

# Municipal Climate Action Planning in Small and Rural Communities

Adlar Gross  
ICLEI Canada



# ICLEI Canada

- Established in 1990 when more than 200 local governments from 43 countries convened at World Congress of Local Governments for a Sustainable Future at the United Nations in New York
- Largest international association of local governments focusing on sustainability
- 2500+ local and regional governments in over 100 countries

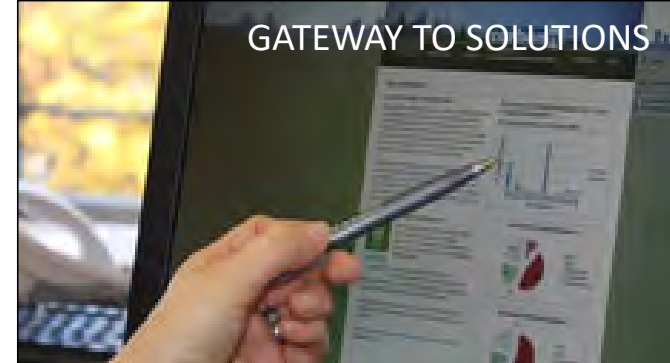
CONNECTING LEADERS



ACCELERATING ACTION



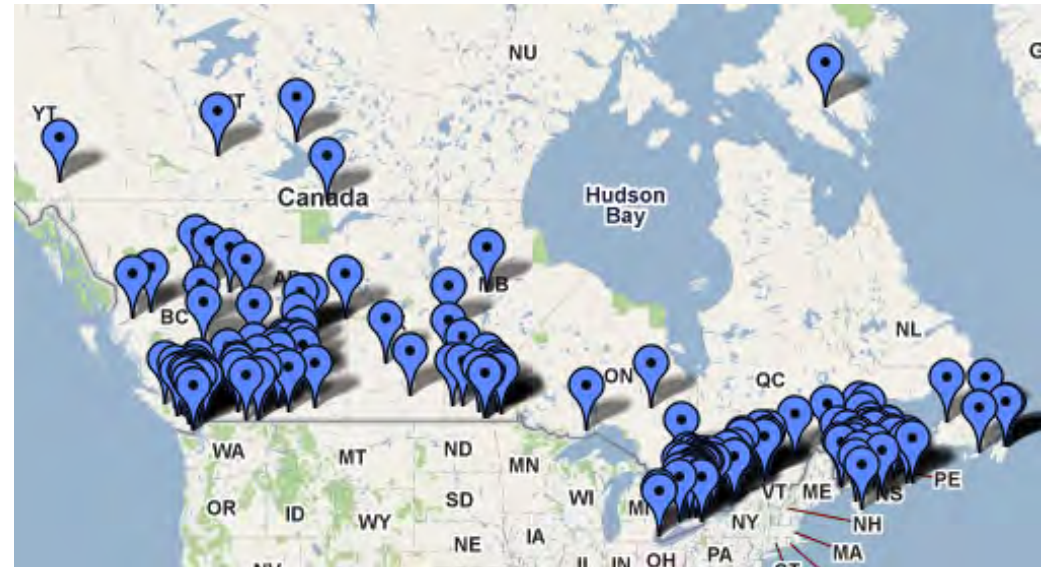
GATEWAY TO SOLUTIONS





# Partners for Climate Protection

- A joint initiative between ICLEI Canada and the Federation of Canadian Municipalities (FCM)
- A network of over 500 Canadian municipalities from coast to coast to coast!
- Technical support and guidance, peer-to-peer learning, free training and resources



