



JULY 16, 2026

Sudbury Algoma Area Regional Electricity Planning

Webinar #1: Demand Forecasts

Territory Acknowledgement

The IESO acknowledges that the Sudbury Algoma Region is the traditional territory of the Anishinaabe, including the Ojibwe, the Odawa and the Potawatomi peoples, encompassing areas covered by the Manitoulin Island Treaty and the Robinson-Huron Treaty

The IESO would also like to acknowledge all First Nations, Inuit and Métis peoples and their valuable past and present contributions to this land

Agenda

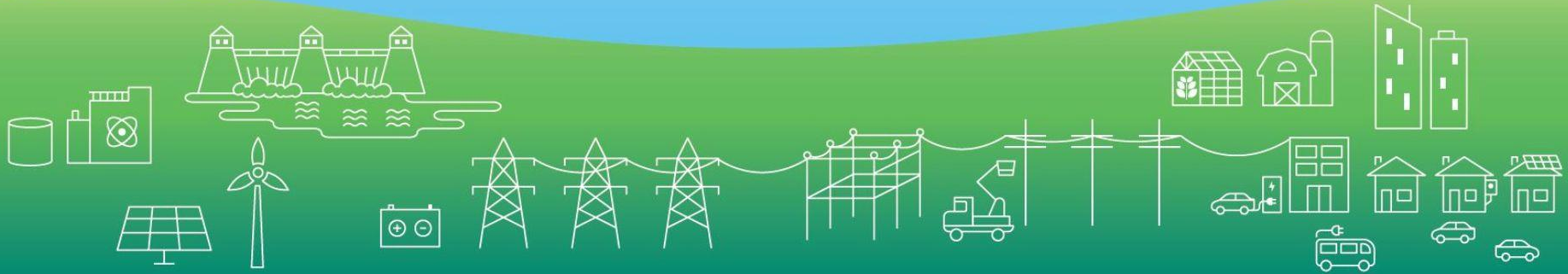
1. Ontario's Electricity Sector and IESO's Role
2. Regional Electricity Planning Process
3. Draft Electricity Demand Forecasts
4. Engagement and Next Steps
5. Discussion

Our Commitment to Respectful Participation

- One speaker at a time; please raise your hand to enter the speaking queue
- Keep remarks concise (approximately 60-90 seconds) and focused on the agenda topic
- Avoid repeating points already covered; detailed feedback may be submitted in writing for follow-up
- Maintain a respectful tone at all times
- The IESO may redirect discussion to keep the agenda on track
- Participants that are unable to participate respectfully by adhering to these principles may have their microphone disabled



Connecting Today.
Powering Tomorrow.



We work with:



Seeking Input

Local considerations and feedback are a critical component to the planning process. The IESO wants to hear from you:

- What additional information, if any, should be incorporated in the demand forecast scenarios?
- What concerns or interests about electricity should be considered as part of the regional planning process?
- What information is important to provide throughout the engagement and draft Engagement Plan?

Please submit your written comments by email to engagement@ieso.ca by July 31, 2026



Regional Electricity Planning Process

Electricity Planning in Ontario



Provincial/Bulk System Planning

Addresses provincial electricity system needs and policy directions

Underway: [North of Sudbury](#)



Regional Planning

Addresses local electricity system needs at the transmission system level

Underway: Sudbury Algoma Regional Electricity Plan



Distribution Planning

Addresses local electricity system needs and priorities at the distribution system level

