



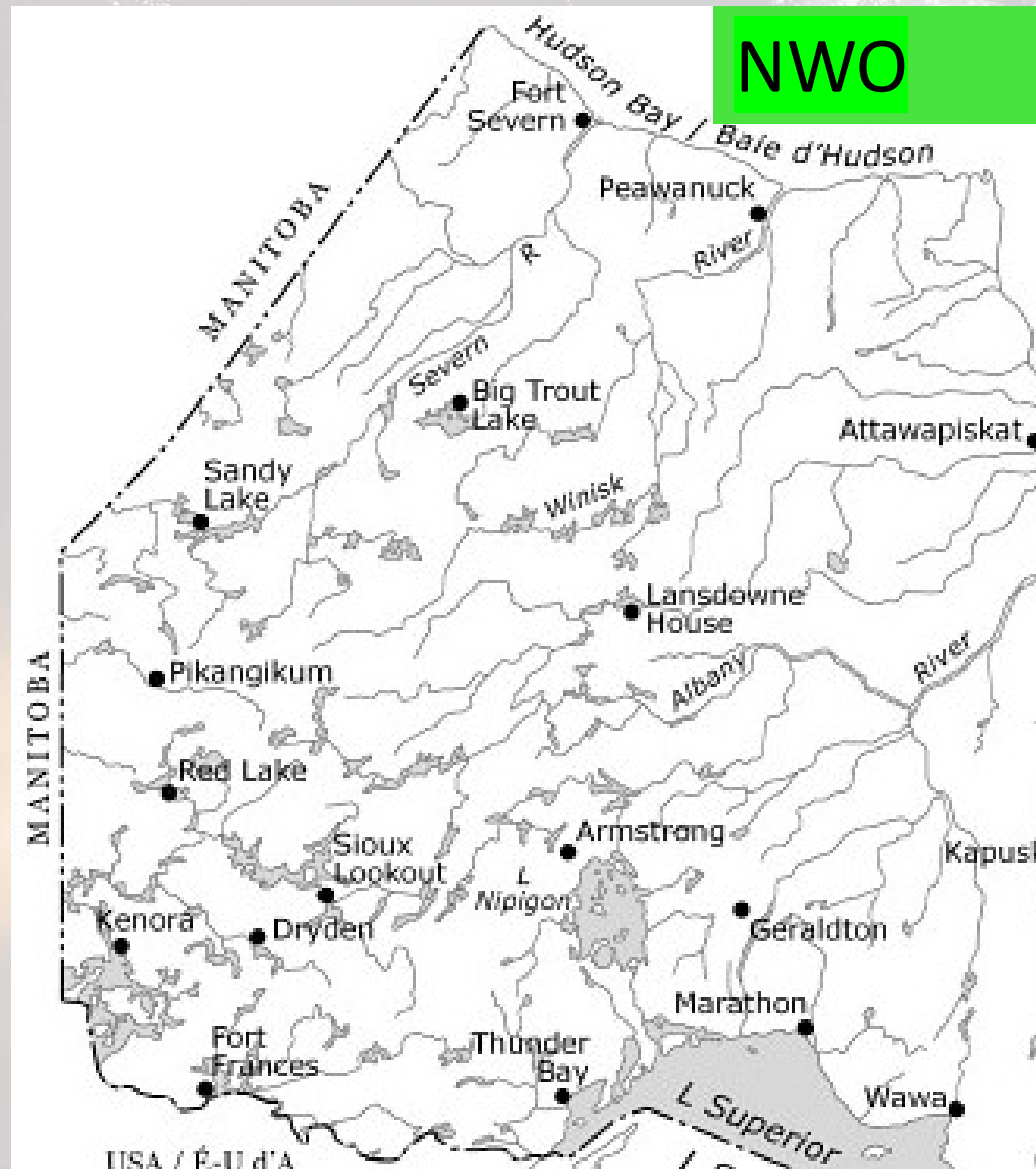
Common Voice
Northwest

Northwest Challenges and Opportunities

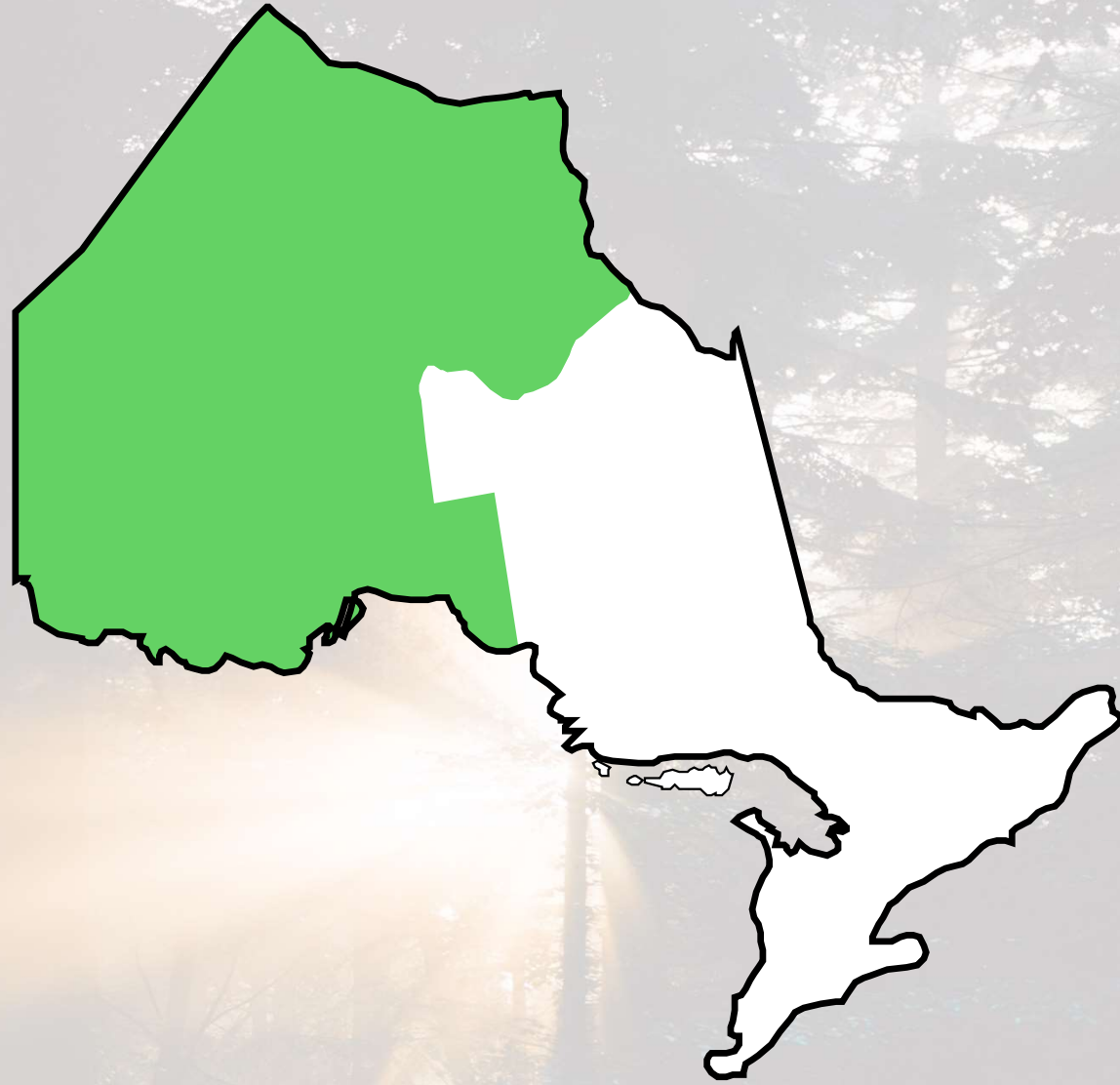
Municipal
Energy
Symposium