## PCP 5 Milestone Framework

1. Creating an Inventory
2. Setting a Target
3. Developing a Plan
4. Implementing a Plan
5. Monitoring the Impact

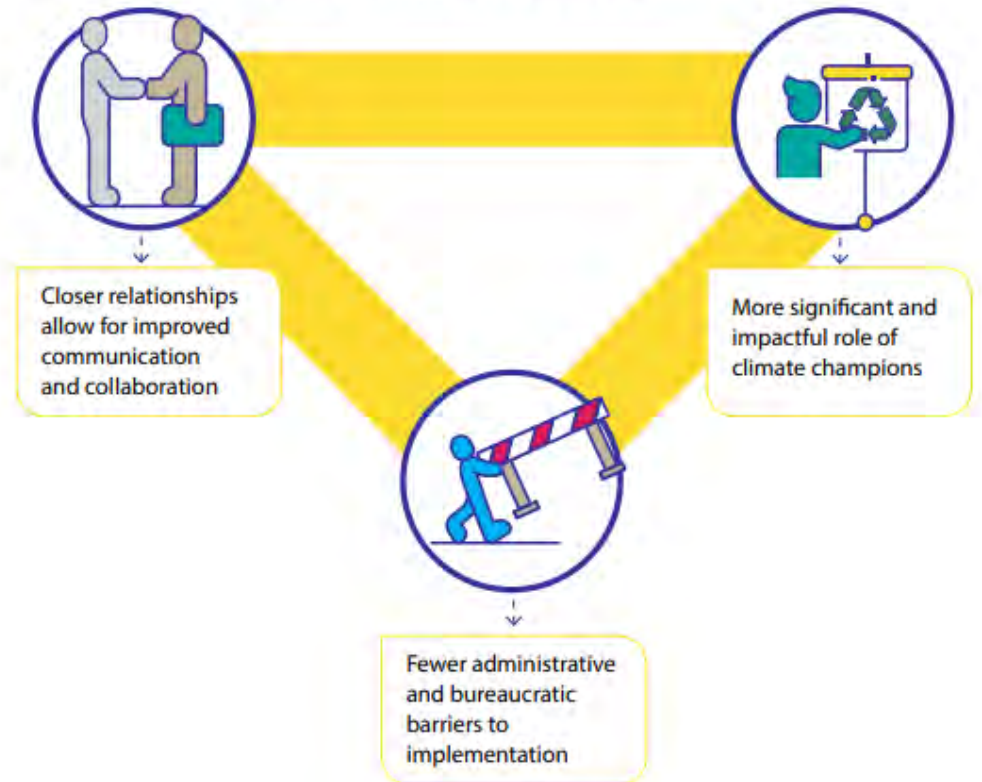


# Small Communities & Climate Mitigation

- Small, rural municipalities make up more than 90% of Canadian communities
- Key players in the Canadian economy
- Supply food, water, energy and goods to the rest of Canada
- 27% of the national GDP, and 23% of labour force
- Yet mitigation is often focused on large municipalities



## THE UNIQUE ADVANTAGES OF SMALL AND RURAL COMMUNITIES





# General Principles and Strategies for Success



# Communicating the Business Case and Cost of Inaction



## Focus on the co-benefits!

- Decreasing energy costs
- Keep energy dollars circulating in the community
- Job creation
- Community Revitalization
- Look for revenue generating or revenue neutral opportunities (e.g biogas, EV chargers)
- Increasing number of extreme weather and disaster events
- Increased spread and range of pests (Mountain Pine Beetle)
- Disrupting agricultural patterns
- Health and nutrition
- Wellbeing
- Water scarcity

# Buildings

- Building retrofits
- Electrification of heating
- Demonstrate feasibility across municipal operations
- District Energy and Renewable Energy
- Focus on education and awareness
- Financing options – PACE, Energy Service Performance Contracting
- Funding opportunities
- Leverage existing grants and rebates for homeowners