Led by local distribution companies

Regional Electricity Planning Process

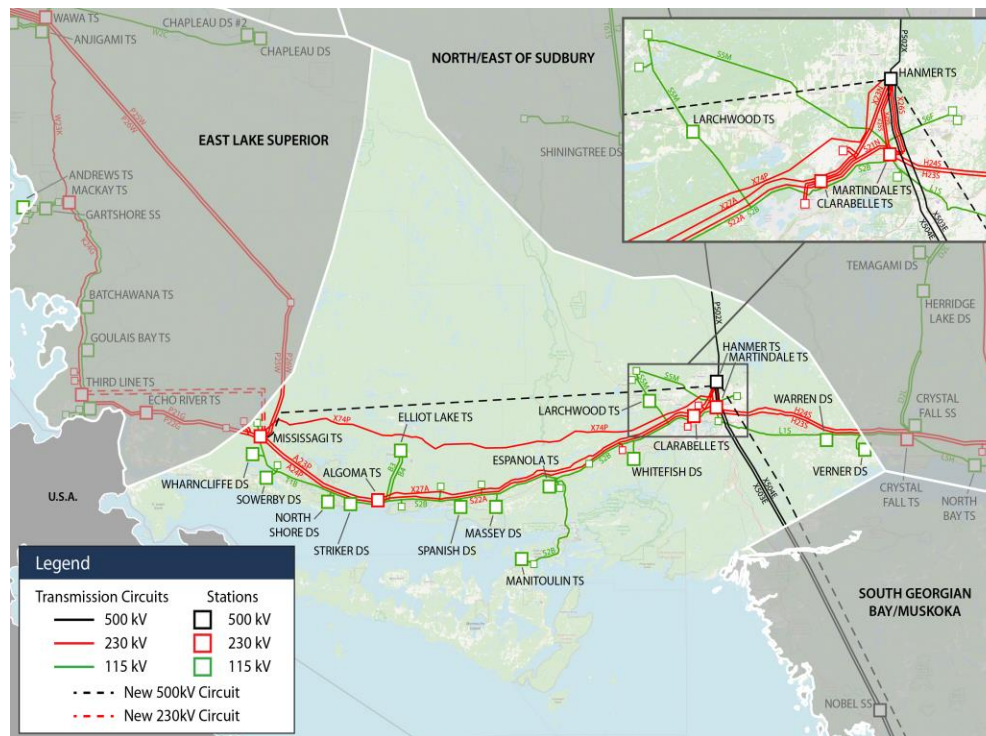
The regional system planning process ensures an affordable and reliable supply of electricity across Ontario. The process looks at the unique needs of each region, and considers a range of options and resources to keep the lights on

The regional plan for the Sudbury Algoma electrical area will be developed by a Technical Working Group, led by the IESO, and consisting of the local distribution companies and the transmitter, including, Hydro One Networks Inc., Sudbury Hydro Inc., and North Bay Hydro



Sudbury Algoma Electrical Region

- Several municipalities in the Districts of Algoma, Manitoulin, Nipissing and Sudbury are encompassed in this region
- The area is serviced by several transformer stations (TS) supplied from 115 or 230 kilovolt (kV) lines
- There are a number of 230 kV circuits between Hanmer TS, Martindale TS, and Mississagi TS (located near Wharncliffe)
- These circuits serve load stations and provide a bulk transmission path that connects the East Lake Superior and Northwest Planning Regions to the remainder of the power system via 500/230 kV autotransformers at Hanmer TS



Past Regional Planning Approach

- Identified needs were primarily related to end-of-life (EOL) asset replacement, such as aging transformers and transmission equipment
- These types of needs are localized and technical in nature, and can typically be addressed at individual stations without requiring coordinated regional solutions
- As a result, needs were addressed through Regional Infrastructure Plans (RIPs) rather than a broader Integrated Regional Resource Plan (IRRP)

Regional Planning Outcomes

- Separating the 230 kV circuit X25S (located in Greater Sudbury) into two separate circuits, improving system reliability and operational flexibility
- End-of-life autotransformer replacement at Martindale (located in Greater Sudbury) and Algoma (located near Blind River), addressing aging infrastructure to maintain reliable voltage transformation capability and overall system performance
- Increasing Manitoulin TS (located in Manitoulin Island) station capacity, supporting load growth and improving system capability to meet increasing demand in the area
- End-of-Life transformer replacements at Elliot Lake, Clarabelle (located In Greater Sudbury) and Martindale, addressing aging assets to improve reliability and ensure continued service performance

