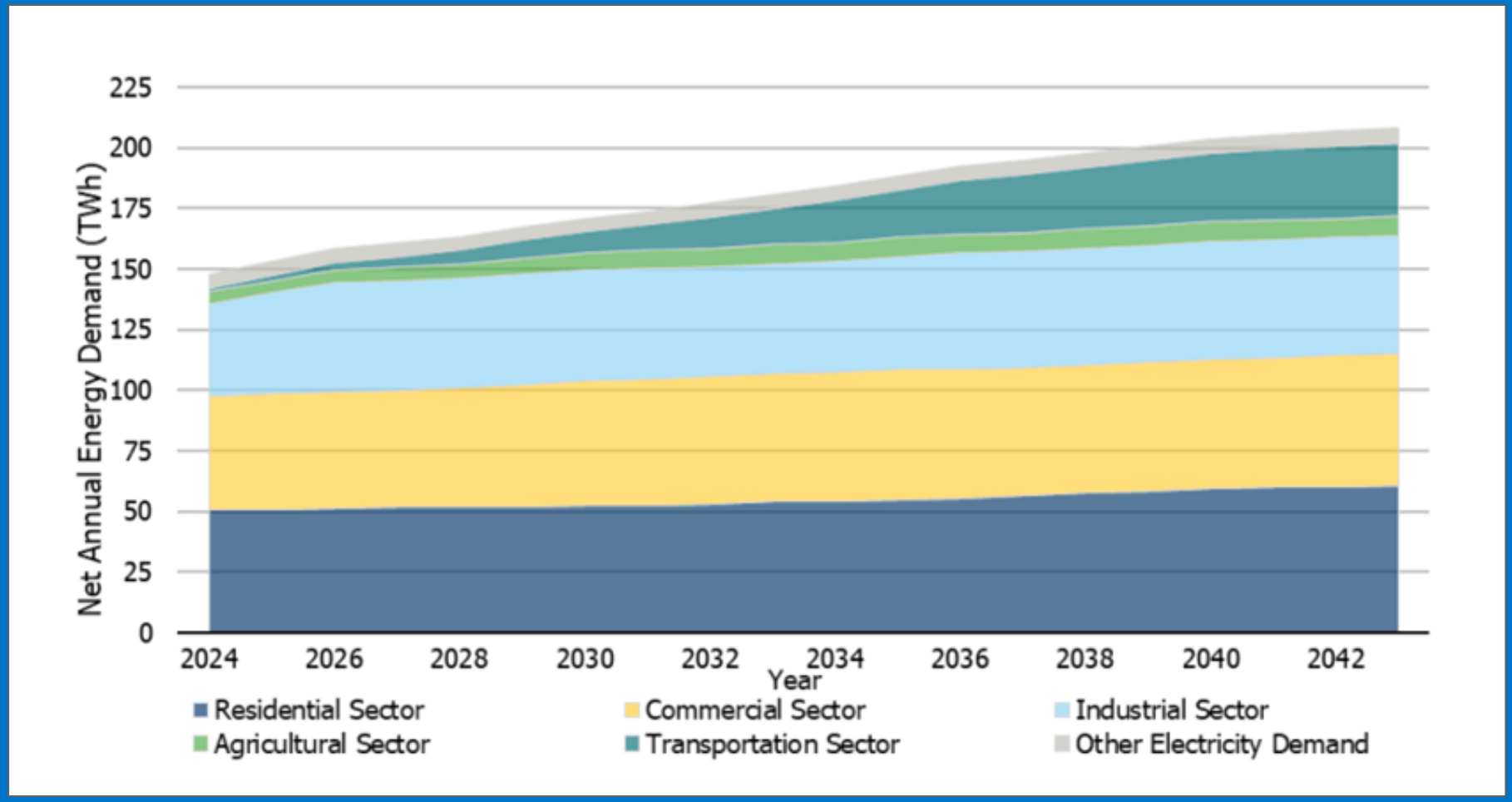
Source: IESO's Niagara Integrated Regional Resource Plan – December 22, 2022

Ontario Demand Forecast



Source: IESO's 2022 Annual Planning Outlook

Provincial Demand By Sector



Source: IESO's 2022 Annual Planning Outlook


NORTHLAND
POWER