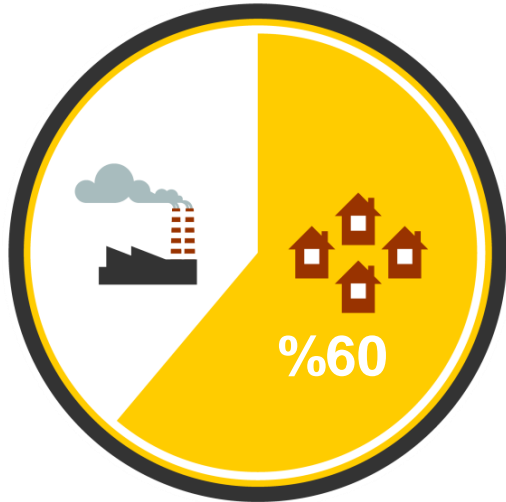


Community Energy Planning: A Pathway to Advancing **Smart Energy Communities** in Canada

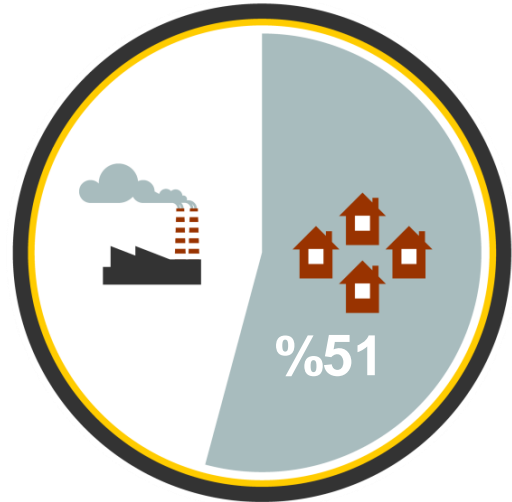
*October 20, 2015
Jim Simmons P.Eng FEC
QUEST NS Co-Chair
Bright Business Conference*



> Why Communities



Energy Consumption



Greenhouse Gas Emissions

> What is a Smart Energy Community?



1. Integrate Conventional Energy Networks

Electricity, natural gas, district energy, and transportation fuel networks are better coordinated to match energy needs with the most efficient energy source



2. Make Smart Land Use Decisions

Recognizing that poor land use can result in energy waste



3. Harness Local Energy Opportunities

Energy efficiency, green building, renewable energy, combined heat and power, storage and *many other* opportunities tailored to community needs



> Who is Advancing Smart Energy Communities in Canada?