Bulk Planning Projects Impacting the Region

- **Northeast Bulk Plan:** Three new transmission lines (planned completion in 2029-2030) to increase transfer capability west of Sudbury, improving regional supply deliverability and supporting load growth
- **Northern Ontario Voltage study:** Identification and installation of static and dynamic reactive power devices (in-service from 2025-2029), improving voltage performance and overall grid reliability
- **Northern Ontario Bulk Plan:** New transmission line to address bottlenecks and increase capacity in Northeastern Ontario, relieving congestion and increasing overall supply capacity

Regional Planning Milestones for Sudbury Algoma



Components of a Regional Plan



Demand Forecast

How much power is needed over the planning timeframe?

Needs

What needs are emerging in the region that need to be addressed?

Potential Solutions

What kinds of solutions can meet the future needs for the region?

Recommendations

Based on an assessment of potential options, what recommended actions will ensure a reliable and adequate electricity supply for the region over the long-term?

Summary of Feedback Received

Feedback	Consideration of Feedback into Scoping Assessment Outcome Report
Growth, policy, and development inputs should be considered in the development of the IRRP forecast	As part of the first step in the IRRP, the Technical Working Group (TWG) develops forecast scenarios based on known demand drivers including economic development plans and projects, housing and population plans and development, municipal energy plans, and electrification and decarbonization targets. Planning for multiple scenarios allows the IESO to identify a range of options, and to trigger them based on need, allowing for quicker action in the future if, and when, higher growth materializes
Desire for continued engagement opportunities to support the development of the IRRP	The IESO is committed to continuing to engage with all interested parties in the Sudbury/Algoma electrical region on the development of this plan and the Technical Working Group welcomes input and perspectives as part of the regional plan to consider the individual needs of each area in the region As part of the public engagement process the IESO welcomes the views and preferences from interested parties, for consideration in the development of the IRRP
Early recommendations provided on potential solutions to meet current electricity needs in Sudbury/Algoma	

To review the feedback and IESO response, please visit the [Sudbury Algoma engagement webpage](#).



Draft Electricity Demand Forecasts

Developing the Demand Forecast

Local distribution companies (LDCs) provide the primary inputs to the demand forecast, and they:

- Provided summer and winter demand forecasts for each station their areas are supplied from
- Incorporated municipal and community plans into their forecasts
- Established forecasting assumptions based on customer growth plans
- Local distribution companies (LDCs) have provided detailed documentation of their load forecast methodologies, which has been published on the IESO's engagement webpage.

The IESO, working with the Technical Working Group (TWG) which includes LDC and transmitters:

- Accounts for impacts of existing demand side management programs, planned distributed generation, and extreme weather conditions in the electricity demand forecasts
- Works directly with customers and industry stakeholders to create demand forecasts for large electricity consumers that may seek connection on the transmission system
- Works with the LDC to ensure that additional insights from municipalities, customers, and other interested parties have been incorporated in the demand forecasts for the regional planning process

Local Planning Drivers

Important considerations that influence the load forecasts:



Municipal/regional growth plans



Climate change action plans



Community energy plans



Business plans of major electricity consumers or large projects



Distributed energy resources/energy projects

Local Distribution Companies incorporate these drivers into the electricity demand forecast

Forecast Scenarios

- Two scenarios are proposed for the Sudbury Algoma Area:
 - **Reference:** business as usual – firm loads (current and planned), current growth trends, current plans, etc.
 - **High:** incorporate potential demand growth that is less certain (e.g. projects and developments at earlier stages of planning)

A Low forecast was considered but not developed due to the small number of needs identified in previous planning stages

Plan recommendations will primarily be driven by the reference demand forecast. The high forecast scenario will be considered to identify signposts to advance the next cycle of regional planning, and to identify risk mitigation should higher demand growth materialize

Hydro One Networks Inc.- Demand Forecast Methodology

As part of developing the demand forecast for Hydro One Networks Inc. within the Sudbury Algoma Region, the following was considered:

- Normal load growth
- Provincial and regional Economic and demographic factors (e.g., GDP and housing starts) and relation between them
- Municipal energy plans and other local information (e.g., Official Plans, building permits)
- Electrification and related government policies, including:
 - EV adoption
 - Electrification of heating system (e.g., heat pump)
 - Other (e.g., buses, industries)

Greater Sudbury Hydro - Assumptions for Load Forecast Components

Greater Sudbury Hydro load forecast components were developed using the following assumptions:

- **Electric Vehicles:** Includes light-duty passenger vehicles, DC fast chargers, and Zamboni chargers.
 - Segments light-duty passenger vehicles into Battery Electric Vehicle (BEV) and Plug In Hybrid Electric Vehicles (PHEV)
- **Building Electrification:** Estimates the electrified housing stock based on Greater Sudbury's household growth forecasts and applies energy use intensity (EUI) values for various heating systems across different housing archetypes
 - Considers new builds constructed to net-zero standards and existing residential homes undergoing retrofits
- **Baseline Customer Growth:** Includes residential loading from growth in household projections associated with the City of Greater Sudbury Official Plan
- **Large Connections:** Includes proposed commercial & industrial projects in queue, modelled and risked based on known development details
 - Considers utilization values and timelines to ramp to full load

Greater Sudbury Hydro - Reference Scenario

As part of developing the demand forecast for Greater Sudbury Hydro within the Sudbury Algoma Region, the following was considered:

- **Electric Vehicles**

- 15% EV sales target by 2035
- 45% EV sales target by 2040

- **Baseline Customer Growth**

- Projection of 49,874 households by 2045

- **Building Electrification**

- 70% of new residential homes built to net-zero standards by 2050
- 80% of existing residential homes retrofitted by 2050

- **Large Connections**

- 11 large connections on Martindale TS
- 5 large connections on Clarabelle TS

Greater Sudbury Hydro- High Scenario

As part of developing the demand forecast for Greater Sudbury Hydro within the Sudbury Algoma Region, the following was considered:

- **Electric Vehicles**
 - 75% EV sales target by 2035
 - 90% EV sales target by 2040
- **Baseline Customer Growth**
 - Projection of 50,632 households by 2045
- **Building Electrification**
 - 70% of new residential homes built to net-zero standards by 2040
 - 100% of existing residential homes retrofitted by 2050
- **Large Connections**
 - 14 large connections on Martindale TS
 - 5 large connections on Clarabelle TS

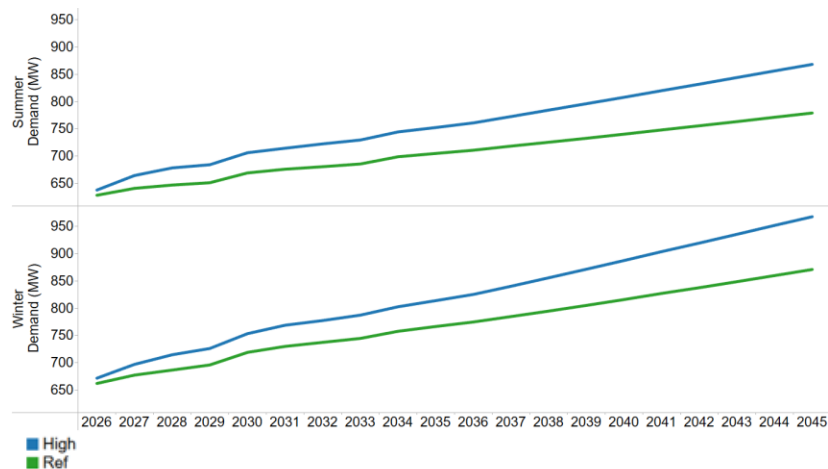
Draft Sudbury Algoma Area Forecasts

Key takeaways - Reference Scenario:

- Summer: 1.1% avg growth, 24% over 20 years
- Winter: 1.4% avg growth, 31% over 20 years
- Driver: LDC and transmission connected wholesale consumers

Key takeaways - High Scenario:

- Summer: 1.6% avg growth, 36% over 20 years
- Winter: 1.8% avg growth, 44% over 20 years
- Driver: LDC and transmission connected wholesale consumers



Sudbury Algoma Forecast Insights

- Transmission connected demand is driven by mining, forestry products
- Distribution connected demand is driven by commercial, industrial and residential growth
- Provide the IESO with details on large transmission-connected projects not yet connected to the system, if your organization has not already submitted this information, for inclusion in the forecast.