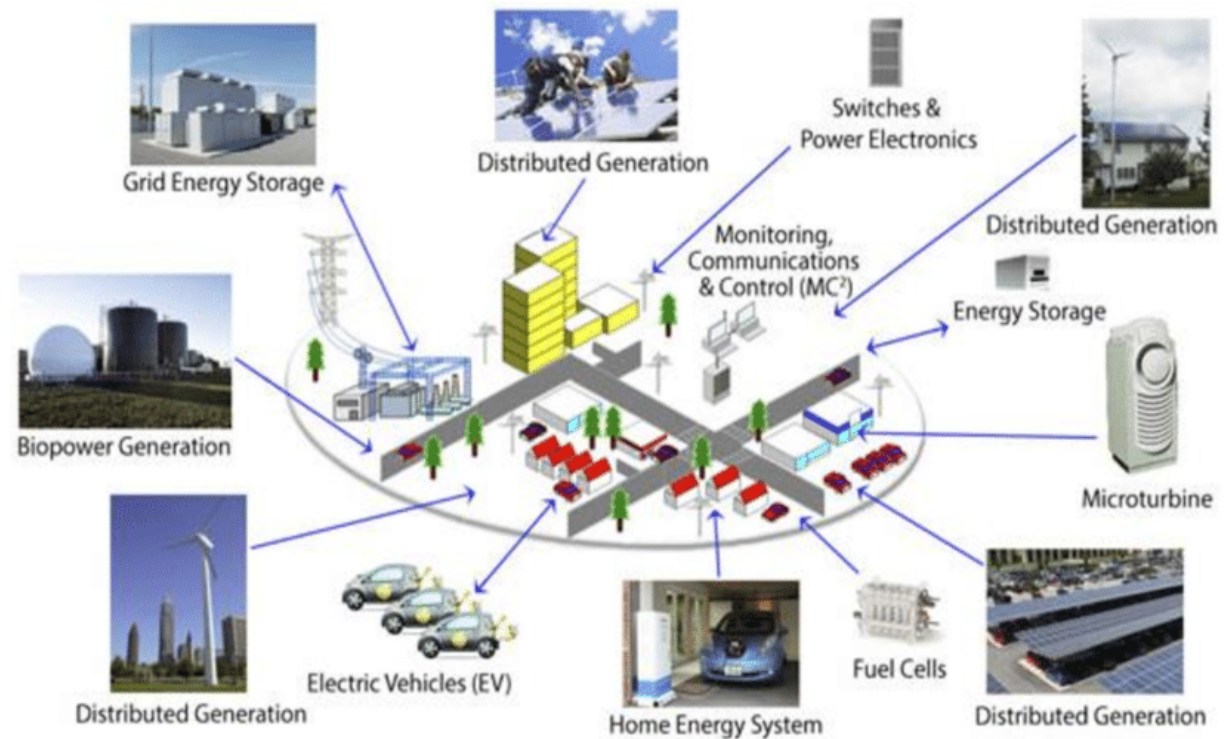


- New buildings
  - Green development standards
  - Sustainability checklists
  - Smart growth principles



# The Context- Electrification

- Clean electrification is a top priority to reach net-zero emissions
- Electricity demand is expected to grow steadily with a 20% average annual growth rate from the transportation sector alone
