



# Community Energy Planning

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Overcoming Challenges & Attaining Benefits

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## Purpose

In 2016, LAS staff reached out to several municipalities to discuss local experiences of implementing community energy planning. Through these conversations, AMO/LAS wanted to understand what factors encourage municipalities to engage in community energy planning, what benefits and challenges exist for those who conduct the process, and what role AMO/LAS can play to support municipalities who wish to engage in community energy planning, but may not have the awareness, resources, or capacity to undertake such a process.

AMO/LAS are supportive of the province's Climate Change Action Plan (2016) and related policies and strategies such as the Long-Term Energy Plan (2017) that have identified the benefits and opportunities of community energy planning. AMO/LAS are seeking ways to help municipalities capitalize on the opportunities in the low carbon economy to enhance local economic development and energy/environmental sustainability.

The purpose of this paper is twofold. First, to briefly discuss the community energy planning process, some benefits and challenges of the energy planning process, and the roles for municipalities, the Province, and AMO/LAS to overcome these challenges and help Ontario communities attain the identified benefits associated with transitioning to a low-carbon economy. Second, this paper asks a number of questions to help AMO/LAS understand how we can advocate on your behalf and provide programs or services that support municipalities with community energy planning.

A complete list of questions that AMO/LAS are available in **Appendix A**. We encourage members to distribute this paper to the appropriate lead for community energy planning in your municipality to encourage discussion about challenges, benefits and opportunities of community energy planning. With your feedback, AMO/LAS can begin further research into the development of programs and services that can help the membership move both provincial and local energy priorities forward.

## Background

Ontario's energy landscape is evolving. Once there was nearly universal reliance on a province-wide system of generation, but now distributed and local energy sources are operating and growing. There are still parts of the province whose growth is constrained due to lack of energy and other parts where there is ample supply. Understanding how, where and when energy is used may help a municipality identify opportunities such as energy conservation, fuel switching, renewable energy generation among other energy-related efforts. Municipalities can guide their energy future through a Community Energy Plan (CEP). A CEP is a tool that can define community energy priorities to improve efficiency, reduce emissions, and spur economic development. Though there is no standard development approach, CEPs often contain community energy inventories and forecasts, energy and emissions reduction targets, actions and implementation timelines.

The Province of Ontario has prioritized community energy planning in its Climate Change Action Plan (2016) and its Long-Term Energy Plan (2017):

### Climate Change Action Plan

#### 2.2 Support community energy planning

"Ontario intends to fund the development of Community Energy Plans and Climate Action Plans (and their supporting data) with greenhouse gas emissions inventories for municipalities, First Nations and Métis communities that currently do not have these plans. These programs would include training and guidance to help communities access energy use data for their community energy planning and mapping."<sup>1</sup>

#### 2.3 Support community energy mapping and platforms

"The government would support collaborative, community-based and data-driven approaches to carbon reduction. This would include district-wide mapping that integrates gas, electricity, heating and cooling, water, transportation, waste consumption and building data into a single platform to enable district-wide decisions. Applications would include distributed generation opportunities, detailed emissions analysis, targeted conservation spending and improved benchmarking."<sup>2</sup>

### Long-Term Energy Plan

"Ontario's Municipal Energy Plan program and the IESO's Aboriginal Community Energy Plan (ACEP) program both support the efforts of municipalities and Indigenous communities to assess their energy use and needs, consider the impact of future growth, and foster local economic development. Communities are encouraged to develop their own energy plans that identify opportunities for conservation and priorities for infrastructure. The resulting community energy plans have helped communities recognize opportunities to conserve energy, improve energy

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<sup>1</sup> Ontario's Five-Year Climate Change Action Plan 2016-2020 (2016), 33.

<sup>2</sup> *Ibid*

efficiency and reduce greenhouse gas (GHG) emissions.” According to the Long-Term Energy Plan, 36 municipalities have Municipal Energy Plans underway or complete.<sup>3</sup>

## Community Energy Planning

Under the Green Energy Act, 2009 O. Reg 397/11, municipalities are required to report annually on facility energy consumption and associated greenhouse gas emissions (GHG) and develop corporate energy conservation and demand management plans. These plans identify actions for energy and emissions reductions.

A CEP takes this process to a community-wide level. A CEP is a comprehensive, long-term plan to improve energy efficiency, reduce GHG emissions and implement local energy solutions across a community's residential, commercial, transportation, industrial and institutional sectors. A CEP also studies the impact of future growth on energy needs and fosters renewable energy production and economic development.