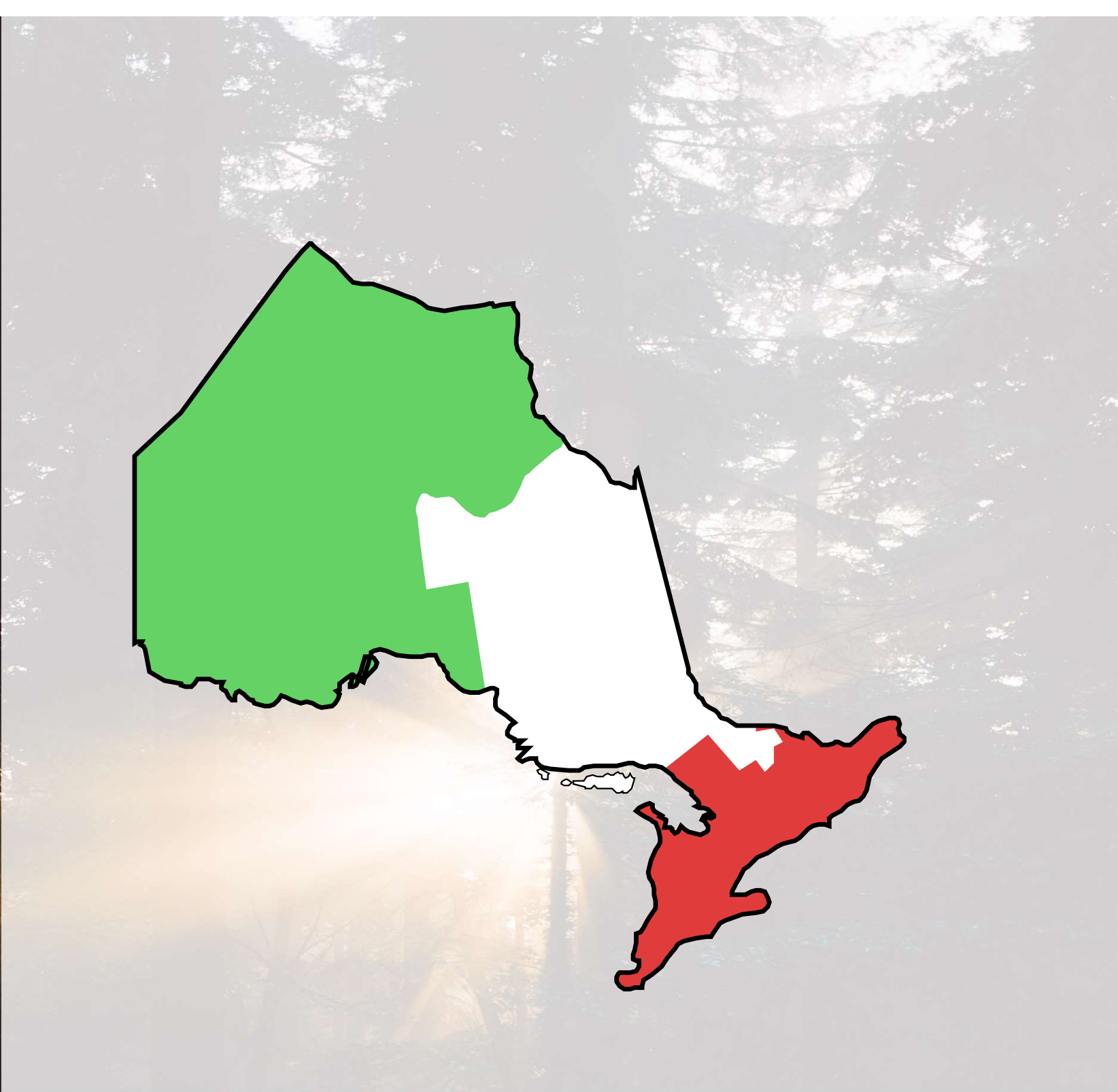


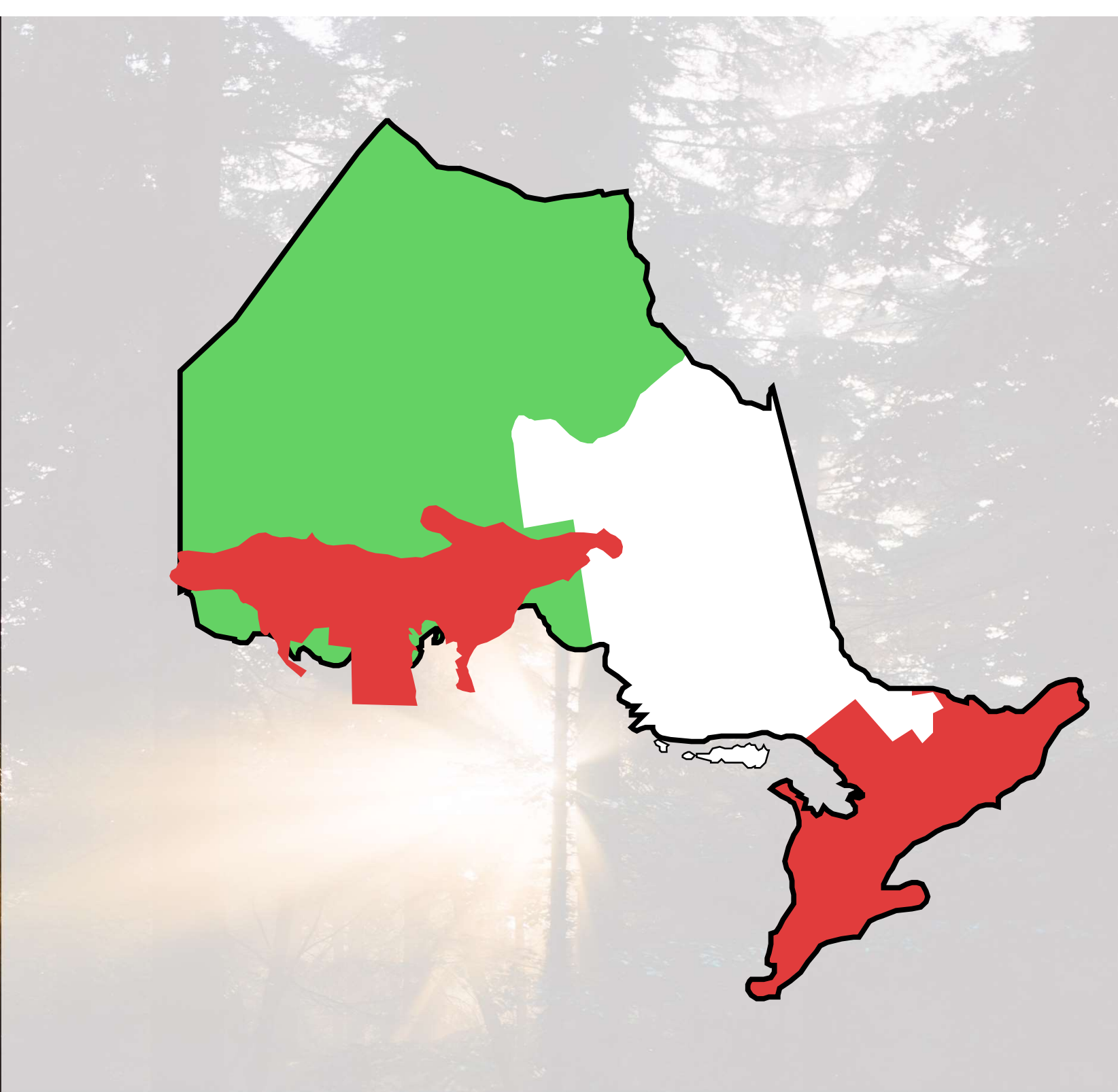
57% of Ontario's Land Area

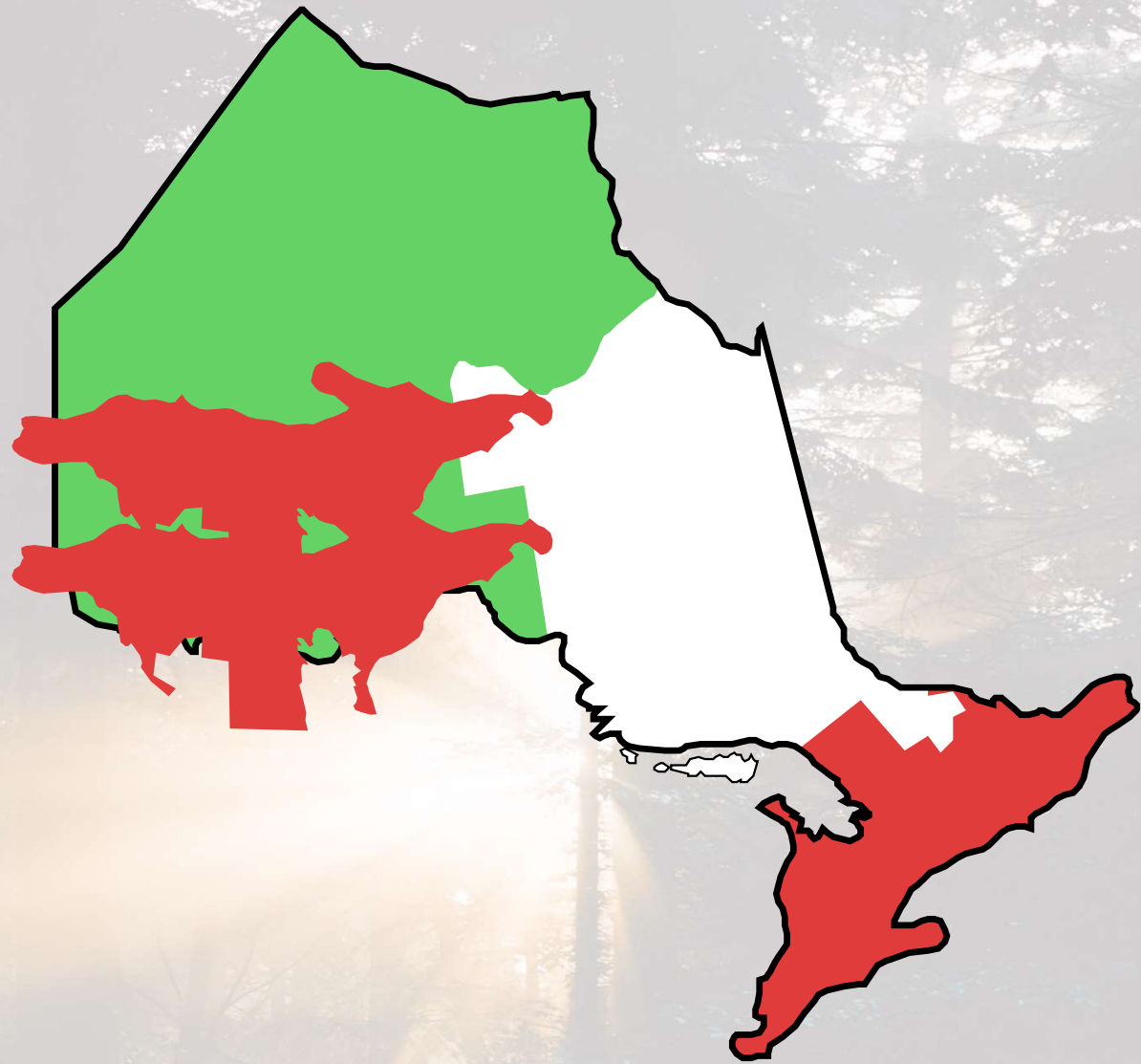
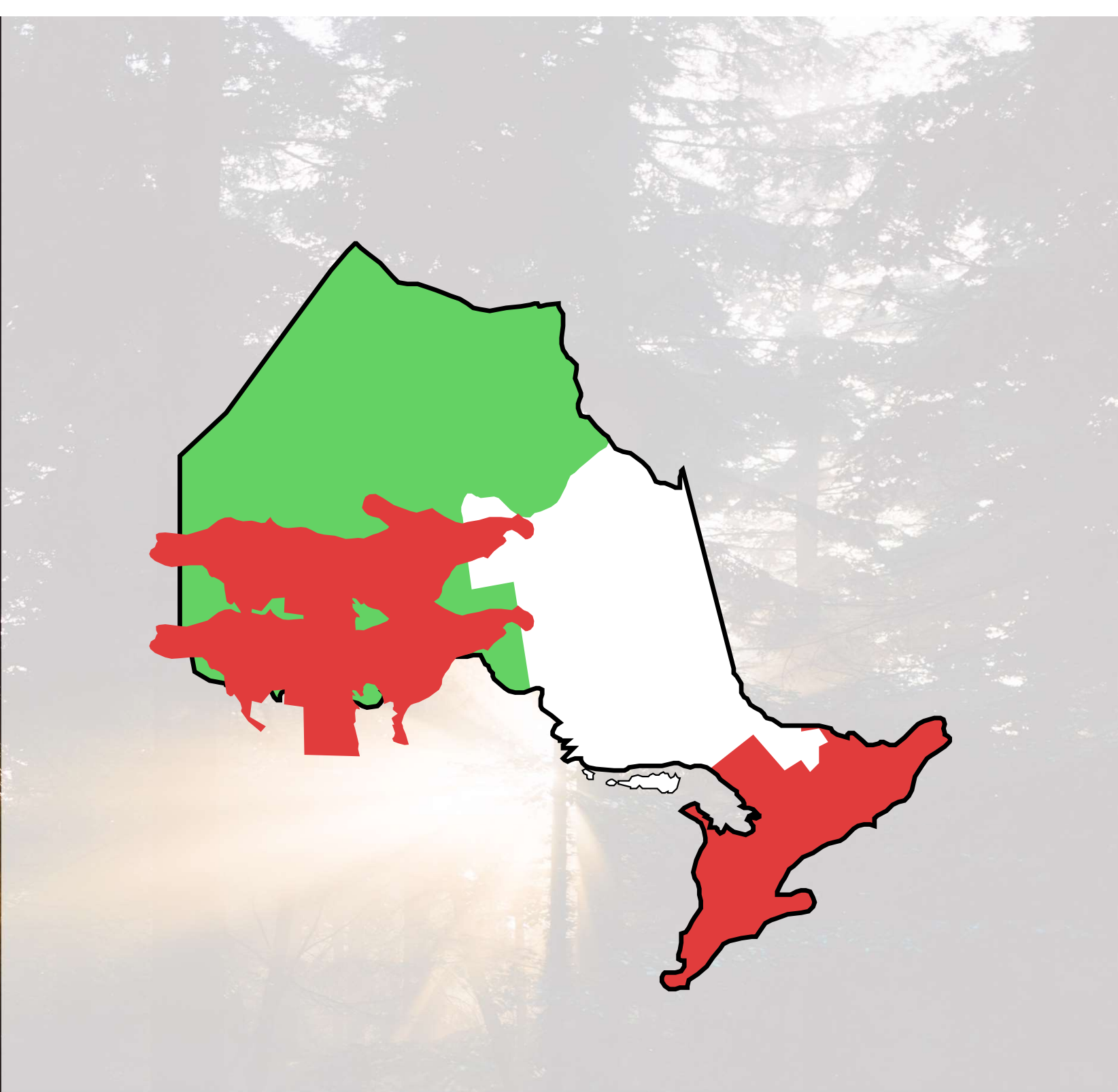