- Will require a range of technologies and business models including grid modernization and digitalization to meet increased electricity demand
- Distributed Energy Resources (DER) and Decentralized Energy vs Centralized Energy

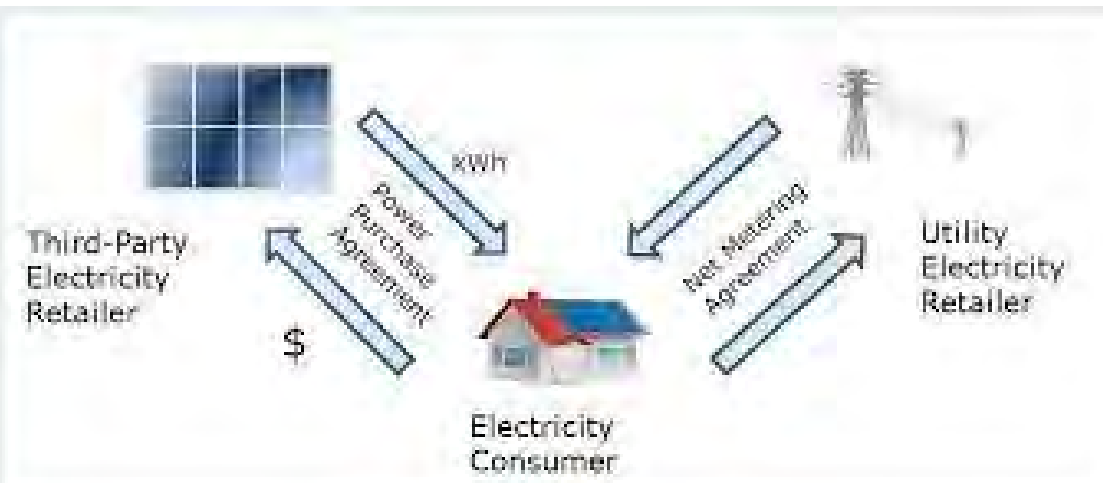
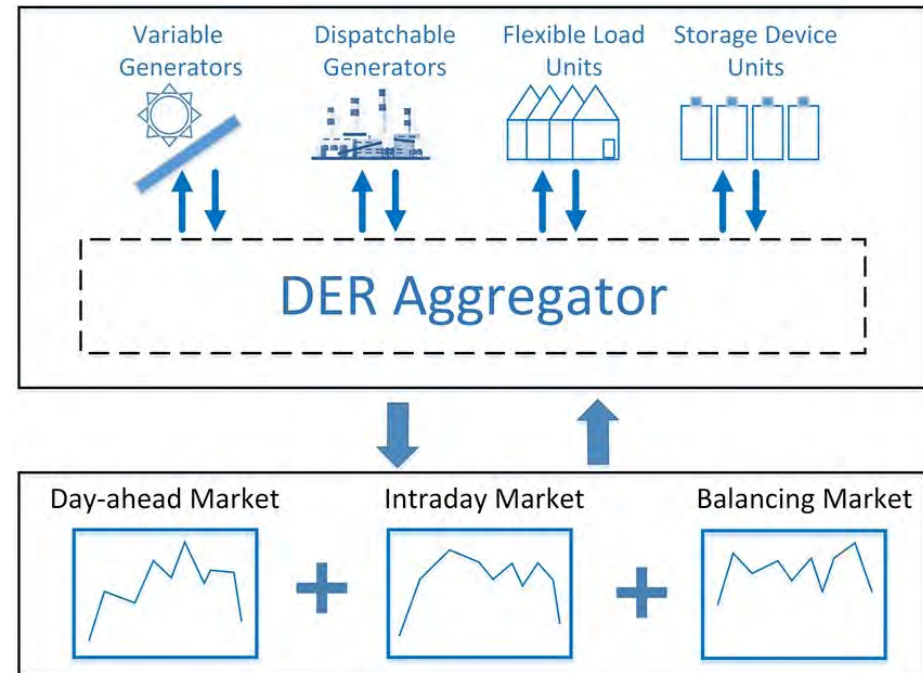


