Energy Symposium

2023 Summary of Proceedings

AMO Association of Municipalities Ontario

LAS | AMO Business Services

Table of Contents

Acknowledgements

We would like to express our gratitude to all the individuals who assisted and contributed to the development and delivery of this symposium. In particular, we would like to thank Minister Smith for joining us and delivering his remarks. We also thank our wonderful speakers whose presentations and remarks gave us the opportunity to build on our shared understanding of issues facing municipalities, and stimulated meaningful discussions about how we can move forward to ensure our communities' growth is supported by and access to sustainable energy. Finally, a thank you to the audience; your participation by sharing your questions, experiences and perspectives helped ensure that the day was one of thoughtful learning.

Introduction

As many speakers at the Energy Symposium noted, Ontario's supply of energy will need to more than double in the next ten years to keep up with the projected growth of our communities. The province's goal of building 1.5 million homes by 2031 will place further pressures on our energy needs. In order for this growth to be successful, a historic effort will be needed which connects the dots between energy supply, economic development potential, climate change action, and building a clean energy grid.

This report outlines some of the key discussions explored at the Energy Symposium held in Toronto, Ontario on November 2-3, 2023. The goal of the symposium was to create a platform to share and understand various perspectives and experiences with energy expansion and green energy transformation across the province, and to identify opportunities for strategic local actions.

Copies of the presentation materials used at the Symposium are available on AMO's website.

Key Takeaways

Increased Demand on Energy Supply

- Electricity demand is expected to grow by 2-3% annually reaching at least 40% growth over the next 20 years. Depending on factors such as economic and population growth, this increase may proceed at higher rates representing a doubling or tripling of existing demand.
    - » Switching to electrified technologies like heat pumps and electric vehicles are examples of what's driving the demand for electricity and contributing to the energy transition.
- It is becoming increasingly important for municipalities to become more aware of the overall electrical demand in their communities and surrounding area, especially to provide meaningful evaluation and confirmation of support for proposed energy projects.
    - » However, municipal staff often do not have the technical expertise to analyse energy demand, the potential impacts of new growth, or the impact of proposals for new generation or storage.
- There are two elements to managing the growth of energy demand. The first is supply side management which includes focus on energy production, storage, and distribution. The second is demand side management which includes finding ways to reduce the amount of energy that residents and businesses are using to meet their needs.
- Municipalities play the central role in the electrical transition through their role in community energy planning. They can lead on setting priorities to improve efficiency, supporting economic development, and identifying barriers to moving forward.
    - » Local distributors (e.g. municipally owned hydro utilities) have existing relationships with consumers and can help share information about local needs, opportunities, and barriers to energy transition. This will require strong collaboration between municipalities and utilities.
- The Electrification and Energy Transition Panel is submitting its final report to the Minister of Energy in late 2023. The panel was tasked to provide the province with advice on how to help Ontario prepare for electrification and the transition to clean energy. The panel gathered input widely to shape its advice and involved municipalities in the process.

Opportunities to Manage Energy Production and Storage

- Proponents of energy projects are exploring the expansion and development of new, smaller-scale renewable energy sources such as biomass generators, hydro-electric facilities, that can produce and store enough energy to power smaller communities.
    - » The International Energy Agency estimated that low-emissions electricity technologies will account for almost 90% of investment in power generation in 2023.
    - » Local energy production and storage projects can provide economic benefits to communities through employment including construction, operation and maintenance of facilities.
- As energy production shifts to a more diverse range of sources, the role of energy storage to ensure that energy is available when needed is increasing. Energy storage accumulates excess energy during off-peak times and releases it during high-demand periods.

- Indigenous clean energy projects represent approximately 20% of Canada's electricity generating infrastructure and there has been a 38% growth in medium to large scale clean energy projects with Indigenous participation since 2019.
    - » This growth means that clean energy projects with Indigenous participation are not just a significant opportunity for energy growth, but an important element of meeting Ontario's electricity growing requirements.
- Expanding the power grid in northern and remote communities is expensive. Energy project developers must bear the entire cost of connecting their projects to the grid, often covering several kilometers.
- Speakers discussed their experience incorporating energy projects into municipal facilities. For example:
    - » The City of London is piloting a municipal biodigester to produce renewable natural gas that can be used to fuel waste collection vehicles and reduce the amount of diesel purchased.
    - » Middlesex Centre installed solar cells and batteries on a fire hall which were able to power the hall as well as a nearby municipal building.
    - » Peel Region is projecting an estimated $85 million in cumulative operational savings by implementing net zero emissions standards for all new municipal facilities.
- Municipalities continue to have concerns around the need for proper codes, standards and mitigation measures around energy storage and production facilities to avoid fires and other emergencies. The right measures and their cost are unclear to communities.
- Ontario currently imports most of its natural gas supply. Renewable natural gas such as that produced in biodigesters has the potential to generate clean energy and divert organic waste from landfills
    - » For example, the Stanton Farms biodigester in Middlesex Centre annually diverts 60,000 tonnes of waste, eliminates 11,000 tonnes of GHG emissions, and generates enough renewable energy to heat approximately one third of the community of Ilderton.

Opportunities to Manage Energy Demand and Consumption

- Municipalities report that retrofitting existing buildings continues to represent one of the greatest opportunities and challenges in meeting emission reduction targets.
    - » Even with existing retrofit initiatives, homeowners and contractors often lack sufficient information on options. This hinders their ability to make informed decisions and proceed with greener technology, such as an energy-efficient heat pump over a conventional furnace.
    - » The cost of switching from natural gas to cleaner heat sources is a significant barrier to many consumers.
- Regional-level green standards or net-zero standards are best coordinated to be compatible with lower-tier standards and other local frameworks to make it easier for builders and operators to be compliant.

- Energy benchmarking is the process of measuring and tracking energy performance over time. Making benchmarking data available can help stakeholders identify opportunities to improve their performance.
    - » For example, the Ministry of Energy operates the Energy and Water Reporting and Benchmarking program which applies to buildings with greater than 50,000 square feet. Encouraging voluntary benchmarking for buildings with smaller square footage can help share lessons about opportunities for smaller property owners to improve their energy performance.
    - » Leading by example by disclosing data on municipally-owned buildings can help generate buy-in to voluntary reporting.
- Municipalities across Canada are exploring electric options for fleet vehicles including transit, and waste collection. Private electric vehicle (EV) use could increase by 34% by 2023. Increased EV use will require a big expansion of the existing charging network.
- The Ministry of Transportation's EV ChargeON Program can reimburse eligible municipal projects for up to 90% of the capital cost of installing charging stations.
    - » Criteria includes making the charging stations publicly available 24/7; installing at least two stations; and having a population below 170,000.

Association of Municipalities of Ontario (AMO)
155 University Ave., Suite 800, Toronto, ON M5H 3B7

Telephone direct:	416-971-9856
Fax:	416-971-6191
Toll-free in Ontario:	1-877-426-6527
E-mail:	amo@amo.on.ca
Websites:	www.amo.on.ca

Local Authority Services (LAS)
155 University Ave., Suite 800, Toronto, ON M5H 3B7

Telephone direct:	416-971-9856
Fax:	416-971-6191
Toll-free in Ontario:	1-877-426-6527
E-mail:	las@las.on.ca
Websites:	www.las.on.ca