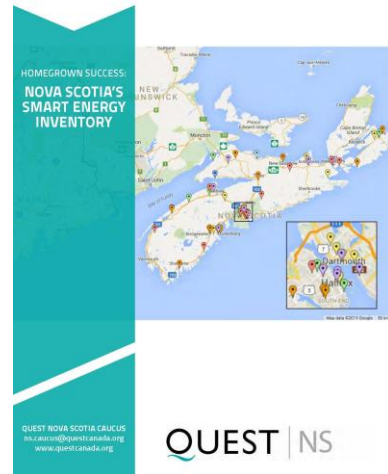
The QUEST Smart Energy Atlas

www.questcanada.org/theatlas

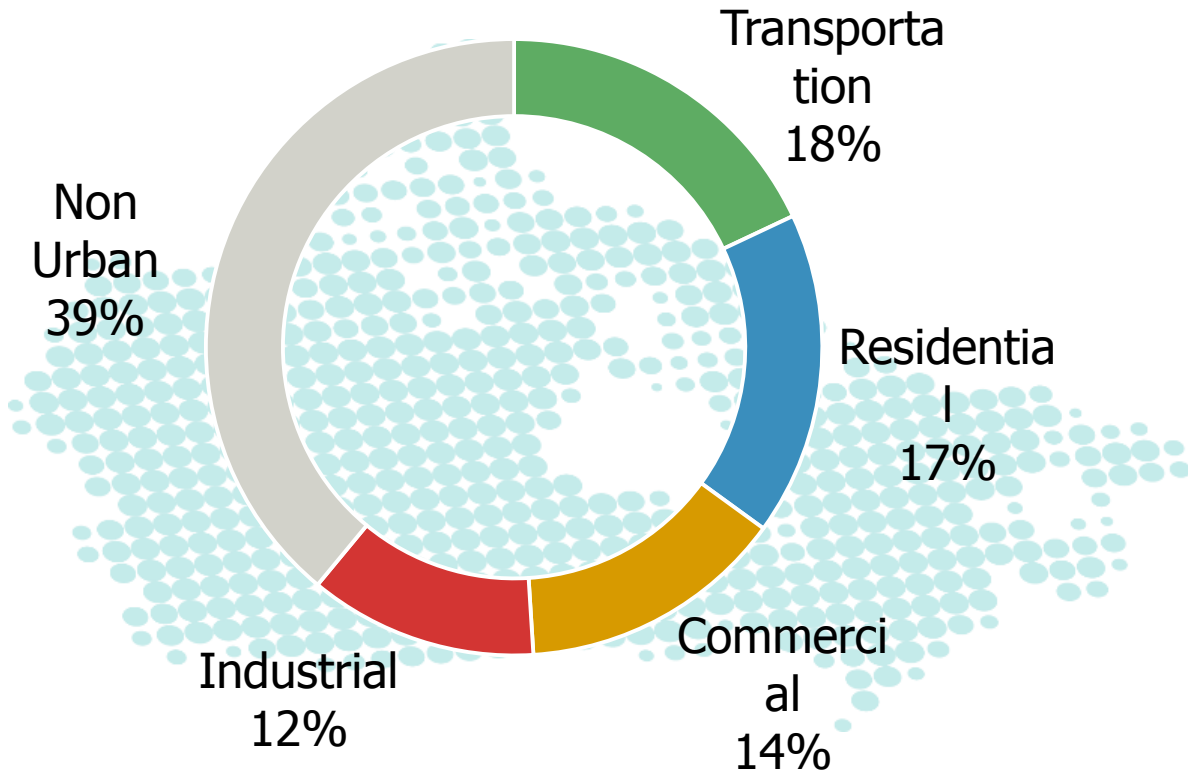


Homegrown Success: Nova Scotia's Smart Energy Solutions Inventory

www.questcanada.org/caucus/ns

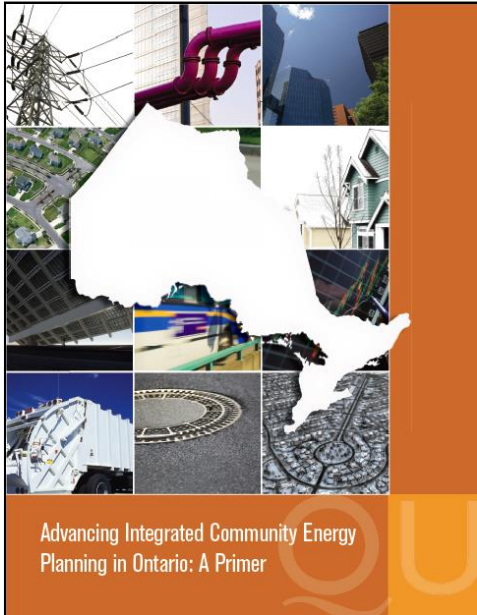


> Community Energy: The Opportunities



> Becoming a Smart Energy Community

...the Community Energy Plan



A comprehensive, long-term plan to improve energy efficiency, reduce greenhouse gas emissions and foster local sustainable energy solutions in the community.