# Enabling DER

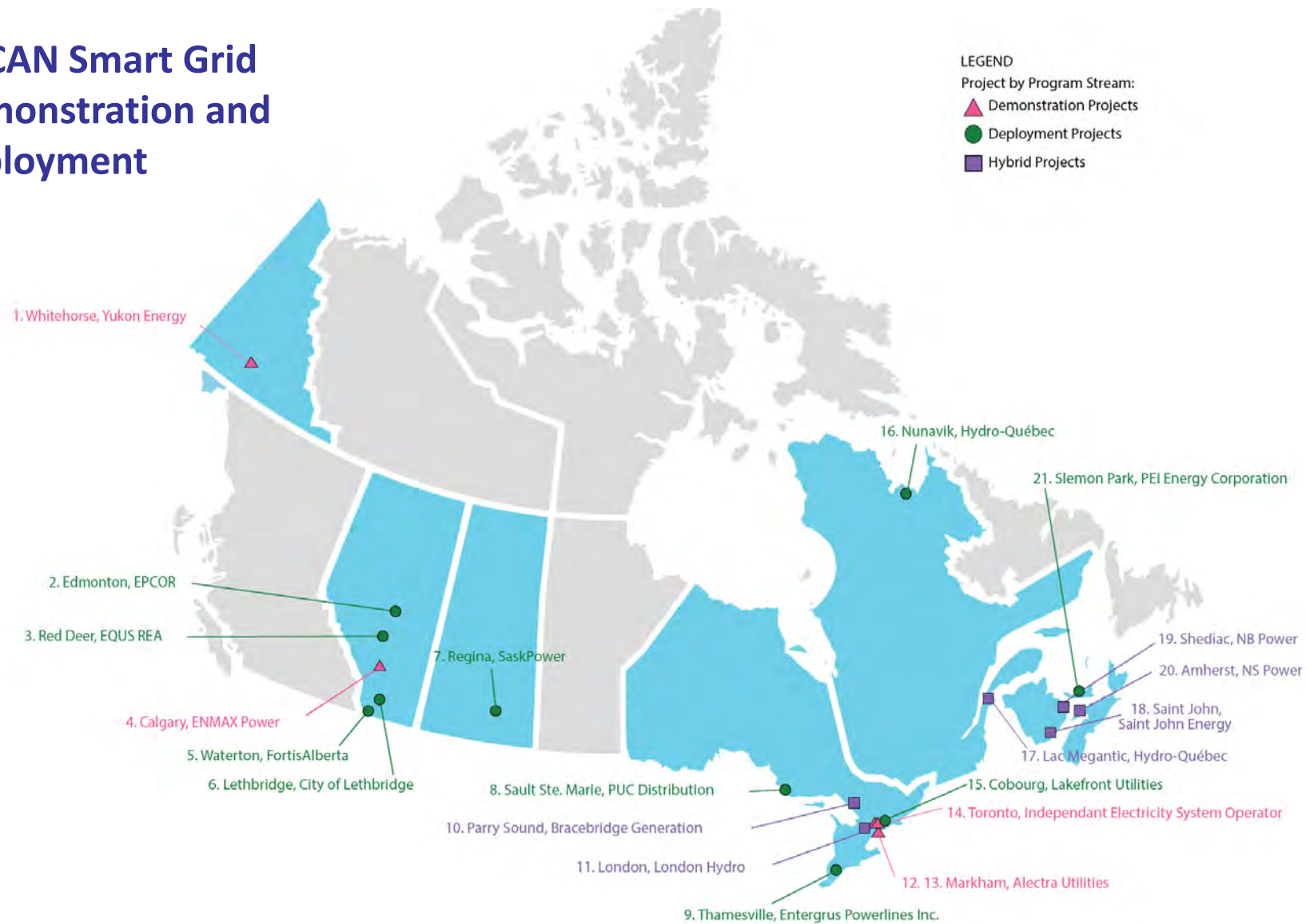
## Community Ownership

- Energy Cooperatives
- Virtual Net-metering

## DER Aggregation



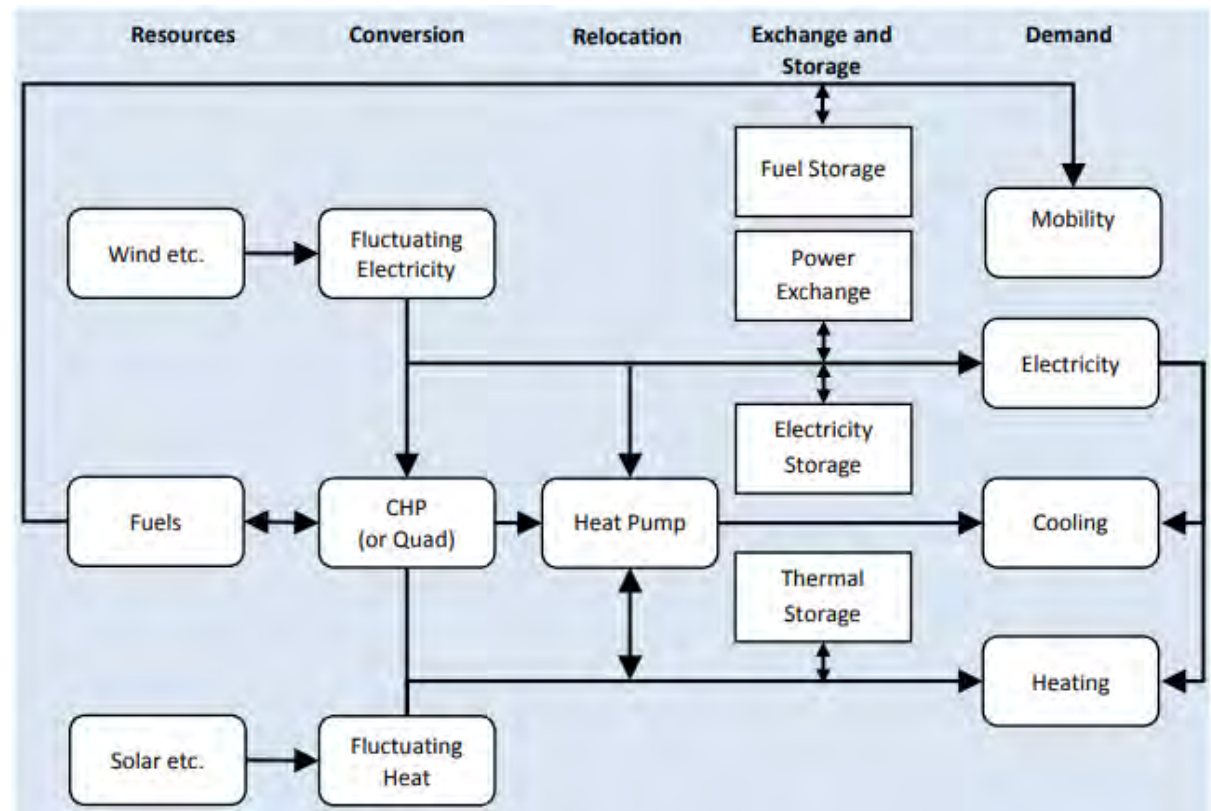
# NRCAN Smart Grid Demonstration and Deployment