Energy Efficiency Opportunities

- To help meet the province's rapidly growing demand for electricity, the IESO's energy efficiency programs, through Save on Energy, has been expanded from \$1 billion over four years, to \$10.9 billion over 12 years
- Key programs of interest to your municipality, residents and small businesses include:
 - [Peak Perks](#) – Residential and small business electricity customers with an eligible smart thermostat can be rewarded for reducing their energy use when demand for electricity is high in the summer
 - [Home Renovation Savings](#) – Homeowners can get rebates up to 30% for home energy efficiency renovations and improvements
 - [Retrofit](#) – Facility/building owners and lessees can get up to 50% of eligible project costs covered for targeted energy efficiency retrofits
 - [Energy Affordability Program](#) – Support for income-eligible electricity customers to better manage monthly electricity costs and increase their home comfort
- To stay informed of the latest program updates, [sign up for the quarterly newsletter](#)



Engagement and Next Steps

Ongoing Engagement

Your input plays an important role in developing the electricity plan



Participate in upcoming public webinars



Subscribe to receive updates on the IESO website → select Sudbury Algoma



Follow the Sudbury Algoma regional planning activities [online](#)

Next Steps

The IESO will continue to engage throughout the IRRP's development. Upcoming milestones include:

- **July 31, 2026:** Feedback from Public Engagement Webinar due
- **Q3-Q4 2026:** Share Needs and Screened-in Options, and seek feedback
- **Q1-Q2 2027:** Share Option Analysis and Draft Recommendations, and seek feedback
- **Q3 2027:** Sudbury Algoma IRRP will be completed and published on the engagement webpage

After IRRP: Depending on the recommendations of the IRRP, the following next steps can be expected:

- For wired solutions, the transmitter will lead the development of a Regional Infrastructure Plan, which assesses and develops a detailed plan on how wire options can be implemented
- For non-wire solutions, implementation mechanisms for new resources and energy efficiency programs will be determined following plan publication

Seeking Input

Local considerations and feedback are a critical component to the planning process. The IESO wants to hear from you:

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Please submit your written comments by email to engagement@ieso.ca by July 31, 2026

Thank You

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Appendix

Communities within the Sudbury Algoma Area

The electrical region encompasses the:

- Municipalities – the District of Algoma including the City of Elliot Lake, the Municipality of Huron Shores, the Towns of Blind River and Spanish, and the Township of the North Shore. The District of Manitoulin including Municipalities of Central Manitoulin and Gordon/Barrie Island, the Town of Northeastern Manitoulin & Islands and the Townships of Assiginack, Billings, Burpee and Mills, Cockburn Island and Tehkummah. The Municipality of West Nipissing in the District of Nipissing, the City of Greater Sudbury and the District of Sudbury including, the Municipalities of French River, Killarney, Markstay–Warren, St. Charles, the Town of Espanola, and the Townships of Baldwin, Nairn and Hyman, and Sables-Spanish Rivers
- Indigenous communities that may be potentially impacted or may have an interest based on treaty territory, traditional territory, or traditional land uses:
 - Atikameksheng Anishnawbek First Nation
 - Aundeck Omni Kaning First Nation
 - Brunswick House First Nation
 - Dokis First Nation
 - Garden River First Nation
 - Henvey Inlet First Nation
 - M'Chigeeng First Nation
 - Mississauga First Nation
 - Nipissing First Nation
 - Sagamok Anishnawbek First Nation
 - Serpent River First Nation
 - Sheguiandah First Nation
 - Sheshegwaning First Nation
 - Thessalon First Nation
 - Whitefish River First Nation
 - Wiikwemkoong Unceded Territory