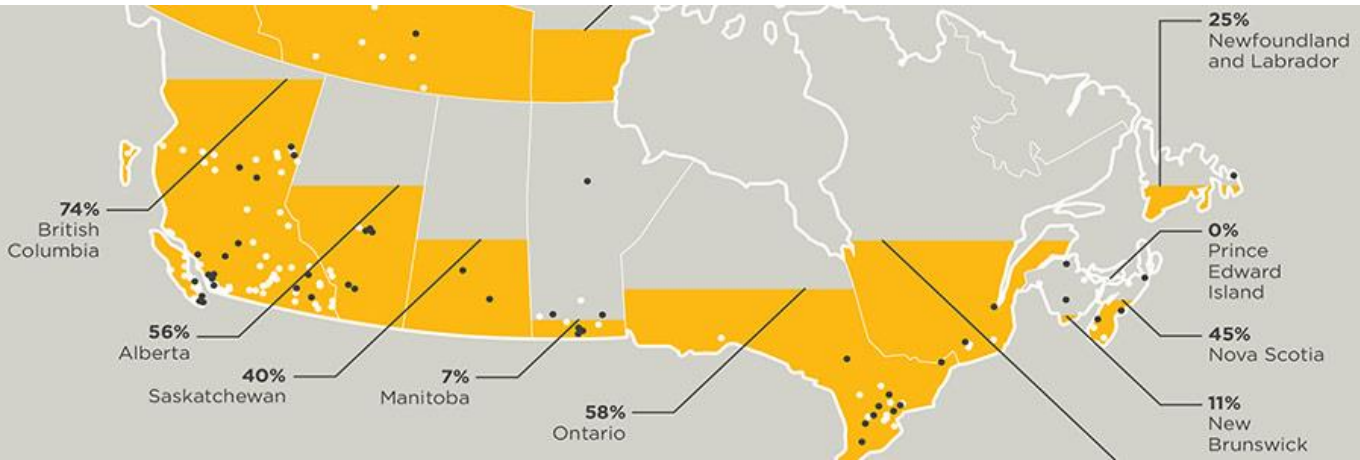


> Project Spotlight: Getting to Implementation



COMMUNITY
ENERGY PLANNING
**GETTING TO
IMPLEMENTATION**
IN CANADA

- 180 communities across Canada (50% of the population) have a CEP
- All communities are facing challenges when it comes to implementation.



> Why Community Energy Planning?

- ✓ Improve energy efficiency
- ✓ Reduce air pollution and greenhouse gas emissions
- ✓ Foster local sustainable energy solutions in the community
- ✓ Address energy limitations where they exist
- ✓ Reduce community vulnerability to energy price increases
- ✓ Increase energy security and resilience
- ✓ Build a local energy efficiency and local energy market sector
- ✓ Retain energy dollars within the community
- ✓ Support local economic development

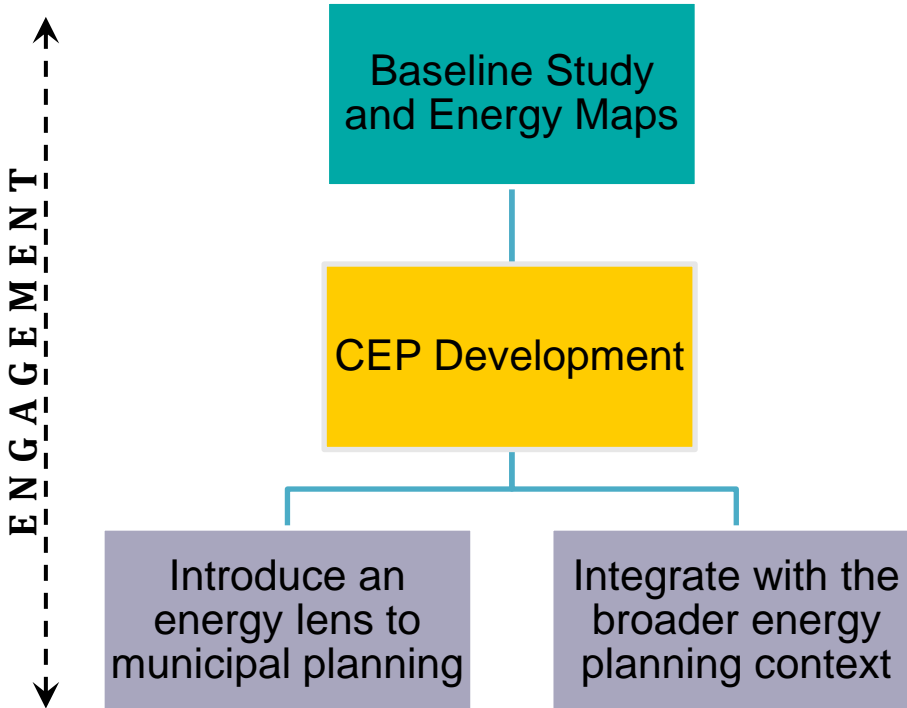


> Bird's eye view on CEP in Canada

- 170 plans representing 50% of Canada's population (12 "upper-tier")
- Provides a rallying point for actions
- Communications tool to get buy-in and build investor confidence
- Common drivers:
 - GHGs, air quality, health
 - Local economic development
 - Energy security and resiliency
 - Economic Benefits