CEPs are used to:

- Accurately measure community-wide energy consumption and GHG emissions;
- Implement solutions to improve energy efficiency and conservation;
- Develop community priorities around renewable and decentralized energy systems and other energy infrastructure projects; and
- Integrate energy conservation and sustainability into the local planning process.

Specific actions in CEPs generally relate to:

- Energy efficiency in new and existing buildings
- Transportation and public transit
- Active transportation
- Low carbon vehicles and other transportation actions, including policies on anti-idling
- Waste, including landfill gas
- Renewable energy, district energy and combined heat and power
- Water consumption

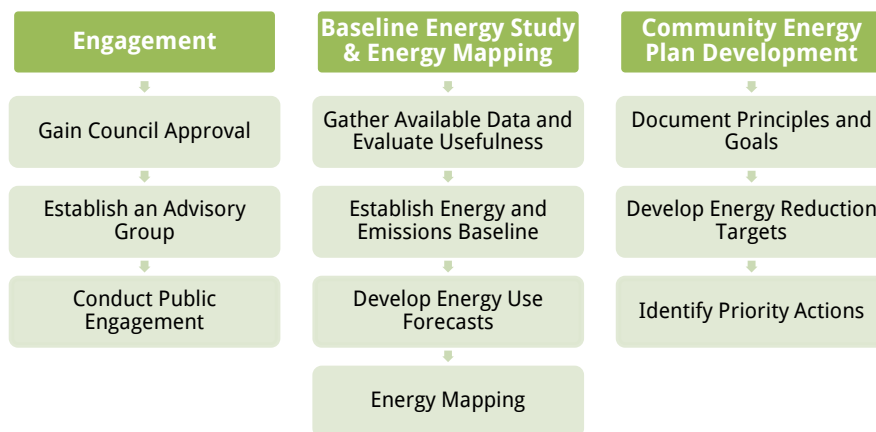
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<sup>3</sup> Long-Term Energy Plan (2017), 141-142.

- Planning and policy measures
- Stakeholder outreach<sup>4</sup>

**What is the process to develop a Community Energy Plan?**

The process requires gathering local energy usage data at the postal code, creating GHG inventories or developing energy consumption and forecast maps using this data, conducting extensive stakeholder engagement to understand local energy needs and goals, and developing an action plan for energy conservation or moving to alternative local energy sources. For details on the CEP process, see the resources in the footnotes below.<sup>5</sup>



**Source:** Evenson, J., Margerm, K., and McDonough, A. (2013). *Advancing Integrated Community Energy Planning in Ontario*. <https://www.questcanada.org/downloads/The%20Primer%20-%20reduced%20size.pdf>

**What is the value for municipalities to initiate the community energy planning process?**

Based on discussions with municipal staff, key drivers for municipalities initiating the community energy planning process is to:

- Improve energy efficiency across all sectors: residential, commercial, industrial, and institutional; and across all forms of energy generated and used in the community: electricity, heating, water, waste, transportation, etc.

<sup>4</sup> Community Energy Planning Getting to Implementation in Canada (2016).

<sup>5</sup> See the following resources for more information on the process of community energy mapping and planning:

Evenson, J., Margerm, K., and McDonough, A. (2013). *Advancing Integrated Community Energy Planning in Ontario*. <https://www.questcanada.org/downloads/The%20Primer%20-%20reduced%20size.pdf>

Miller, G. R., Warren, J., Geraghty, S., Margerm, K., and Molina, J. C. (2011). *Integrated Energy Mapping for Ontario Communities*. <http://www.canurb.org/s/CUIPublicationIntegratedEnergyMappingOntario-bs7g.pdf>

Community Energy Planning Getting to Implementation in Canada (2016). <http://framework.gettingtoimplementation.ca/>

- Identify cost saving opportunities and identify new economic opportunities based on the local environment and resource strengths.
- Demonstrate leadership on emerging energy issues and shift local plans and targets to address that energy is “more than just electricity.”
- Consider the energy implications to population/economic growth and decline through energy forecasting.
- Consider the local economic impacts of energy generation and usage; in many cases, energy conservation or local energy generation can circulate money within the local economy rather than being spent outside the community.

### *What funding is available to conduct community energy planning?*

The Ministry of Energy Municipal Energy Plan Program<sup>6</sup> “supports municipalities’ efforts to better understand their local energy needs, identify opportunities for energy efficiency and clean energy, and develop plans to meet their goals.” The MEP Program provides successful applicants with funding for 50 per cent of eligible costs up to a maximum of \$90,000 to develop a community energy plan. The Ministry has also introduced a second funding stream for municipalities to enhance an existing energy plan, such as updating utility or building data or creating new plans or maps. Successful applicants receive 50 per cent of eligible costs, up to a maximum of \$25,000. The webpage lists the municipalities that have accessed funding through the program.