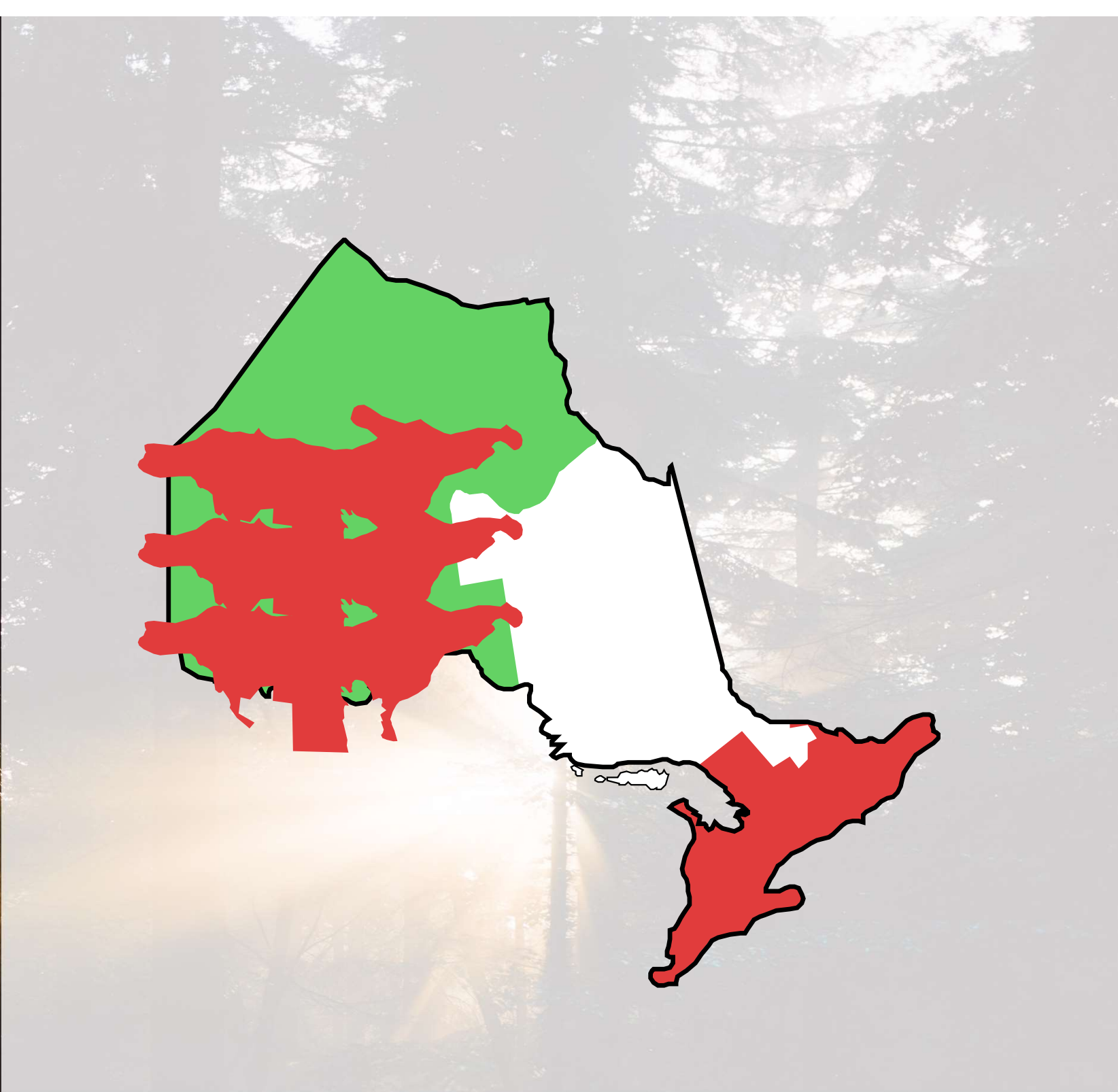
N.W.O. vs Southern & Eastern Ontario

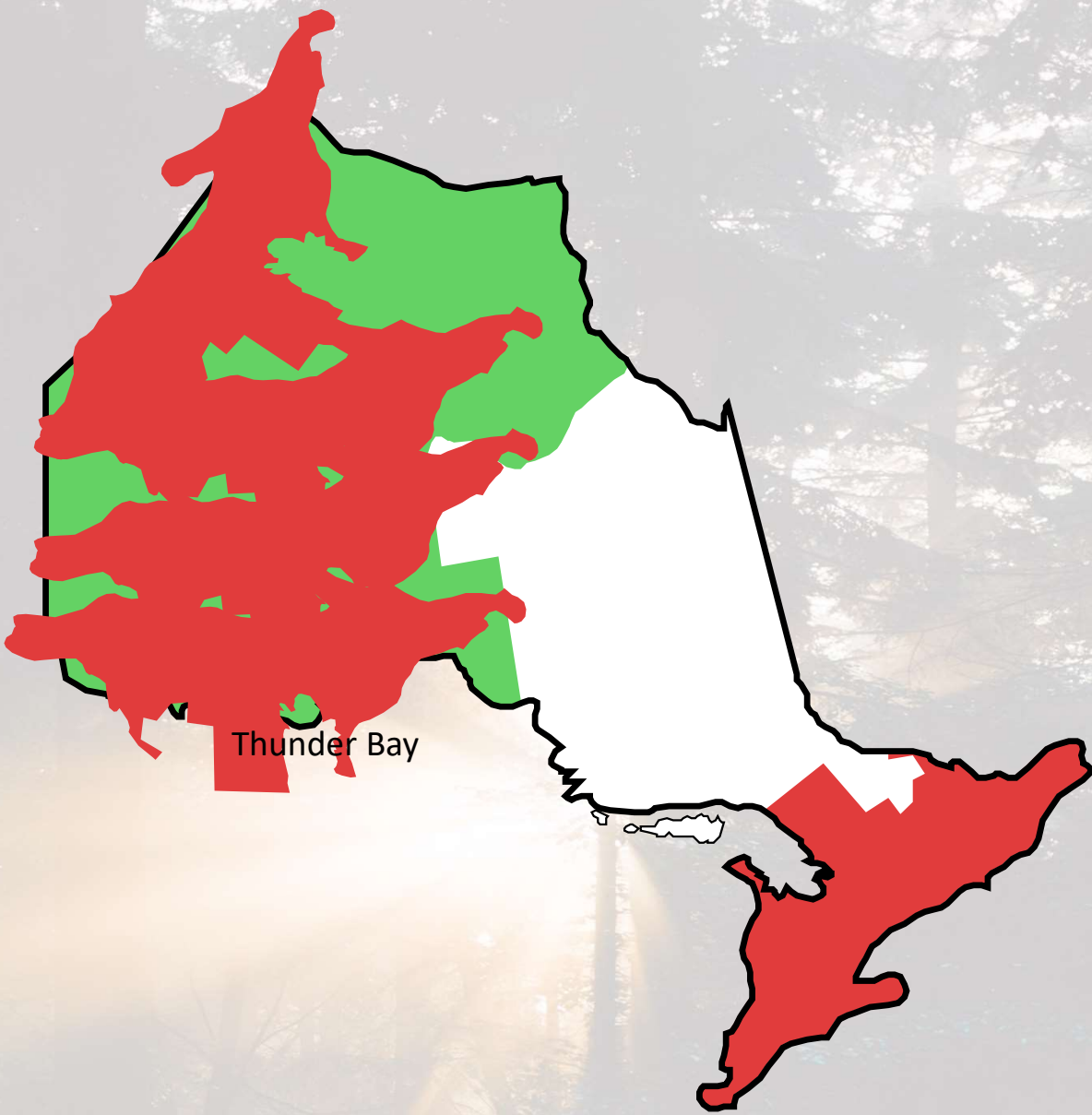