Community Energy Planning Process



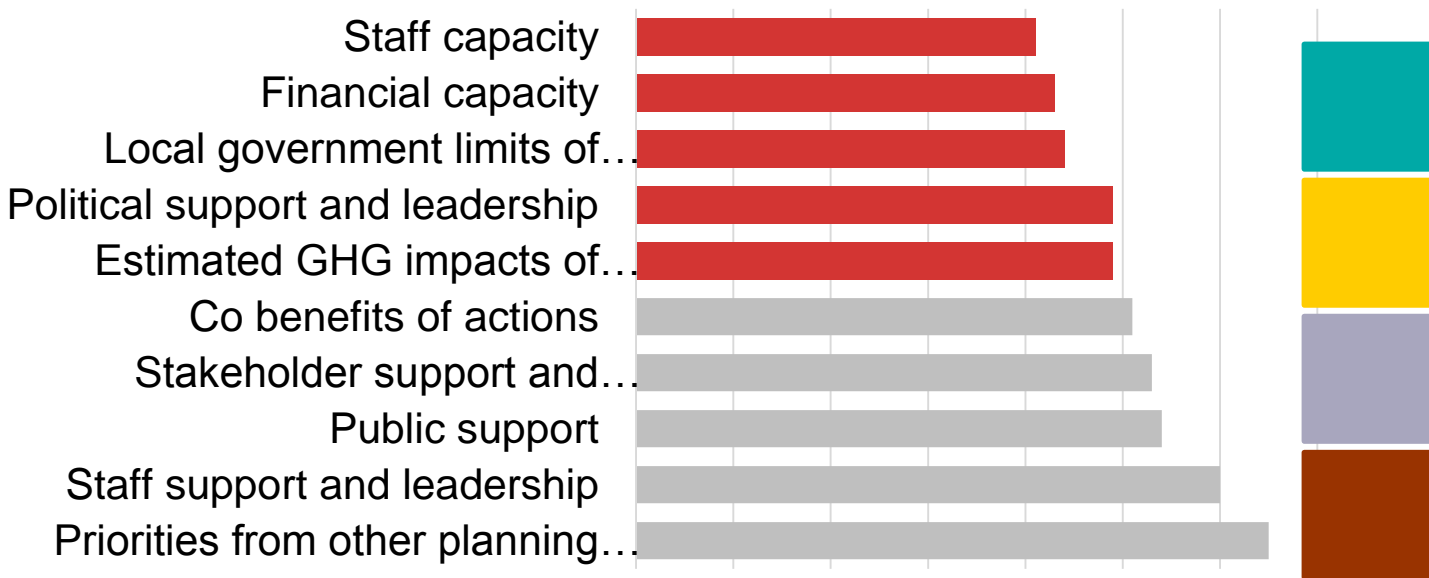
> What to Consider When Developing a CEP

...involves a strategic situational analysis



> Lessons Learned from CEP Implementation

The most common factors acting as barriers to CEP implementation



Source: National Report on Community Energy Plan Implementation

> Success Factors for Implementation

Building Capacity for Implementation

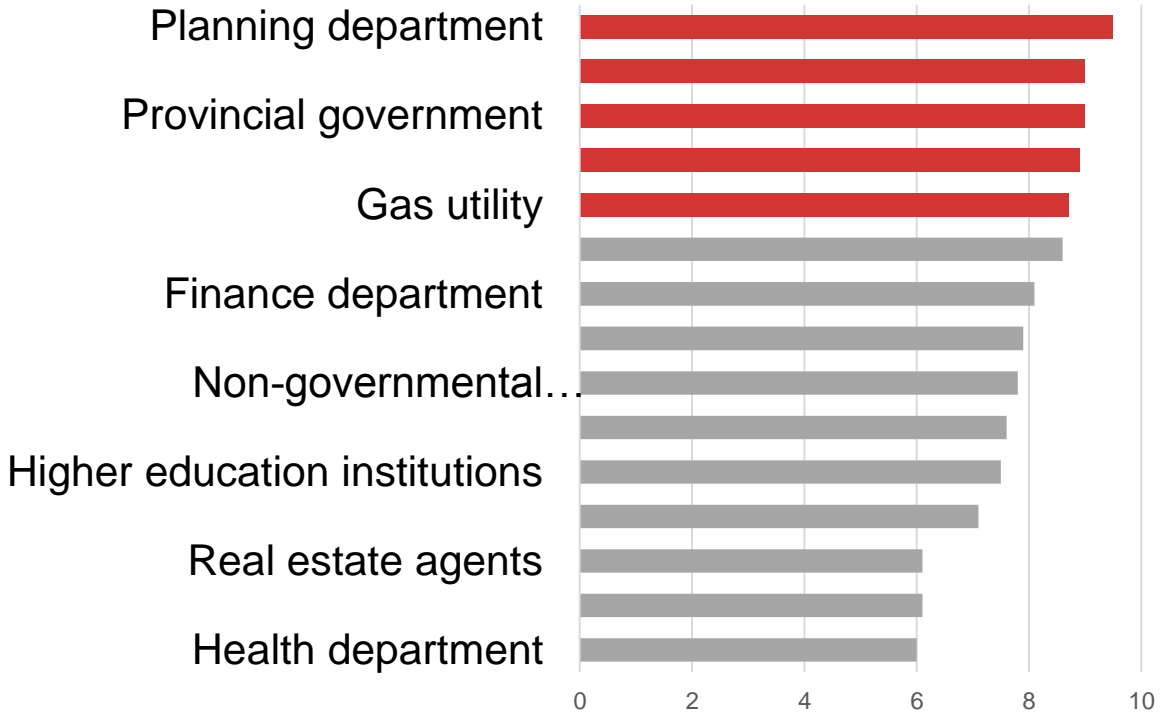
Working within the local government's limits of authority