Technical Working Group

Team Lead, System
Operator

- Independent Electricity System Operator

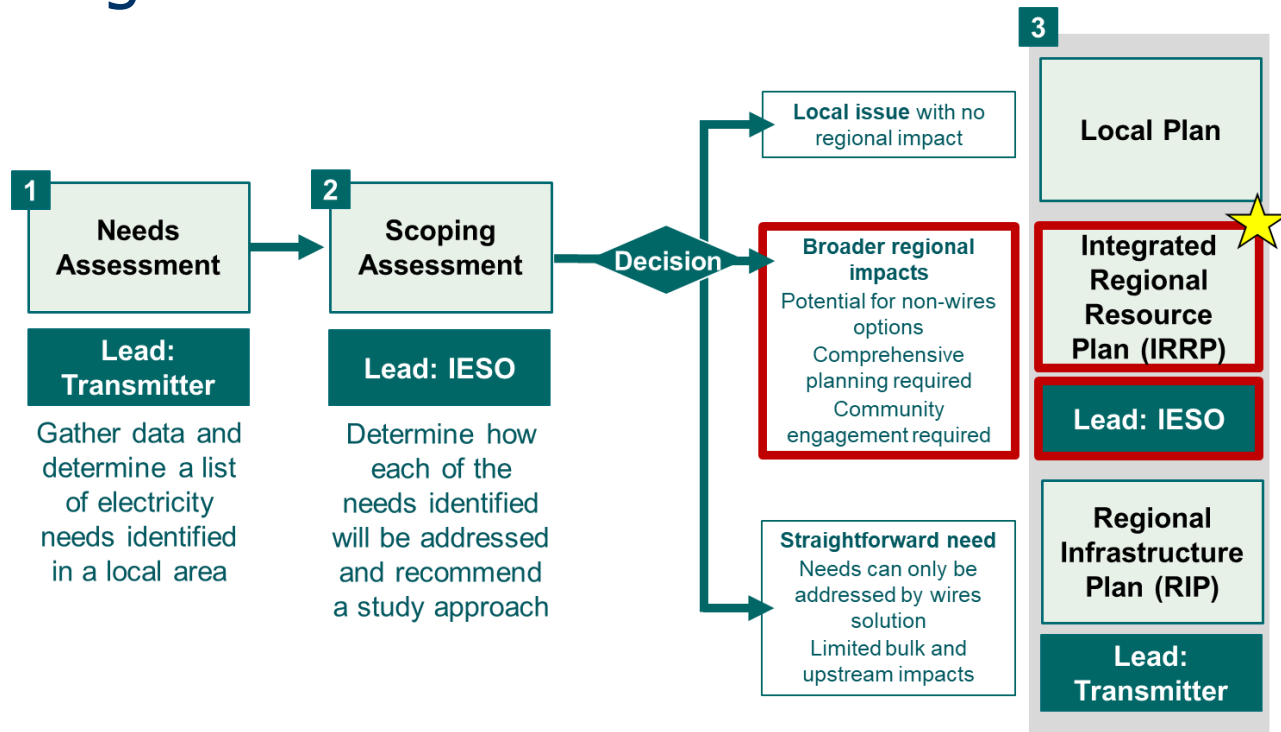
Lead Transmitter

- Hydro One Networks Inc. (Transmission)

Local Distribution
Companies

- Greater Sudbury Hydro Inc.
- North Bay Hydro
- Hydro One Networks Inc.