# Heat Pumps & District Energy in a Smart Energy System

- Holistic and integrated 100% renewable energy systems
- Fossil Fuels provide flexibility and energy on demand
- Smart energy systems must find new forms of flexibility that are affordable and utilize RE efficiently



# Municipal Energy Efficiency Retrofit Programs



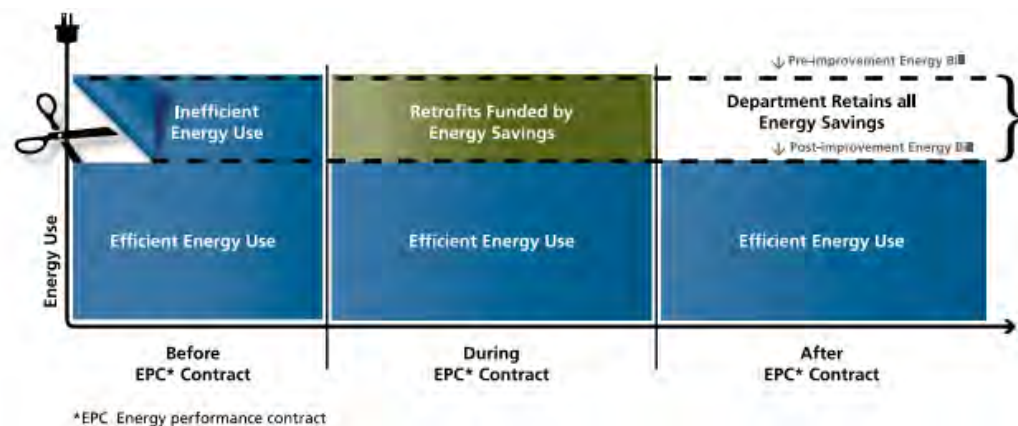
- Local improvement Charges (Property Assessed Clean Energy Loans (PACE)) and On-Bill Financing
  - Colchester & Charlottetown, NS
  - GMF Community Efficiency Financing Program
- Education and outreach – improving program uptake
  - ICLEI Canada Agents of Change
- Leveraging Grants and rebates – One-Stop-Shops
  - Power Down Campbell River
- Community Improvement Plans (CIP)



# Municipal Energy Efficiency Retrofit Programs



- Energy Service Performance Contracts (ESPC)
  - Efficiency Capital, TO
  - SOFIAC, QC
  - Brampton, ON
- The Municipal Impact Investment Fund, MaRS
- Green Bonds
- GMF Municipal Energy Roadmap



**MaRS** | CENTRE FOR  
IMPACT INVESTING



# The importance of Industry Engagement in Municipal Energy Efficiency Programs

- Identification of opportunities and challenges
- Realistic assessment of scale and feasibility of retrofit programs
- Experts on the capabilities and limitations of the technology



# The Role of Green Building Standards

- Intensity based metrics allow flexibility for developers
- Creates a market for green tech and building materials
- Emergence of the Energy Developer Model – Toronto
- CoPower/Geotility Green Bond Financed Residential Geoexchange