The government launched the [Municipal GHG Challenge Fund](#) in August 2017. Municipalities may request up to \$10 million per project to reduce GHGs in the building, energy supply, water, transportation, waste and organics sectors. Any Ontario municipality with a community-wide GHG emissions inventory, emissions reduction targets and a strategy to reduce emissions is eligible to apply. Municipal Energy Plan program participation is one path to eligibility for the Municipal GHG Challenge Fund. Applications were due November 17, 2017. Though the funding is not specifically for community energy planning, municipalities with a CEP can access funds to target local priorities in those plans. AMO hopes MOECC will offer a second intake of the Municipal GHG Challenge Fund at future date.

Municipalities can also investigate the Federation of Canadian Municipalities’ Green Municipal Fund and Canada’s Gas Tax Fund for funding of some eligible costs for community energy plans.<sup>7</sup>

### Questions for Discussion

1. What further information would you need to feel confident that community energy planning is beneficial for your community?

<sup>6</sup> See the Ministry of Energy Municipal Energy Plan Program website for further information: <http://www.energy.gov.on.ca/en/municipal-energy/>

<sup>7</sup> Federation of Canadian Municipalities, Green Municipal Fund: <https://fcm.ca/home/programs/green-municipal-fund.htm>

2. Do you see value in using community energy planning to support your municipality in identifying opportunities in the low-carbon economy?
3. What steps can you take now to prepare your community for the community energy planning process?

## Benefits and Challenges

### *What are the benefits of community energy planning?*

In our conversations with municipalities, the common benefits identified were local economic development opportunities such as: reducing costs through energy conservation initiatives; re-circulating energy cost savings in the local economy; and using local resource advantages for community energy. The table below, taken from a report by Quality Urban Energy Systems Tomorrow (QUEST) identifies a number of other benefits including environment, health, and resilience benefits.

Economic benefits	Environment benefits	Health benefits	Resilience and energy security benefits
<ul style="list-style-type: none"> <li>• Reduce energy spending for residents, businesses and local government (resulting from energy efficiency and conservation projects, local distributed energy resources, reduced fuel usage, reduced waste, etc.)</li> <li>• Recirculate energy spending within the local economy</li> <li>• Create high quality local jobs</li> <li>• Increase property values</li> </ul>	<ul style="list-style-type: none"> <li>• Reduce greenhouse gas emissions</li> <li>• Foster healthy ecosystems</li> <li>• Use land and natural resources more efficiently</li> <li>• Set a common vision around energy in the community</li> </ul>	<ul style="list-style-type: none"> <li>• Improve indoor and outdoor air quality</li> <li>• Reduce obesity and diseases associated with sedentary lifestyles</li> <li>• Improve mental health</li> </ul>	<ul style="list-style-type: none"> <li>• Improve access to reliable sources of energy</li> <li>• Reduce exposure to energy price volatility</li> <li>• Assess and provide solutions for areas facing energy poverty</li> <li>• Assess and provide solutions for at-risk areas</li> <li>• Ensure local energy priorities are considered in supply planning</li> </ul>

**Source:** Gilmour, B., Laszlo, R., Marchionda, S., Drapeau, S., and Lee, M. (2016). *Community Energy Planning in Ontario: A Competitive Advantage for Your Community*. Leach, T. and Ratchford, C. (eds). <http://www.questcanada.org/files/download/8c1da196f47f806>



### *What are some of the challenges?*

Through our conversations, we identified a number of challenges with the CEP process.

#### *Awareness:*

- Lack of awareness of what community energy planning is and its benefits and opportunities on the part of municipal councillors and staff.
- Lack of awareness of funding supports from provincial government.
- Lack of awareness around energy matters not related to electricity (e.g. water, space heating, transportation, waste).

#### *Capacity:*

- Lack of in-house or local expertise of comprehensive energy issues and particularly technical skills in GIS (geographic information systems) for energy mapping.
- Intensive staff/consultant time required to attain data and ensure high quality for effective mapping and analysis (especially for municipalities with multiple utilities in their boundaries).

#### *Data:*

- Some utilities have difficulty providing data, especially those who are new to the energy planning process.
- Strict privacy regulations on customer-level energy data complicates efficient data gathering and quality.
- Difficulty attaining accurate data for non-utility provided energy sources (e.g. propane, biomass for residential use; transportation fuel).
- Land use parcel data (attained from MPAC) does not have consistent data regarding year of build, land use type, and gross area (as opposed to building footprint).