Determining the Need for an IRRP



Identifying Needs

Once the electricity demand forecast has been created, the IESO conducts an assessment to determine needs. Generally, needs studied in this process fall under the following categories:

- **Station capacity:** Ability of a station to deliver power from the grid down to the distribution systems
- **Supply capacity:** Ability of the system to supply power through the transmission lines to a local area
- **Asset replacement:** Station or transmission equipment has reached end-of-life
- **Load restoration:** Ability of the system to restore power after select contingencies
- **Load supply security:** Maximum amount of power that can be lost during select contingencies

Electricity Investment Costs

Cost allocation for transmission investment is set by the Ontario Energy Board (OEB), using two key principles:

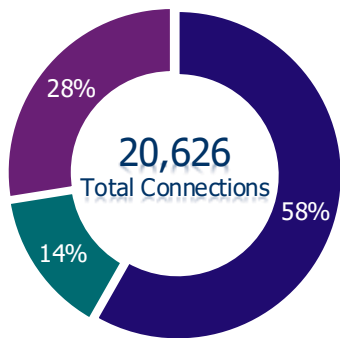
1. Approved projects have to be “just and reasonable”
 - Reference forecast based on firm loads will drive near-term to medium-term expenditures
 - Other scenarios will be used to develop plans for additional growth, but conditional on the load materializing, so as to not overburden the customers ahead of commitments
2. Benefactor pays approach
 - Costs associated to connection facilities are allocated to the connecting customer since they are dedicated to one or a small group of customers
 - Costs associated with network facilities are typically allocated to all ratepayers since they form part of a transmission system that is shared by all users

Greater Sudbury Hydro - Load Growth Scenario Comparison

	Load Driver	Reference Scenario	High Scenario
Load Growth	Baseline Customer Growth	Projection of 49,874 households by 2045	Projection of 50,632 households by 2045
	Electric Vehicles	15% of ZEV sales target by 2035 45% of ZEV sales target by 2040	75% of ZEV sales target by 2035 90% of ZEV sales target by 2040
	Building Electrification	70% of new residential homes built to net-zero standards by 2050 80% of existing residential homes retrofitted by 2050	70% of new residential homes built to net zero standards by 2040 100% of existing residential homes retrofitted by 2050
	Large Connections	11 large connections on Martindale TS 5 large connections on Clarabelle TS	14 large connections on Martindale TS 5 large connections on Clarabelle TS
Base Load	Weather normalized baseload from 2025 year used as "Load Floor"		

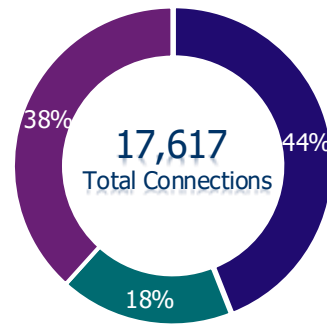
Greater Sudbury Hydro - Customer Segmentation by TS

Clarabelle TS



■ Residential ■ Commercial ■ Industrial

Martindale TS



■ Residential ■ Commercial ■ Industrial

Greater Sudbury Hydro - Large Connections - Commercial & Industrial Loads

Scenario/TS	Martindale	Clarabelle
Reference Case	- Commercial/Industrial Development (2.5 MW) - Large Commercial/Industrial Development (2.5 MVA + 5 MW) - Commercial/Industrial Development (3.3 MW) - Three New Multi-Unit Residential Buildings (3 x 1 MVA) - Commercial/Industrial Manufacturing (2.5 MW) - Large Commercial Development (2.5 MVA) - Long Term Care (1.5 MVA) - Hotel (1.5MVA) - Commercial/Light Industrial (1.5 MVA) - New Commercial/Industrial Customer (2.0MW) - Industrial Park Expansion (3.5 MW)	- Large Multi-Unit Residential Development (5 MW) - Multi-Unit Residential Development (3 X 1 MVA) 17-Bypass Industrial Park (2.5 MVA) - Downtown Event Centre (2 X 3.0 MVA) - Hospital Expansion (2 MW)
High Case (in addition to the connections in the Reference Case)	- Industrial Expansion (5 MW) - Commercial/Industrial Development (2.5MW) - Large Multi-Unit Residential (2 x 4 MVA)	