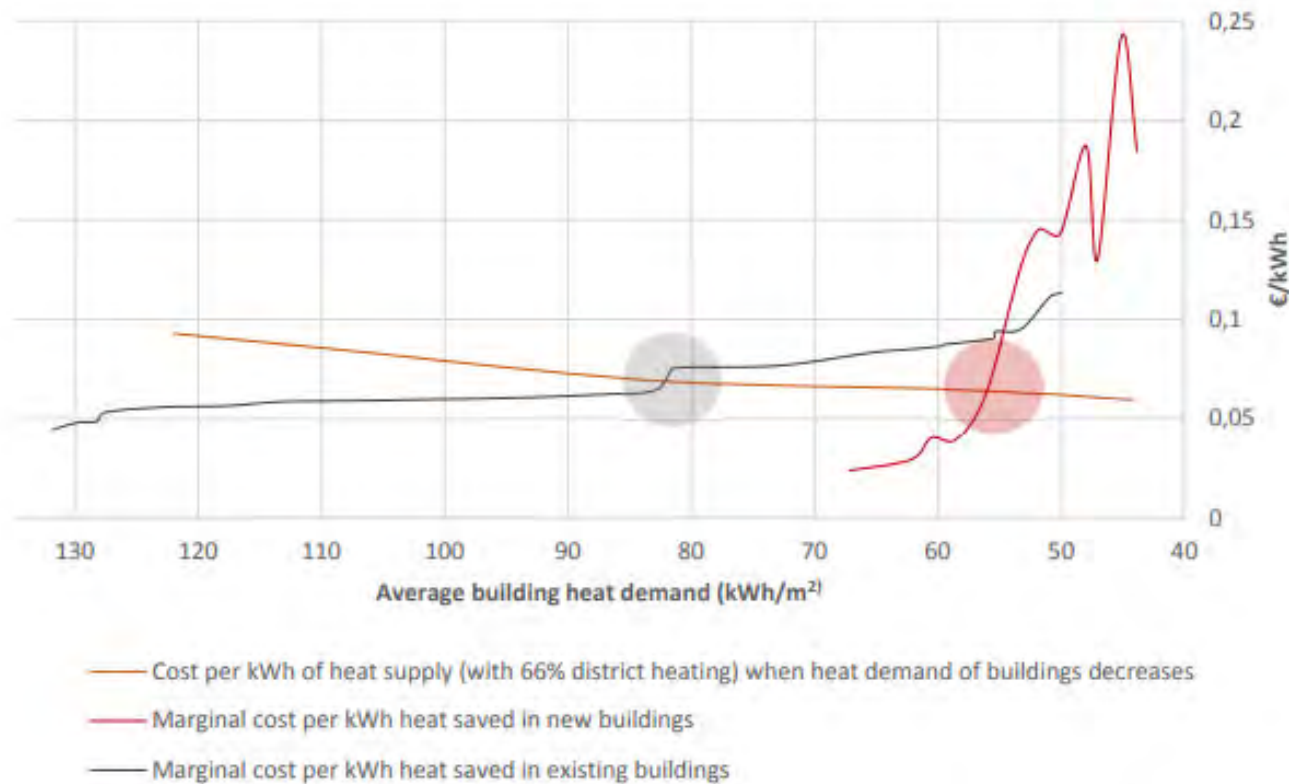
**Canmore, AB** – Performance based incentives to exceed building code energy efficiency



**Ucluelet, BC** – Density bonusing incentives

# An alternative Perspective

Marginal costs of reducing heat demand vs marginal costs of providing more energy





# Municipal Geoexchange Systems in Canada



Île-des-Chênes Community Centre District  
Geothermal Project



Richmond Hill Centre for the performing arts

- GMF Community Buildings Retrofit Initiative

# Transportation

- Typically the largest source of emissions in a community
- Encourage active transportation:
  - Increase bike and walking trail/routes connectivity, mapping and signage
  - Infrastructure for improved bike safety: paved shoulders, bike lanes, signs
  - Can work in conjunction with bike tourism

Vehicle efficiency	Low-carbon fuels	Vehicle demand reduction
<ul style="list-style-type: none"> <li>• Fuel standards</li> <li>• Fleet management systems</li> <li>• Driver training to improve fuel economy</li> <li>• Preventative maintenance</li> <li>• Anti-idling policies</li> </ul>	<ul style="list-style-type: none"> <li>• Switching to electric, hydrogen and renewable natural gas vehicles</li> <li>• Increased access to EV infrastructure</li> <li>• Access to free charging stations</li> <li>• Preferred parking for low-carbon vehicles</li> </ul>	<ul style="list-style-type: none"> <li>• Carpooling programs</li> <li>• Car sharing programs</li> <li>• Fixed route rural buses</li> <li>• On-demand transportation services (i.e. taxibus, on-demand minibuses)</li> <li>• Increased trail development and connectivity</li> <li>• Improved bicycle infrastructure: bike parking, paved shoulders, bicycle route maps, dedicated bike lanes, improved trail quality to support increased bicycle usage</li> <li>• Complete Streets policies</li> </ul>

