Engaging Municipalities to Implement Sustainable Energy Projects

Clean Air Partnership FCPC Federation of Community Power Co-operatives

Sponsored by the IESO TREC Co-operative and the Clean Air Partnership



Agenda

- Opportunity for cooperation between Municipalities and Co-ops
 - Introduction to the IESO Education and
 Capacity Building Project
 Analysis of Community Energy Plans (CEPs)
 Case studies from other jurisdictions
 - The business case for municipalities for net metering
 - Regulatory drivers specific to municipalities
 - Questions





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Webinar Housekeeping

- This webinar will be 1 hour followed by a 15 min Q&A session.
 - To ask questions, please type into the chat box on the left hand side of your screen.
 - During the session we will be launching several polls. Please input your answer when prompted.
- A copy of this presentation will be circulated to all participants following the webinar.





Opportunity for Co-operation between RE Co-ops and Municipalities

- Broaden and deepen energy engagement in communities.
- Find untapped resources and skills to resolve Community Energy Plan (CEP) implementation challenges.
- Find new business models for RE co-ops in a post FIT environment.









Moving forward

What we need to do:

- Form partnerships between key players
- Mobilize champions in the energy sector
- Recognize specific energy needs

We believe the first step is:

• Assess levels of interest for sustainable initiatives across jurisdictions in Ontario







Analysis of Community Energy Plans in Ontario

We researched 6 focus areas:

- District Energy
- Demand Response
- Energy Efficiency Retrofits
- Energy Storage
- Community Solar Farms
- Transportation
 Electrification







<u>Top-level Table</u>

Sustainable Energy Type	Ajax CDM	Burlington CEP	Chatham Kent CEP	Guelph CEP	East Gwillimbury CEP	Halton Region CEP	Hamilton Climate Change Plan	Kingston Climate Action Plan	London Energy Management Plan	Markham Energy Management Plan	Niagara Region CDM	New Market CEP	Oakville CDM Plan	Ottawa Energy Transition Strategy	Oxford County 100% RE Plan	Peterborough Sustainability Plan	Stratford CEP	Vaughan MEP	Wawa CEP	Waterloo Community investment Strategy	Woodstock CEP	Windsor CEP
District Energy	Low	High	Low	Medi um	High	High	Medi um	Medi um	High	High	Low	High	Medi um	High	Low	Low	Low	Medi um	Low	High	Medi um	High
Demand Response	Low	Low	Low	Low	Low	Low	Low	Low	Low	Medi um	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low
Energy Efficiency	Medi um	High	High	High	Medi um	High	High	High	Medi um	High	High	High	High	Medi um	High	High	High	High	High	High	High	High
Energy Storage	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Low	Medi um	Low	Low	Medi um	Low	Medi um	Low	Low
Community Scale Solar	Low	Low	Low	High	High	Medi um	Medi um	Medi um	Low	Medi um	Medi um	High	High	High	High	Medi um	Low	Low	High	High	High	Medi um
Sustainable Transportat ion	High	Medi um	Medi um	Low	Low	Medi um	High	Medi um	Medi um	Low	Low	Medi um	Medi um	High	High	Low	High	Medi um	Medi um	High	High	High





Exploring Opportunities: Case Studies

- Some cases shared are projects which did not involve a municipal or co-op player but the model has the potential for such involvement
- Jurisdictional scan of policies & regulatory environment
- Financial viability







District Energy

Regent Park Community Energy System

- Regent Park's DE system provides heating and cooling to more than 800 residential units.
- Saves more than 400,000 tonnes of GHG emissions over 30 years.
- While this project did not involve a co-op, it is the type of project for which a co-op could feasibly raise community investment.







District Energy - Municipal Level of Interest







Please indicate your level of interest in developing/financing district energy:





Understanding Behind the Meter







Demand Response

POWER.HOUSE Energy Storage Pilot

- Alectra Utilities launched the POWER.HOUSE pilot program (funded by the IESO Conservation Fund).
- Goal was to evaluate the benefits that residential solar storage can bring.
- Results demonstrate the technical and commercial potential that residential solar storage can achieve.







Demand Response - Municipal Level of Interest







Please indicate your level of interest in developing/financing a demand response program





Energy Storage

<u>Community Battery Program in Firestone, Colorado</u>

- United Power Cooperative and SoCore Energy announced plans to build the largest energy storage facility in Colorado.
- The 4 MW, 16 MWh battery storage system will store energy generated over night and discharge it during the day.
- The system is part of its "community battery" strategy. Like a community solar program, customers subscribe to the program and get credits to offset their peak demand.







Energy Storage - Municipal Level of Interest







Please indicate your level of interest in developing/financing energy storage





Energy Efficiency

Pajopower Co-op Street Light Retrofit

- Issues shares to community members and invests in energy efficiency projects "Adopt a Streetlight" campaign.
- Pajopower issued 900 shares at 250 Euros each and provided the municipality with a soft loan to make the investment.
- Retrofitted 445 public streetlights in a community near Brussels.
- This model could be replicated to retrofit municipally owned buildings as well. Co-ops could contribute third party financing to existing municipal energy efficiency programs.







Energy Efficiency - Municipal Level of Interest







Please indicate your level of interest in developing/financing energy efficiency retrofits





Community Solar

Community-Scale Solar in Nelson, B.C

- Bullfrog Power and the City of Nelson launched a Community Solar Garden Project.
- Project uses "virtual net-metering" to support renewable energy community projects.
- The 60 kW solar array was projected to generate 70-75,000 kWh/year.
- Goal is to test the model for potential future expansion.
- This model would work well in a scenario where the municipality owns the utility.







Community Solar - Municipal Level of Interest







Please indicate your level of interest in developing/financing <u>community solar</u> projects





Sustainable Transportation

<u>Electrification of Buses: Minnesota Co-ops launch Electric</u> <u>School Bus Pilot</u>

- Two power co-ops partnered with a school bus manufacturer in Canada to send children to school in an electric bus.
- Buses cost approximately \$325,000 but there are costs savings of approximately \$170 per month (\$2,000 annually).
- This model could be replicated to electrify an existing fleet of municipal vehicles.
- Examples: Emergency response, maintenance, public transit, etc.









Sustainable Transportation - Municipal Level of Interest







Please indicate your level of interest in <u>electrifying transportation</u> within your municipality:





Sustainable Energy Initiatives - High Municipal Level of Interest

% of Municipalities that have High Levels of Interest

Municipal Feedback

Sample size = 14







Next Steps

- Explore municipal and co-op connection opportunities (2-3 models)
- Accept 6 co-ops into the program
- Municipalities and co-ops will be invited to workshops based on case studies they have expressed interest in
- Partnership Toolkit





Thanks!