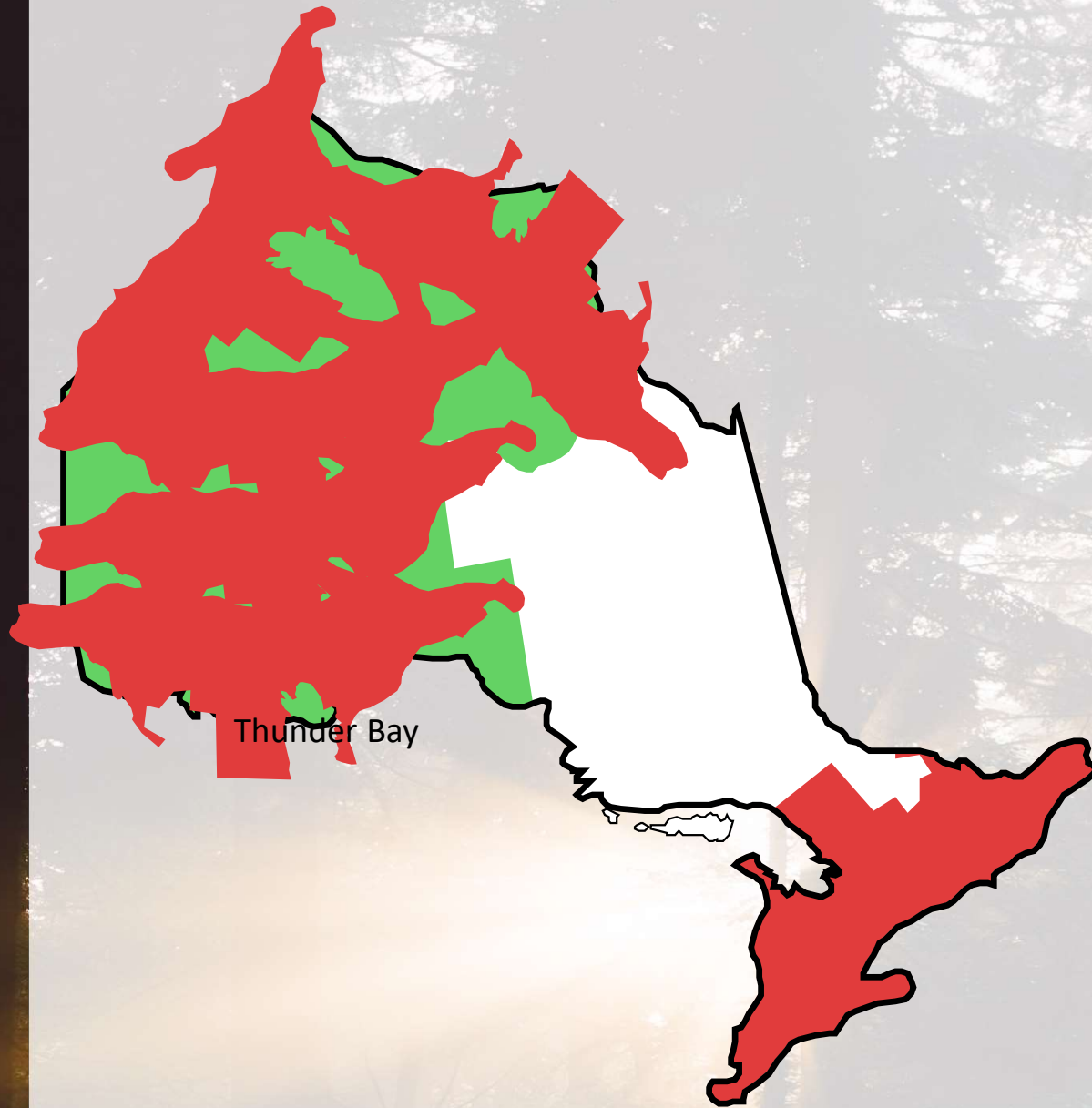








Thunder Bay



Thunder Bay



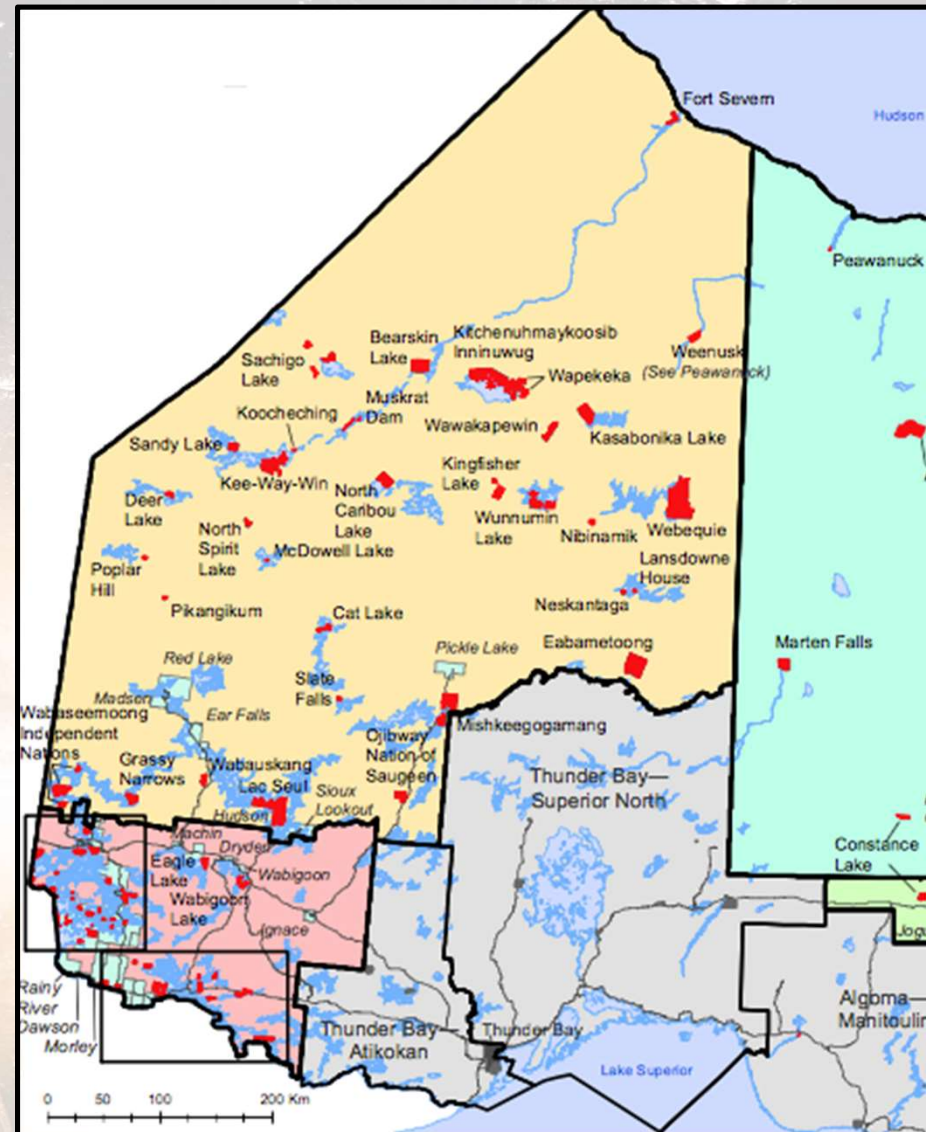
785 km x 100 km corridor
Population 250,000