# Transportation

- Rural transit services
  - On-demand vs fixed route
  - Dial-a-ride / Taxibus
  - Car sharing services
- Rural EV Strategies
  - Regional networks
  - Location of chargers at popular recreational destinations
  - Demonstrate feasibility through electrification of corporate fleets





# Land Use Planning

- Influences all areas of climate action planning
- Variety of land use planning tools depending on jurisdiction to support and incentivize climate action
- Protecting and enhancing natural assets through naturalization, tree planting native species planting etc.



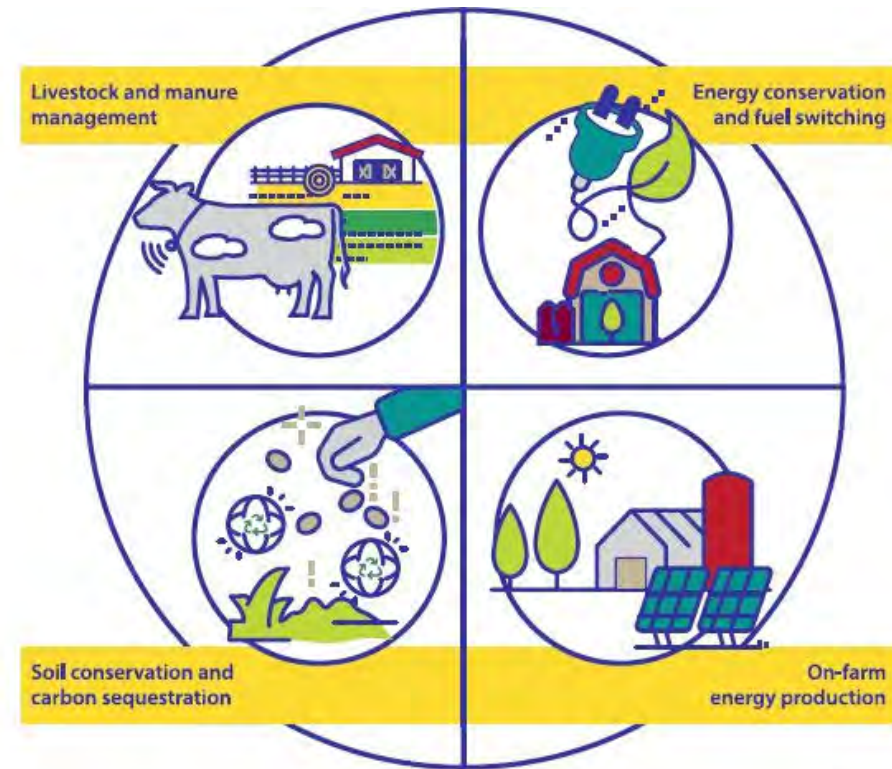
# Waste

- Waste diversion vs prevention
  - Difficult to reduce emissions from waste collection in rural areas – long route, reliant on private contractors
  - May not have direct control over landfill
- 
- Variable waste disposal fees
  - Pay As You Throw (PAYT)
  - Landfill tipping fees
  - Re-Use It Centres
  - Home Composting
  - Biogas production i.e. codigestion



# Agriculture, Resources and Tourism

- Municipalities can play a strong supporting role in the agricultural, resource and tourism sector by developing partnerships and working with industry to establish goals and encourage sustainability
- Facilitate capacity building, knowledge sharing, forums and working groups
- Agricultural biogas opportunities
- Urban forests
- Community Forests
- Ecosystems services





# Moving Forward

- A Cohesive National and Provincial Smart Energy Strategy is needed
- Renewable energy policy and regulatory frameworks that enable and encourage community ownership and DER
- Clear business cases and models for district energy
- Development of supply chains and expertise in district energy and green buildings
- Industry partnerships to facilitate widespread community energy efficiency retrofits
- Climate adaptation and resiliency building



# Thank you and Questions/Discussion

**Are there other priorities that small municipalities should focus on?**

**Adlar Gross**

Climate Change Project  
Officer

[adlar.gross@iclei.org](mailto:adlar.gross@iclei.org)