- Focus on partnerships
Early, sustained engagement is key – engage broadly!
- Identify points of commonality between the CEP objectives and community stakeholders
- Focus on actions being supported by utilities, provincial government and others stakeholders

Examples

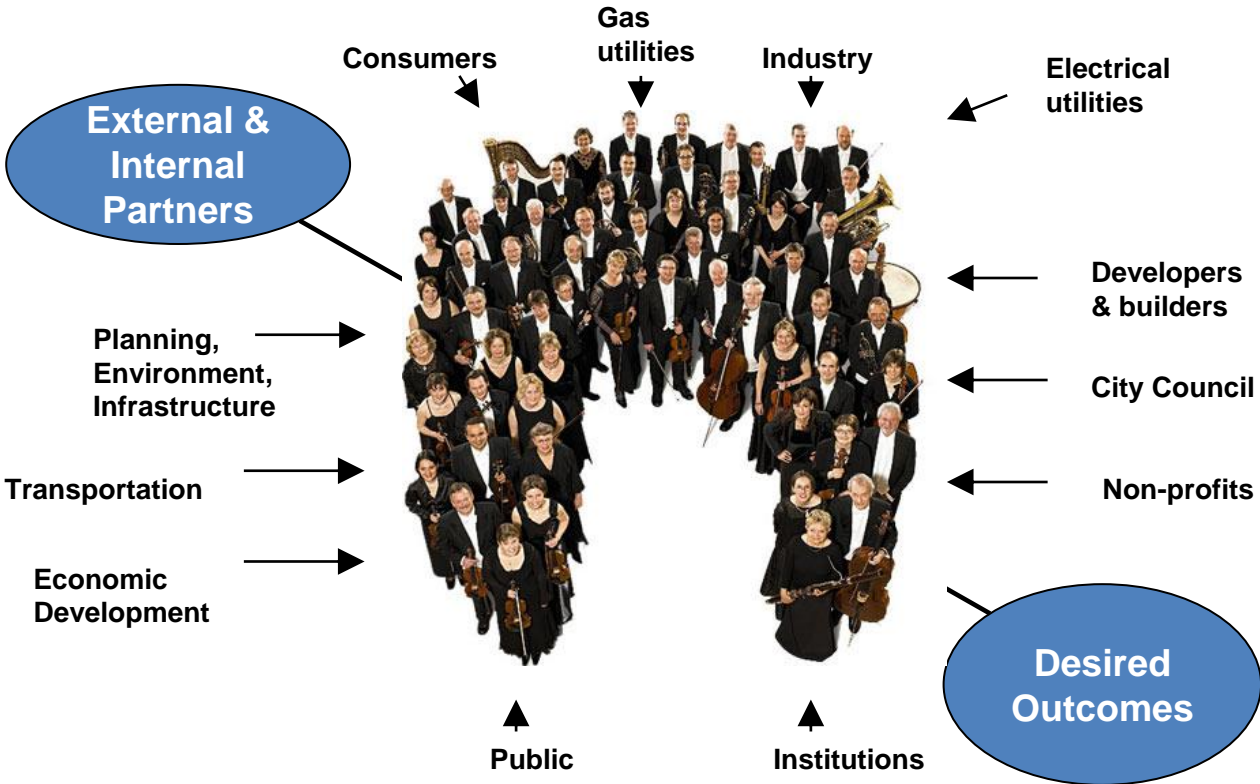
- City of Guelph – Taskforce and Working Groups
- City of Markham – PowerStream and conservation