788 km x 100 km corridor
Population 9.5 million

Votes in the Legislature

4 votes
out of
124

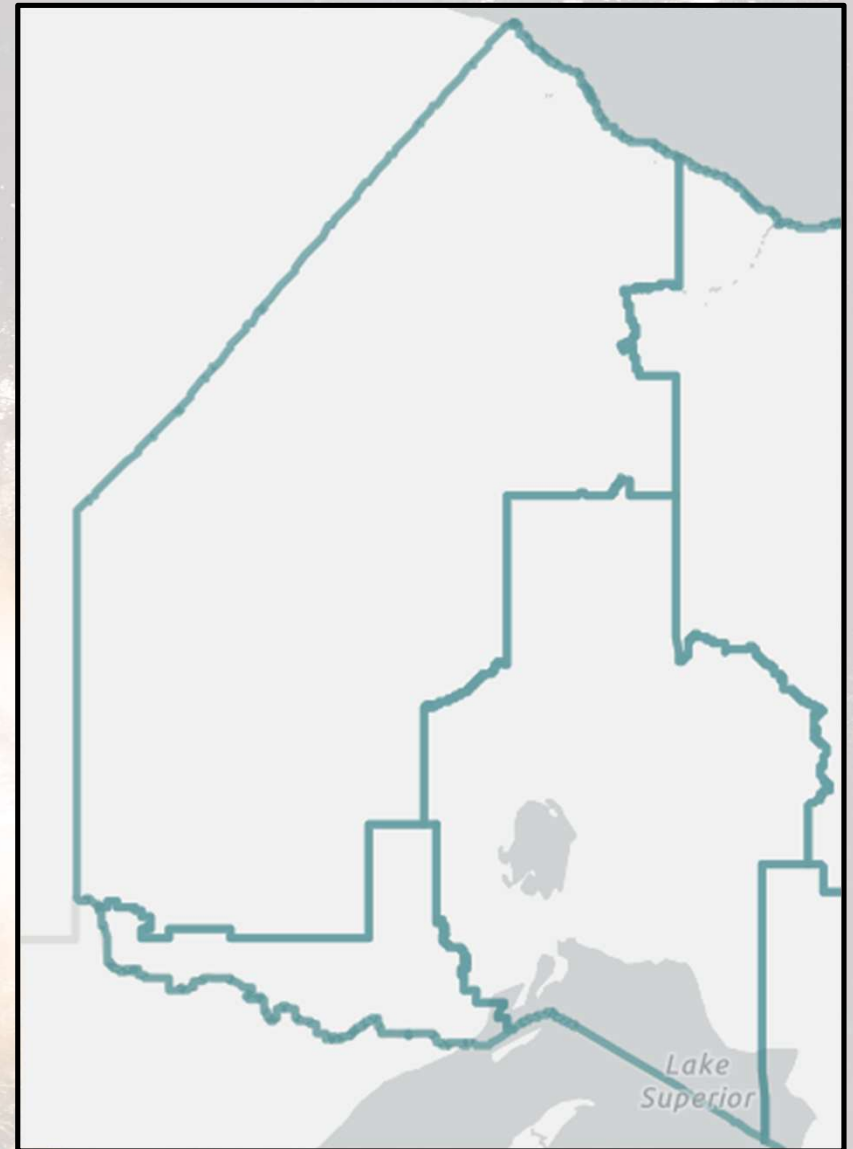
3% of
the seats



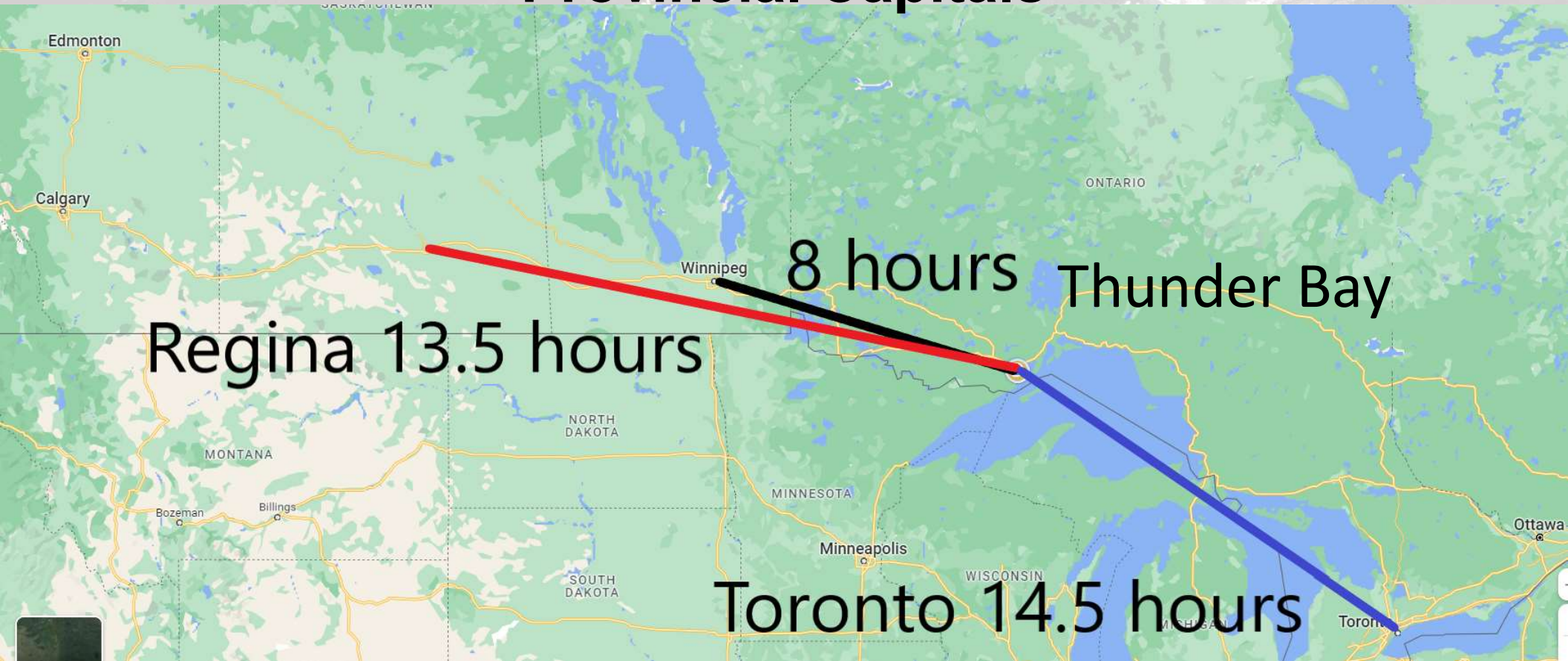
Votes in House of Commons

3 votes
out of
338

<1% of
the seats



Thunder Bay to Queens Park VS other Provincial Capitals



Kenora to Queens Park VS other Provincial Capitals



What Drove the Creation of the Energy Task Force

- Closure of majority of Pulp and Paper Mills
 - » Loss of 500 MW of load
- Pending closure or conversion of two coal fired generating stations – Atikokan & Thunder Bay (517 MW)
- Ontario Power Authority applying a one size fits all estimate of load increase of 4%

What Drove the Creation of the Energy Task Force

- Government ignorance in the pending growth of mining in the region
- OPA/IESO not knowledgeable of mining life
 - » Red Lake since 1930
 - » Hemlo since 1985

What Drove the Creation of the Energy Task Force

- Needing a knowledgeable Voice
- Recognizing that issue was technically complex

Common Voice Northwest Energy Task Force

- » Regional Research and Advocacy
- » Broad group of participants
 - EDO's
 - Elected Municipal Officials
 - Retired Ontario Hydro employees
 - Interested citizens
 - Government representatives
- Implication of new mines and industrial development on electrical load and distribution

Common Voice Northwest Energy Task Force

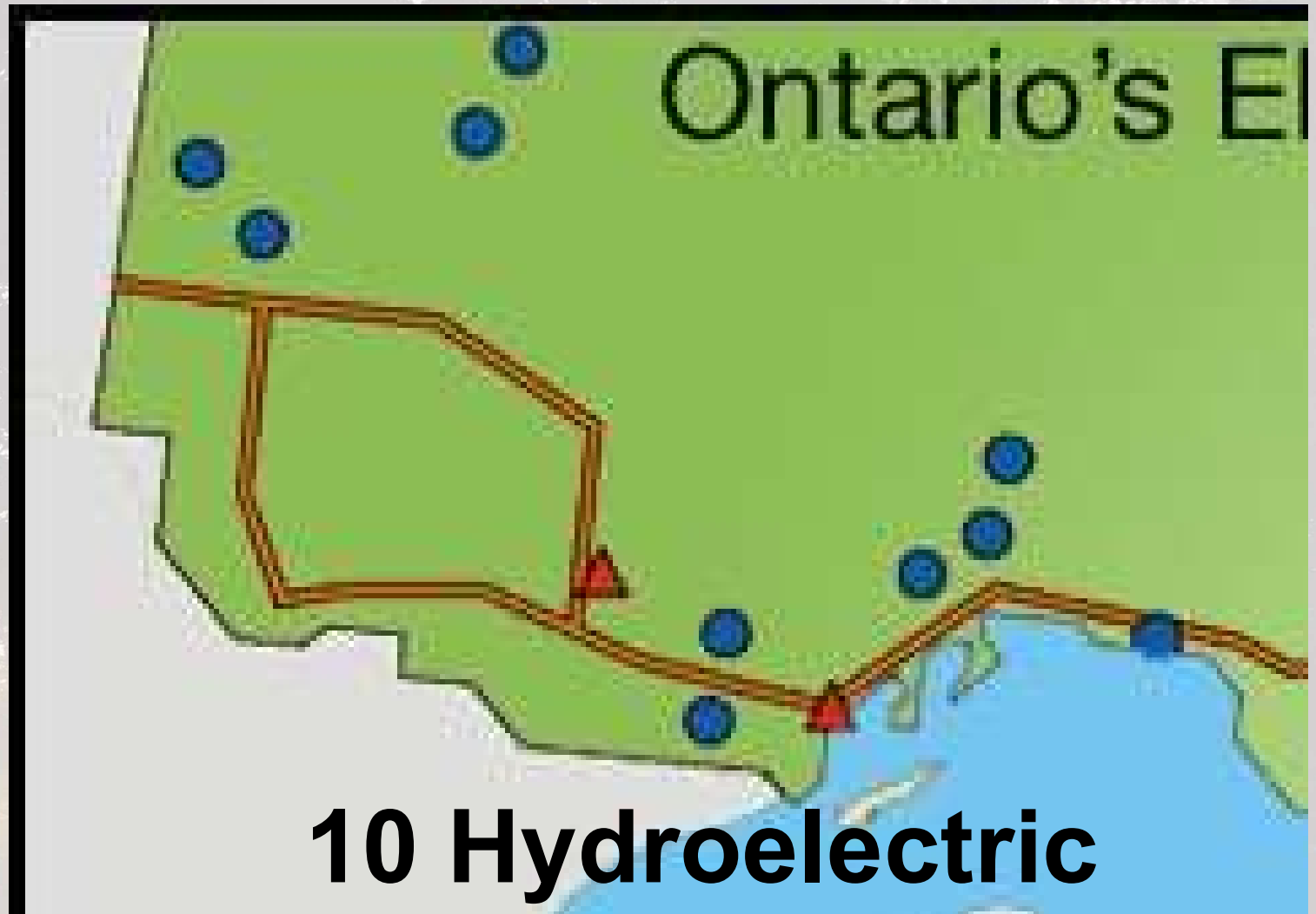
- Consult region widely
- Work through
 - » NOMA
 - » Northwest Associated Chambers of Commerce
 - » Thunder Bay Chamber of Commerce