#### *Implementation:*

- Data challenges complicate the ability for municipalities to monitor energy conservation goals and targets on a regular/ongoing basis.
- Municipalities do not have compliance-based tools to promote energy efficiency or local energy goals and targets (e.g. building code does not allow for local differentiation, and municipalities cannot mandate beyond code).

- Funding does not always match municipal needs or capacity to act. As such, municipalities often struggle with funding initiatives that implement energy goals and targets.
- Community energy plans need to be integrated with land use plans and asset management plans. The Provincial Policy Statement (PPS) has goals for energy planning that must be integrated into land use plans. Implementation of energy goals and targets requires revisiting existing plans for integration.

### Questions for Discussion

1. What are some specific benefits your local community could attain through community energy planning?
2. What additional challenges do you anticipate your municipality to face with community energy planning?

## Overcoming Challenges and Attaining Benefits

To overcome the identified challenges and maximize the benefits of community energy planning, municipalities and the province must work together.

*The role for municipalities:* Municipal councillors and staff should educate themselves about community energy planning and climate action planning processes, funding options, and take steps to initiate these processes in the near future.

*The role for the Province:* The Government of Ontario must ensure that funding for community energy planning through the Municipal Energy Plan Program remains available at a level that allows all municipalities who wish to access funding, to receive such funding. The level of funding must be such that municipalities can find their contribution. The Province must also ensure that the committed funding for climate action plans becomes available in the near future so that municipalities can set climate change mitigation and adaptation goals and targets.

There is also a role for the Province to address the challenges that municipalities have identified with regards to data. The Province has committed to a “data-driven approach to carbon reduction” and this requires data that is easily attained and of a high quality for effective analyses and target setting.

*The role of AMO/LAS:* AMO/LAS intend to engage the Province along with other energy sector stakeholders to discuss legislative and regulatory barriers to a data-driven approach to community energy planning and climate action planning. AMO/LAS have also been working to support municipalities on a number of initiatives, including:

- Working with ministry staff to influence the Municipal Energy Plan Program design.
- LAS bulk purchases fuel to reduce municipal costs.  
<http://las.on.ca/Services/FuelProcurement.aspx>
- Energy Training: <http://las.on.ca/Services/EnergyTraining.aspx>
- Electricity Procurement: <http://las.on.ca/Services/ElectricityProcurement.aspx>
- Natural Gas Procurement: <http://las.on.ca/Services/NaturalGasProcurement.aspx>
- Energy Planning Tool: <http://las.on.ca/Services/EnergyPlanningTool.aspx>

### Questions for Discussion

1. How can AMO/LAS assist municipalities with overcoming challenges of community energy planning?
2. What programs could AMO/LAS deliver to support community energy planning processes?
3. What advocacy can AMO/LAS do for municipalities to support community energy planning and the implementation of local energy goals and targets?
4. What existing tools would be more successful with the support of AMO/LAS?

## Conclusion

Municipalities in Ontario are a significant participant in meaningful climate action planning that is enabling the province to transition to a low-carbon economy. Community energy planning is a key part of this transition process that helps municipal governments define energy priorities to improve efficiency, reduce emissions and spur economic development. From our interviews with members, there are still barriers to overcome such as building awareness, unlocking resources with limited capacity, and accessing the right data to create good community energy plans. But the benefits and opportunities from implementing an effective community energy plan can solve many local challenges, from local economic development to potential energy cost savings.

AMO/LAS commits to continuing our ongoing engagement with the Province and energy stakeholders to overcome existing legislative, regulatory and resource barriers that impede effective implementation of community energy plans. It is AMO/LAS's hope that the feedback from the discussion questions in this paper will lead to the launch of program and service opportunities to provide members with the tools they need to move forward with community energy planning.

## Appendix: Complete List of Discussion Questions

### Community Energy Planning:

1. What further information would you need to feel confident that community energy planning is beneficial for your community?
2. Do you see value in using community energy planning to support your municipality in identifying opportunities in the low-carbon economy?
3. What steps can you take now to prepare your community for a community energy planning process?

### Benefits and Challenges:

1. What are some specific benefits your local community could attain through community energy planning?
2. What additional challenges do you anticipate your municipality to face with community energy planning?

### Overcoming Challenges and Attaining Benefits:

1. How can AMO/LAS assist municipalities with overcoming challenges of community energy planning?
2. What programs could AMO/LAS deliver to support community energy planning processes?
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