

Improving the Electricity Planning Process in Ontario: Enhanced Coordination between Municipalities and Entities in the Electricity Sector

Context

In January 2021, the Ontario Energy Board (OEB) – the regulator of the energy sector – [constituted](#) the Regional Planning Process Advisory Group (RPPAG) to identify ways to “improve the efficiency and effectiveness of the current regional planning process.”¹

The RPPAG’s report, [“Recommendations to Improve Ontario’s Regional Planning Process”](#) was delivered to the OEB on December 20, 2021, as part of its Phase 1 work.

A Call for General Education on the Regional Planning Process

The RPPAG report recommended that stakeholders receive more ‘General Education on Regional Planning.’ For example, that efforts be coordinated to:

1. Educate municipalities on the importance of providing information in their municipal energy plan (MEP) that indicates how the MEP goals will be achieved, with a focus on those that include goals (e.g., net zero) which local distribution companies (LDCs) cannot translate into load forecasts used in the regional planning process without that necessary information; and
2. Produce a brief document that includes a list of the specific information that LDCs need from municipalities to increase planning process efficiency and consistency, thereby improving the accuracy of their load forecasts.

The RPPAG recognizes that the electricity infrastructure planning process is most efficient and effective when the Independent Electricity System Operator (IESO), LDCs, transmitters, municipalities and other stakeholders communicate and work in a coordinated way.

While conversations around integrated planning between entities in the electricity sector and municipalities are happening to some extent, it is not consistent and there is room for improvement.

The work done by municipalities, through their MEPs/Community Energy Plans (CEPs), includes underlying information that have linkages with the information LDCs need to prepare their load forecast (see Figure 1).

¹ [OEB Regional Plan Process Review](#).

It is therefore critical that both municipalities and LDCs are cognizant of such information linkages and discuss them in an iterative way (refer to “List of Key MEP Outputs to Improve LDC Load Forecasting” on pages 5-6 for more information).

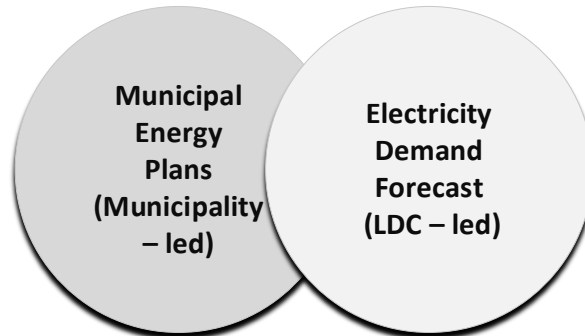


Figure 1: The information linkages

This document is therefore being created to promote enhanced coordination and two-way communication between municipalities and LDCs. A better understanding of each other’s information needs will facilitate a more interactive approach between electricity planning and MEPs/CEPs.

Improving these relationships and interactions will help meet the electricity supply and reliability needs of Ontario’s consumers and communities in the most cost-effective and consistent way,² while at the same time identifying current and future needs for new electricity infrastructure investments within local communities (including distributed energy resources).³

Ontario’s Municipal Energy Plan (MEP) Program

Municipalities create energy policies and programs as they are encouraged to do so through provincial policy and programs. For example, the province introduced and provided funding under the MEP program in 2013. The Minister of Energy at the time stated:

“The Municipal Energy Plan program takes an integrated approach to energy planning by aligning energy, growth, infrastructure, and land use planning. These plans complement regional energy planning...”⁴

² In some cases, a local community may desire an alternative solution to the most cost-effective option based on local preference and, where that is the case, it will be an important part of that two-way communication. The OEB recently issued a [Bulletin](#) that provides guidance in relation to local community preferences.

³ Coordination with the local gas utility is expected to also be required, from time to time, to avoid duplication of investments to meet the same energy need, particularly with the shift to more (and smaller) distributed energy resources.

⁴ See the Ontario [news release](#) for more information.

The purpose of a MEP is for municipalities to:

- (1) improve energy efficiency
- (2) reduce energy consumption and greenhouse gas emissions
- (3) study the impact of future growth on energy needs
- (4) foster renewable energy production and economic development

Some municipalities use CEPs as an alternative to a MEP. In other cases, CEPs supplement the MEP, with the associated CEPs focused on certain areas within the municipality.