Transmission & Distribution



2008

N.W.O Hydro Generation



**10 Hydroelectric
Generators 680 MW**

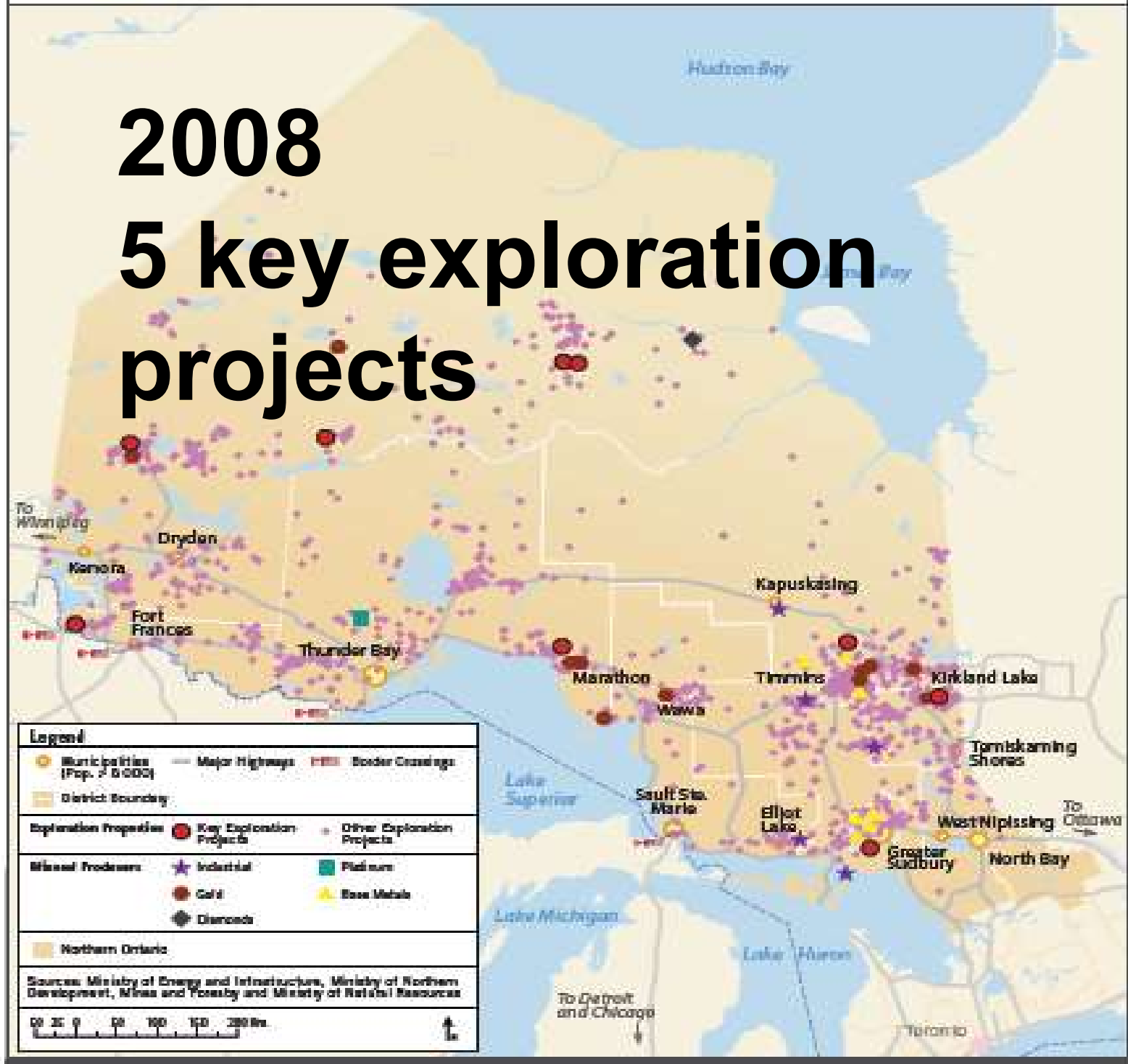


Common Voice
Northwest

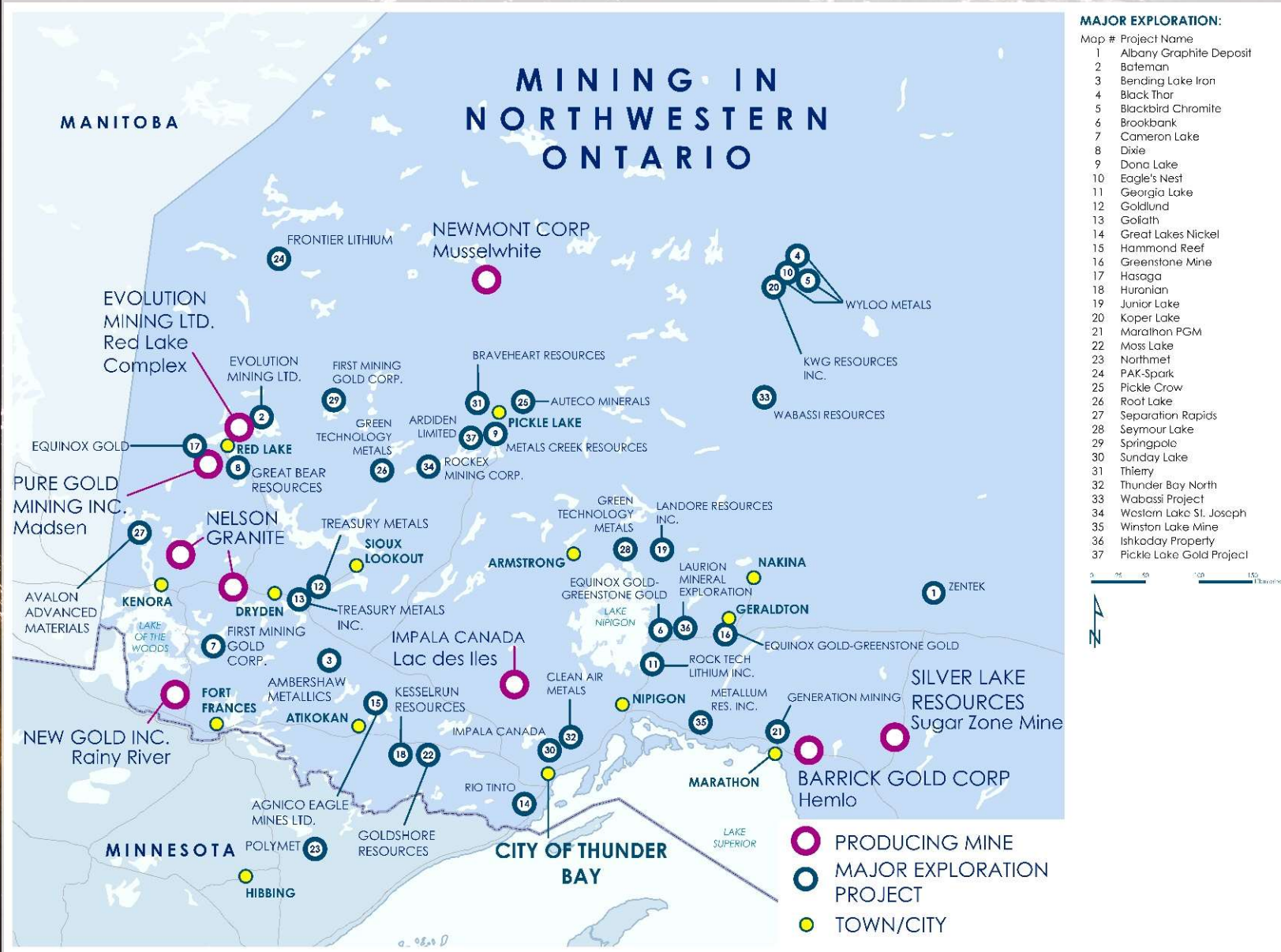
The Needs of the Region

Figure 3: Mineral Exploration Properties and Producers

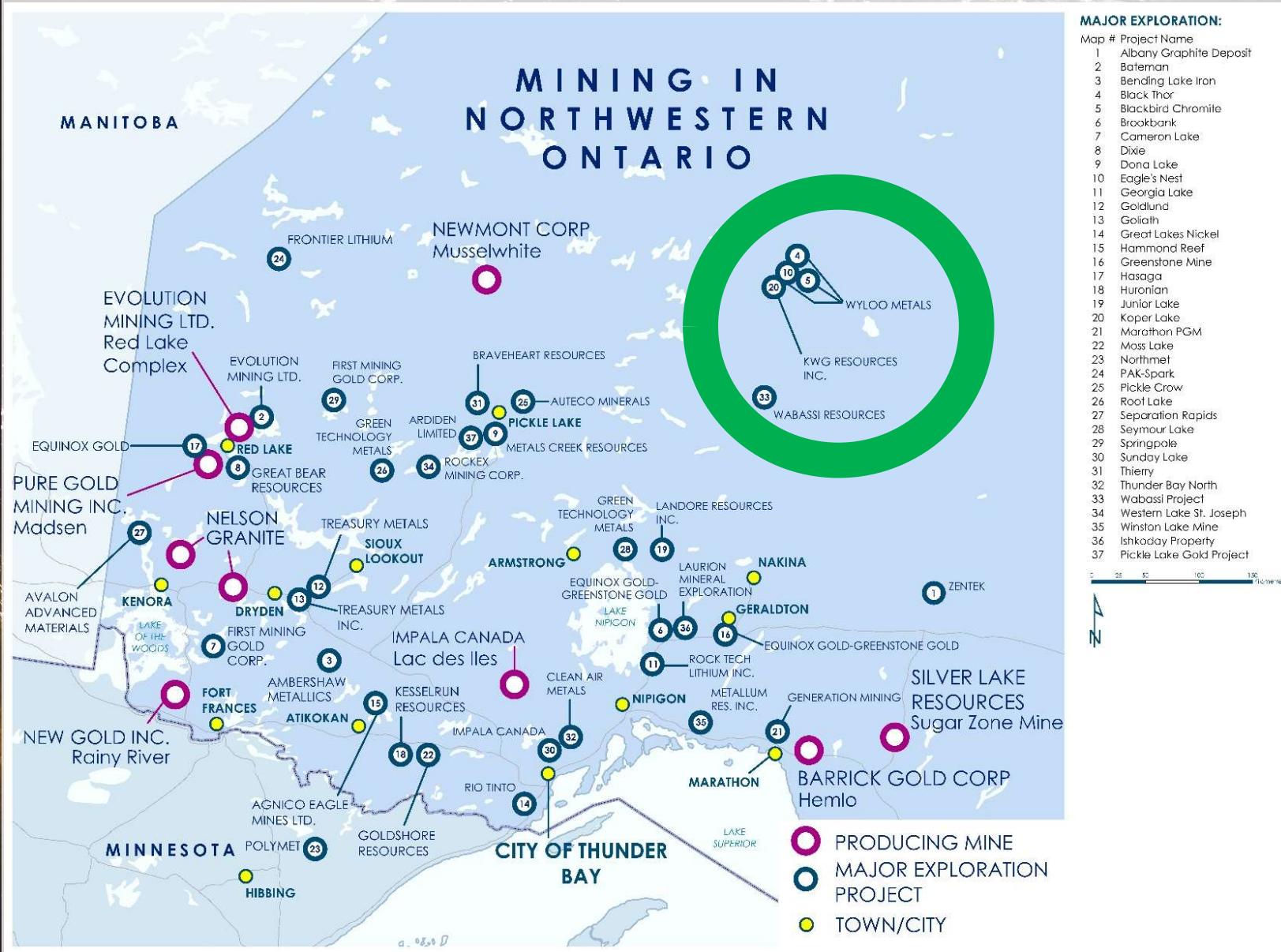
2008 5 key exploration projects



9 Producing & 37 Potential Mines in 2022



6 in Ring of Fire



Electrification



Industrial Development

- Thunder Bay could host two lithium processors, says CEDC business manager
- Federal ministers tour what could be Ontario's first lithium processing plant in Thunder Bay
- Sudbury, Thunder Bay, Nipissing area shortlisted for lithium processing site by German mining company
- Battery recycling planned for lithium facility