> Partnerships



Source: National Report on Community Energy Plan Implementation

> Who and What to Consider when Developing a CEP



> **Engagement: utilities are critical partners**

- **Data sharing:** “5 and 25” rule and variations -> originated at Enbridge and looking at improvements.
- **Conservation:** Mandated targets (DSM for electricity) present an opportunity for alignment and expansion of CEP priorities and look for additional opportunities for residential, commercial and industrial conservation programs.
- **Distributed Generation:** Renewable energy, storage, emergency generation, standby & backup generation, CHP (cogeneration), microgrid, and ETS systems



> Success Factors for Implementation

Building Political and Staff Support

- Identify key messages for different audiences
- Tracking and monitoring progress using key performance indicators
- Use data to tell a story

Examples

- City of London: Economic Benefits
- City of Edmonton: Risk Management



> Alignment with **economic** objectives

- Retaining dollars spent on energy locally
- Business retention and attraction
- Market differentiation
- Neighbourhood revitalization
- Affordability
- Employee attraction, retention and productivity



> Alignment with **risk and resilience** objectives

- Mitigating impacts from extreme weather
- Improving security of energy supply
- Managing high and increasing energy prices
- Meeting air quality standards

> Alignment with **environmental** objectives

- Improving air quality and reducing GHG emissions



> Success Factors for Implementation

Improving the Clarity of the CEP

- Make the plan “SMART” (specific, measurable, attainable, relevant and time-bound)
- Tie timelines and accountability to actions
- Integrate energy into existing plans and processes
- Use decision making tools (e.g. energy maps)

Examples

- City of Guelph - Development Approvals Process
- City of Toronto – Green Development Standards
- City of Toronto – Official Plan Review



> Developing a CEP: Energy Reduction Actions

Public &
Stakeholder
Outreach &
Engagement

Planning & Policy (ex.
intensification, growth nodes,
green development standards,
incentives, true cost accounting,
natural capital value & asset
management

Public & Active
Transportation,
TDM, driver
training, anti-
idling, low carbon
vehicles

Energy
Efficiency in
Existing
Buildings

Renewable,
district, CH&P
energy

Water
Conservation &
Efficiency

Solid waste,
landfill gas,
compost

Challenges	Success Factors
-Lack of staff and financial capacity -Limits of local government authority	<ul style="list-style-type: none">– Focus on partnerships– Focus on actions with provincial or utility support
Lack of political and staff support/leadership	<ul style="list-style-type: none">– Identify the economic benefits of the actions in the plan– Track, monitor and report progress using key performance indicators– Use data to tell a story
The next steps are not clear	<ul style="list-style-type: none">– Make the plan “SMART”– Tie timelines & accountability to actions– Integrate energy into existing plans– Decision making tools-energy mapping



> Energy Community of Practice (ECOP)

<http://www.questcanada.org/ecop/resources>



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EVENTS & PROJECTS

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Resilient Pipes and Wires

Getting to Implementation

Ontario Energy Community of Practice (ECOP)

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QUEST2015!

QUESTalks & Roundtables

Awards

Event Calendar

ONTARIO
**ENERGY
COMMUNITY
OF PRACTICE**
QUESTCANADA.ORG/ECOP

ECOP Training Modules and Resources

The Ontario Energy Community of Practice initiative (ECOP) saw the development of a set of resources including three Training Modules and a set of video presentations to support community energy planning activities in Ontario. These resources are designed to serve the needs of municipalities across Ontario and support development and implementation of Community Energy Plans (CEPs). These resources were piloted in the GTA North regional planning area.

ECOP Symposium

The ECOP Symposium was held outside of the GTA North regional planning area in order to include a broader group of stakeholders. This report contains an overview of the Symposium proceedings including a project summary, notes from guest presentations and captures thoughts from facilitated roundtable discussions.



Download the Summary Report

Training Modules

Search



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Getting Smart About
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READ OUR
RESEARCH

- Community Energy Planning: Getting to Implementation in Canada (GTI)
- Resilient Pipes and Wires Project
- Ontario Energy Community of Practice (ECOP)

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