The preparation of MEPs (and CEPs) is not mandatory, and not all municipalities currently produce them. Those that do so may also take a somewhat different approach, as a standard format is not required.⁵

Municipal Energy and Climate Change Policies

Over the last decade, Ontario municipal governments have become more active in the conversation around energy sources (including electricity), given that they are the closest level of government to the impacts of climate change. Their residents are also increasingly demanding action because energy is typically one of the largest costs for homes and businesses within the municipality.⁶

For example, many municipal governments in Ontario outline their community's commitments and direction in addressing energy use and climate change through the following documents:

- MEPs and/or CEPs
- Climate Change Action Plans
- Climate emergency declarations
- Net zero emission targets (by 2050 or earlier) included in Official Plans, Transportation Master Plans, etc.
- Program development and delivery (often in partnership with other parties)

The information provided in the documents listed above – particularly MEPs and CEPs – can be presented in different ways and with varying levels of specificity.⁷ The

⁵ While this document is focused on electricity planning, MEPs/CEPs focus on all forms of energy in an integrated manner.

⁶ For example, the City of London calculated energy costs at over \$2 billion. That figure represents a significant economic development opportunity to reduce/generate energy locally.

⁷ Municipalities are increasingly participating in IESO stakeholder engagement sessions related to regional planning and in OEB decision-making processes related to the electricity infrastructure

information is not always in a format that LDCs can translate directly into load forecasts that are used in the electricity planning process.

The following section sets out the type of information that electricity planners need from municipalities to provide a more accurate load forecast for regional planning purposes. Having this information would, in turn, make conducting transmission and distribution system planning (i.e., regional planning) more effective. Having the right municipal staff at the table with the appropriate outputs will help ensure that LDCs can use and better integrate that information in their load forecasting.

Key Municipal Energy Plan Outputs to Improve LDC Load Forecasting

Accurate LDC load forecasts are necessary to develop electricity plans that are aimed at ensuring the municipality's residents and businesses receive electricity supply at the lowest possible cost while maintaining reliability.

To that end, the RPPAG has created a list of relevant municipal planning outputs that would assist entities in the electricity sector to conduct transmission and distribution system planning more effectively. To be clear, this list does not suggest that a municipality should conduct its own load forecast; rather, that it should provide the assumptions behind how the Council's visions and commitments (e.g., net zero) can be achieved.

This information is important when developing load forecasts because it underpins the electricity planning process in identifying the needs (e.g., capacity, etc.) that must be met. It also allows entities in the electricity sector to effectively consider and integrate these outputs for electricity planning purposes at both the local and regional level.

To the extent that common assumptions between electricity planners and municipalities are required, an iterative discussion between the municipality (which may include a consultant) and the LDC(s) may be required.

In closing, it is the RPPAG's intent that the list shown below become one of the tools for improving two-way conversations with the IESO, LDCs, transmitters, and other stakeholders when municipalities communicate the future electricity needs within their communities.

investments that flow from regional and distribution system plans to communicate their anticipated energy needs.

List of Key MEP Outputs to Improve LDC Load Forecasting:

A. Future electricity needs

Identify and quantify the new type of load expected annually over the next 10 - 20 years in the following categories:⁸

- Industrial (number of units by type and square meter)
- Commercial (number of units by type and square meter)
- Residential (number of units by type – low density, medium density, or high density residential)
- Population growth and employment forecast by geographic area
- Other, as applicable

Provide the assumption(s) and/or estimate(s) that were used in relation to the above.

B. Net Zero Vision (or other emission reduction goal)

Where there is an emission reduction goal, such as Net Zero:

- (1) Identify the projects and initiatives that are expected to achieve that goal, its impact on the net electrical demand forecast (if possible, in megawatts), and its geographic location.
- (2) Identify locations where distributed energy resources (e.g., rooftop solar, geothermal, etc.) in local communities are being targeted (*note that the applicable LDC can provide helpful input to the municipality in identifying potential connection locations*).

C. Considerations and Assumptions

Building Environment

- Energy efficiency standards
- Distributed energy resources (e.g., solar and other innovative technologies such as battery storage)
- District heating and cooling considerations (medium & high density; Industrial, Commercial & Institutional [ICI])
- Large scale solar or storage for ICI
- Combined Heat and Power (CHP)

⁸ Recognizing that, in Northern Ontario, many municipalities will not have information from unincorporated territories that are outside of their municipal boundaries.

- Low density considerations (electric or natural gas)

Transportation

- Electric vehicle (light duty) penetration
- Transit and other medium duty & high duty electric vehicle penetration
- Other (e.g., bi-directional charger assumptions, etc.)