10 MW Per Plant

Community Growth

- Each mine will require 200 to 400 employees who need a place to live
- Growth in local businesses including mining supply
- Increase in demand on health care, education, community services, policing



Common Voice
Northwest

Improvements to Date

IESO Regional Planning Process

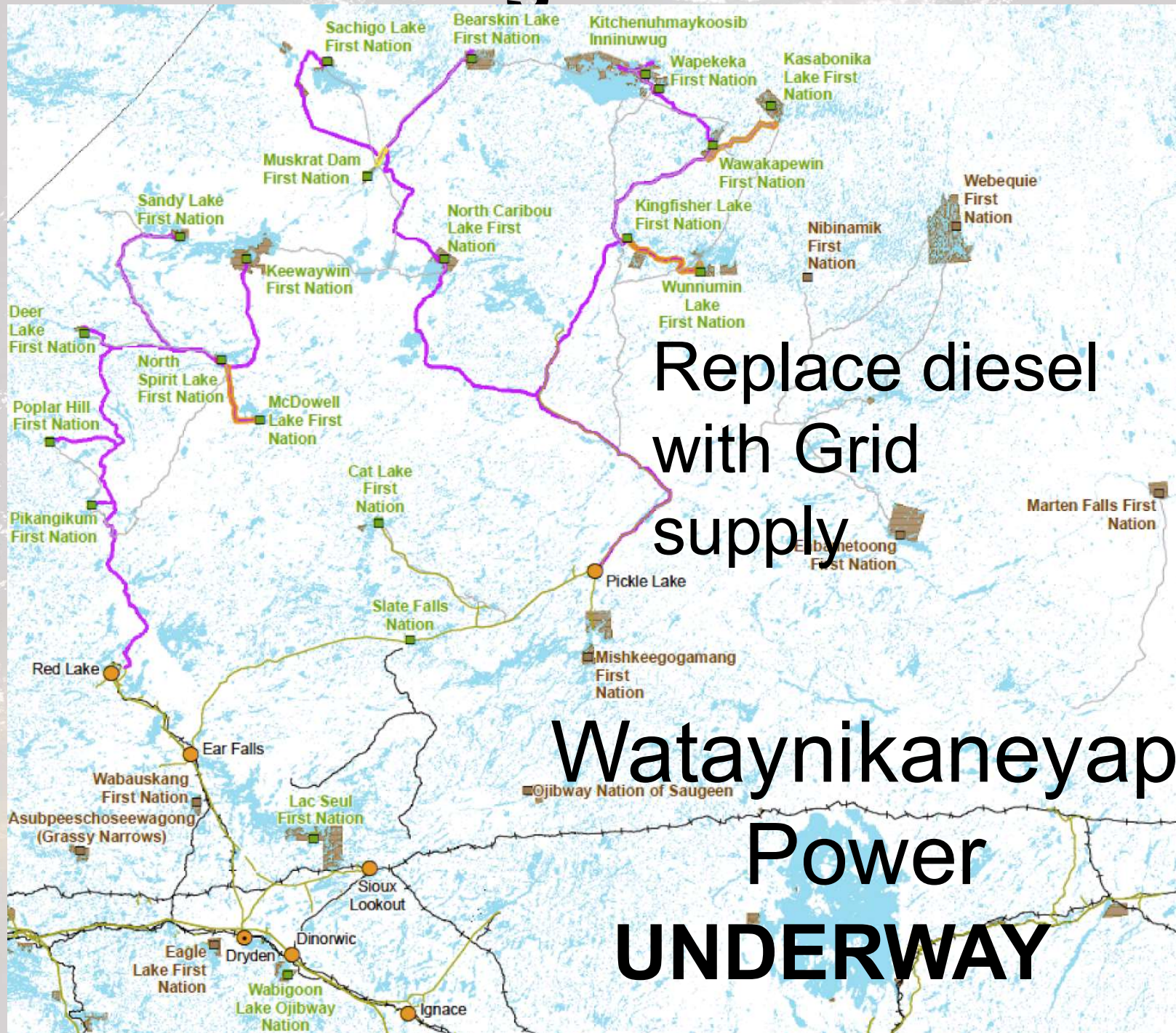
- No longer one size fits all planning for Ontario
- Regional and Sub Regional Planning
 - » Detailed info to participants
 - Info from Utilities on demand and issues
 - IESO high level review
 - » Opportunity for feedback
 - » End of day IESO has final decision
- Widespread engagement
- OEB Regional Planning Process Advisory Group evaluated and made recommendations for improvements

EAST-WEST BULK TRANSMISSION LINE 650 MW Capacity Bi-Directional

In Service 2022



Connecting 17 Remotes

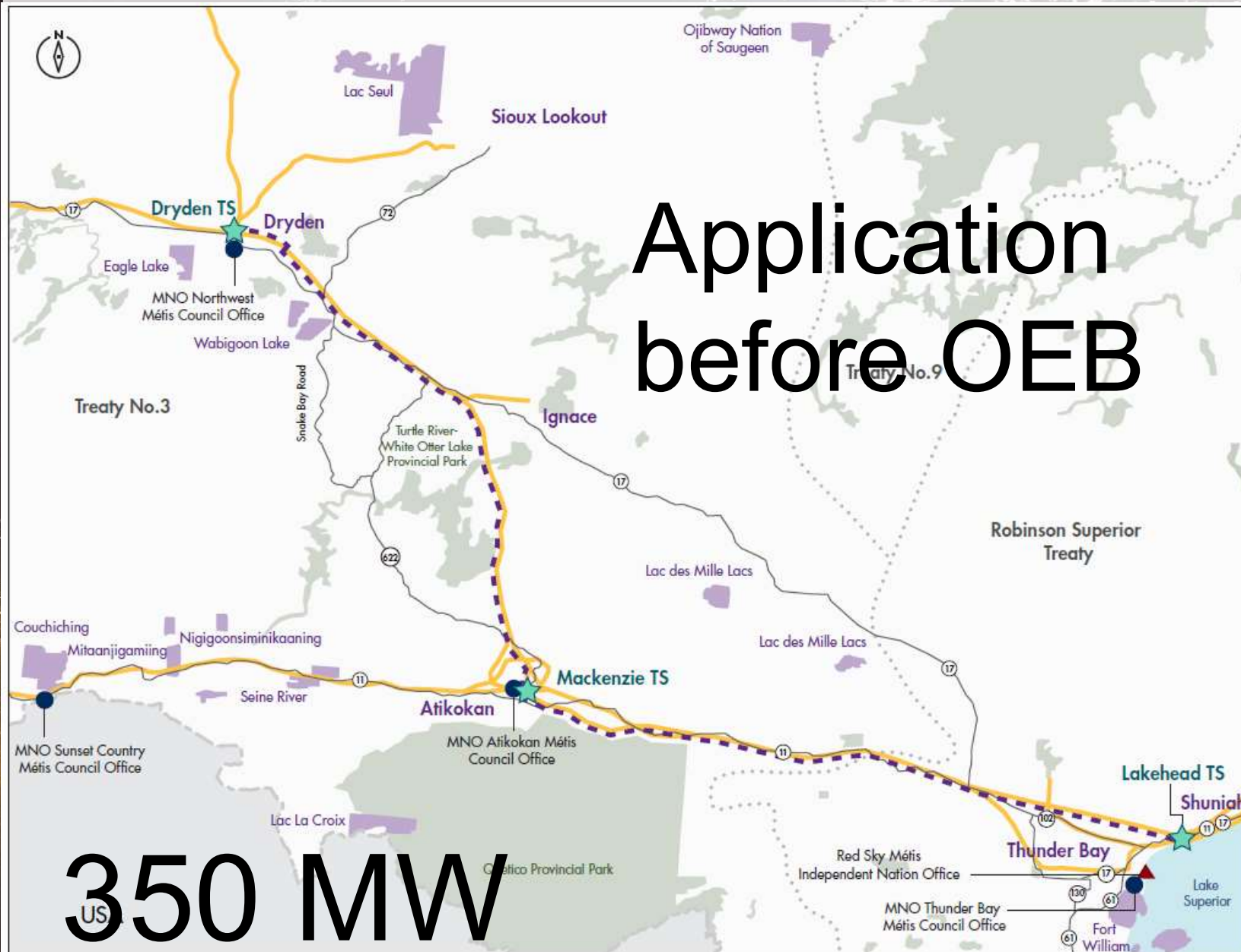


Replace diesel
with Grid
supply

Wataynikaneyap
Power
UNDERWAY

WASSIGAN BULK TRANSMISSION LINE

Application before OEB



350 MW

The Challenges

- Connecting the mines to the grid
 - » **Potential mines are located between 200 meters and 110 km from the provincial grid**
 - **Distance irrelevant if existing grid does not have the capacity for the mining load**
 - **May require entirely new transmission line**

The Challenges

- Connecting the mines to the grid
 - Proponent must pay 100% of cost of a new line regardless of distance
 - Requires significant additional financial backing over and above the mine itself

The Challenges - Examples

- **Greenstone Gold**
 - » Under construction
 - » Building a gas fired generator 'behind the fence' at \$125 million
 - six natural-gas powered piston engines.
 - » Ontario could not find a solution that would provide grid power to the mine
 - Existing radial line does not have the capacity
 - » No increase in capacity to the communities of the area
 - » Ontario will still have to expand power to the area

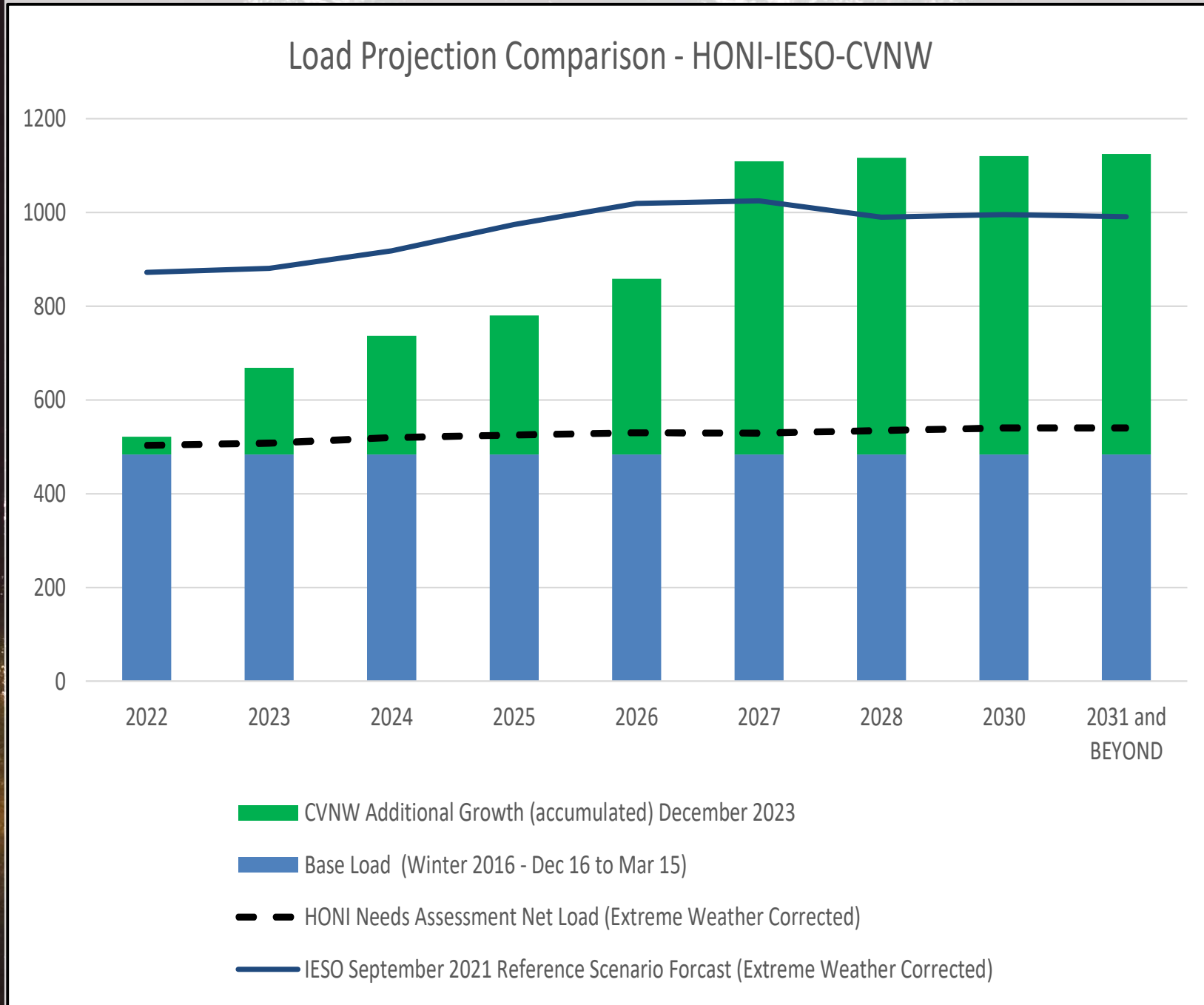
The Challenges - Examples

- **Ear Falls- Red Lake Mining area**
 - » Existing transmission near capacity
 - Subject to frequent outages
 - Communities partnered with governments and gas company to bring natural gas to the area in order to free up 5-10 MW to allow for an existing mine to expand.
 - » 4 potential mines under consideration
 - Close to 100 MW of power required

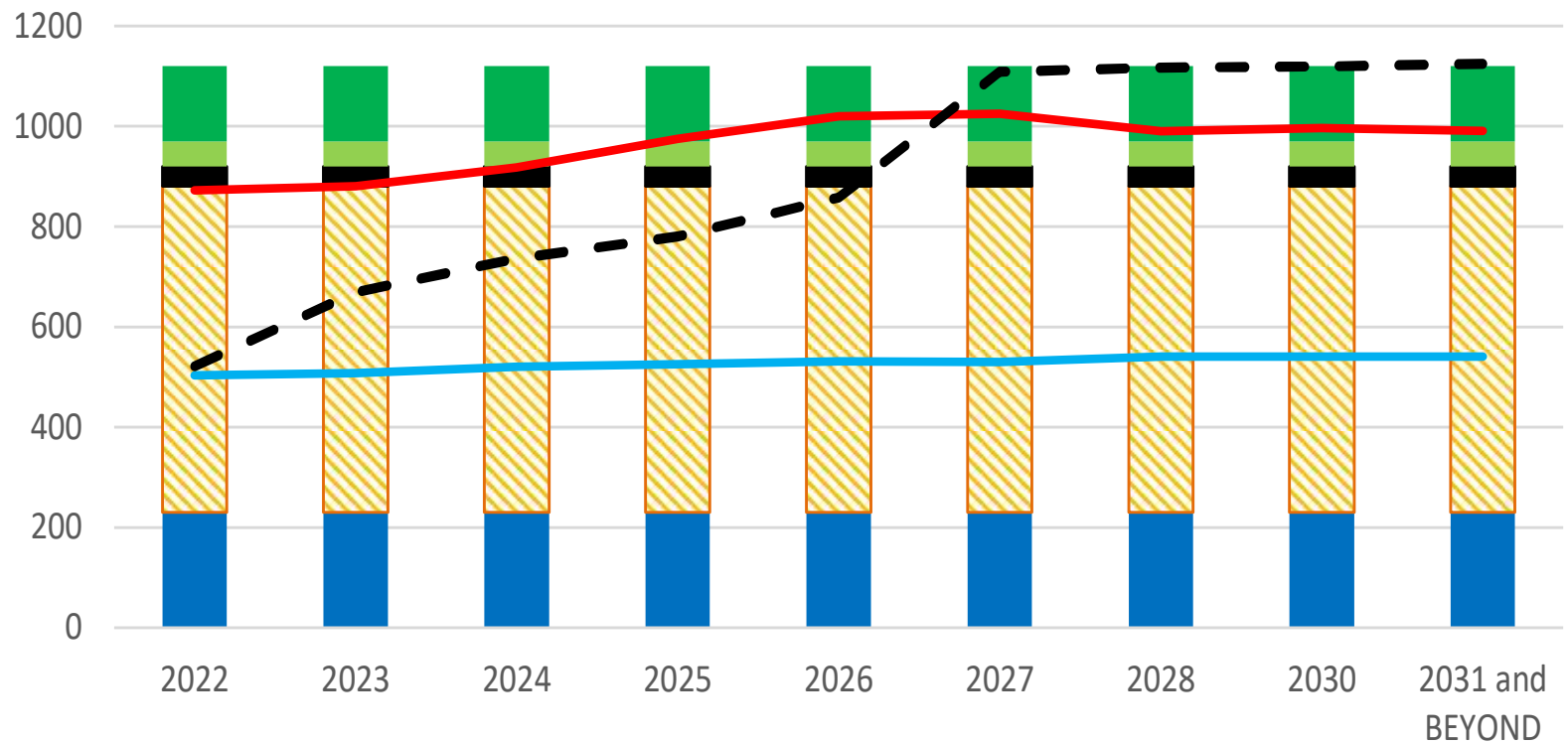
The Challenges - Examples

- **Sioux Lookout**
 - » System at capacity
 - » Can't build any new housing
 - Many workers live 100 km away
 - » Community working with Hydro 1 on an upgrade to existing supply

Load Projection Comparison



Load VS Supply December 2022



 AGS with enhanced fuel to maximize capacity

 AGS (29.1 days per year at 50MW minimum output - 90,000 tonnes)

 NUGS (Contracts renewed in 2025)

 EW Tie Line

 Hydroelectric (Low Water)

 IESO Projection September 2021

 HONI Needs Assessment September 2021 Net Load (Extreme Weather Corrected)

 CVNW Additional Growth accumulated plus base load

Solutions

- Extension of existing contracts for wood biomass (and possible expansion)
 - » Atikokan Generating Station
 - » Thunder Bay Pulp & Paper Mill
- New wood biomass generators
- Expand existing hydro-electric facilities
- New hydro-electric facilities
- Large scale pumped water storage

IESO Procurement Process & Municipalities

- Long-Term Request for Proposals being undertaken by IESO to help address Ontario's future electricity needs.
- RFP expects to procure more than 2,500 MW of capacity from new build resources operating by May 2028.
- Proponents of projects that are located within municipalities are expected to approach municipalities to obtain confirmation of support.
- Proponents are also required to develop a community engagement plan and undertake public consultation that includes at least one public meeting

IESO Procurement Process & Municipalities

- Municipalities must become more aware of the overall electrical demand in their city and area
- Technical expertise may be required to analyse impact of any proposal for new generation or storage

Your Role

- Must understand the electrical system as it relates to your community(s)
- Must participate fully in the IESO regional planning process
- Must be prepared to partner with others who are affected or may be affected
- Must be prepared to advocate for your needs
 - » To the Minister of Energy
 - » To the IESO
 - » To the OEB as an Intervenor
- Must not give up!!!!!!



THANK YOU!

QUESTIONS?