Developing a Community Energy Plan and Addressing Climate Change in Norwich
What is a Community Energy Plan

• The Municipal Energy Program Plan (MEP) program is designed to help Ontario municipalities understand their energy use through a community energy planning process.

• The result of the planning process is a Community Energy Plan (CEP) which is a comprehensive, long-term plan to improve energy efficiency, reduce greenhouse gas emissions and foster local sustainable energy solutions in the community.

• The MEP Program is broader than the Broader Public Sector (BPS) reporting requirement of O. Reg. 397/11 made under the Green Energy Act, 2009 which requires municipalities to report only on specific operations in municipally owned or leased buildings and to create a conservation plan for municipal buildings.
CEP cont’d

• The planning process evaluates a community’s existing energy use and greenhouse gas (GHG) emissions in order to:
  ➢ Determine community-wide energy consumption and GHG emissions;
  ➢ Identify and implement solutions to improve energy efficiency and conservation;

• The MOECC Climate Change Strategy noted that collaboration between municipalities, and the businesses, industry and residents therein, will be key to helping Ontario reach its targets. Support from municipalities through Municipal Energy Plans, CDM Plans, and other initiatives will be needed.
Benefits

• The planning process yields the following benefits:
  ➢ Generate economic development opportunities and investment
  ➢ Secure energy reliability, resiliency and diversity
  ➢ Reduce environmental impacts, including greenhouse gas emissions
  ➢ Use energy more efficiently while providing better energy services
  ➢ Set a local vision for energy and development

• The Plan will help to articulate municipal priorities for various energy planning and climate change initiatives:
  ➢ Regional municipality Community Energy Plans
  ➢ Ministry of the Environment and Climate Change - Climate Change Strategy
  ➢ Government of Ontario - Five Year Climate Action Plan
  ➢ Pan-Canadian Framework on Clean Growth and Climate Change
  ➢ United Nations Framework Convention on Climate Change – Paris Agreement
What’s happening to the planet

(a) Change in average surface temperature (1986–2005 to 2081–2100)

(b) Change in average precipitation (1986–2005 to 2081–2100)

Source: Intergovernmental Panel on Climate Change
Canada’s GHG Emissions – Global Comparison

Per Capita Emissions for Top 10 Emitters

- Canada is typically ranked as amongst the nations with the highest GHG emissions per capita and is a top ten polluter globally.
- Canada is typically ranked as one of the least efficient economies with respect to energy use.
- Canada is home to 0.49% of the world’s population and ranks number 38 by country

Source: World Resource Institute Website
Ontario’s Climate Change Action Plan - Targets

Ontario’s greenhouse gas reduction targets

- 6%* below 1990 greenhouse gas emission levels in 2014 (checked)
- 15%* in 2020
- 37%* in 2030
- 80%* in 2050

*based on the 2016 National Inventory Report

Source: Ontario’s Five Year Climate Change Action Plan
Ontario’s Climate Change Action Plan – Current Trends

Emission Trends 1990 - 2020 (Forecast)

Note: 2020 forecasts are based on Ontario’s Climate Change Update Report 2014 and the 2014 National Inventory Report

Source: Ontario’s Five Year Climate Change Action Plan
Risks of Not Planning and Taking Action

• Competition for funding will increase over time as more and more municipalities seek funding for GHG reduction initiatives.

• There is potentially a wide range of price uncertainty related to future energy costs - electricity costs have increased substantially while gas prices are historically low. If gas prices were to rise to long term trends there could be a considerable negative economic impact and a erosion of global competitiveness given Canada’s relatively inefficient use of energy.

• Business as usual - Not taking action not only harms the environment and quality of life, it represents a lost economic development and business opportunity.
Available Funding for CEP Preparation

- The Ministry of Energy has implemented a program to fund Municipal Energy Plan (also known as Community Energy Plan) development for small and medium-sized, single and lower tier municipalities. Funding will be provided to a municipality for up to a 2-year term to complete a Municipal Energy Plan and will cover up to 50% of eligible costs up to a maximum of $90,000.

- The Federation of Canadian Municipalities’ Green Municipal Fund offers to cover 80% of a municipality’s costs of developing a Local Action Plan for energy and emissions, up to a maximum of $175,000.

- Canada’s Gas Tax Fund can be used by municipalities towards their CEPs through the Capacity Building category of the Fund. This eligible category allows municipalities to invest in long-term planning projects that advance asset management and/or sustainability. Municipalities can also use the Fund to implement municipally owned energy projects, such as retrofits, or generation (solar, DE, etc.).
Funding Opportunities for CEP Implementations

THE VIRTUOUS CYCLE
How Cap & Trade and the Climate Change Action Plan Work Together

- Ontario’s cap and trade program is expected to generate proceeds of approximately $1.8 to $1.9 billion each year which will be used to fund GHG reduction initiatives

Source: Ontario’s Five Year Climate Change Action Plan
# Funding Opportunities for CEP Implementations

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Developing the Plan

• Stage 1- Stakeholder Engagement
  ➢ Intended to ensure that all relevant local stakeholders are engaged in the process of creating the Plan
  ➢ Intended to build awareness of current energy issues, invite stakeholder input, identify conservation objectives/opportunities, create local energy conservation champions and instill a long-term commitment to MEP implementation by the community

• Stage 2 – Baseline Energy Study and Energy Maps
  ➢ Determine how and where energy is used within a community and analyzes opportunities for energy reduction.
  ➢ Energy mapping is an effective tool for visually representing energy use, identifying conservation opportunities and communicating this information to the community

Source: Municipal Energy Plan Program Planning Guidelines
Developing the Plan

- Stage 3 – The creation of the Plan
  - State vision, goals, targets and constraints
  - Comprehensive assessment of energy conservation and generation opportunities including costs and impacts
  - Identification of linkages between the Plan and other energy planning initiatives
  - Develop a results based strategy for achieving the goals, objectives and targets identified in the Plan

Source: Municipal Energy Plan Program Planning Guidelines
QUEST Framework for Identifying GHG Reduction Opportunities

- **Improve efficiency** – First, reduce the energy input required for a given level of service (e.g., retrofit/efficiency programs).
- **Optimize energy** – Avoid using high-quality energy in low-quality applications.
- **Manage heat** – Capture all feasible thermal energy and use it, rather than exhaust it. Consider the potential for Combined Heat & Power, District Energy in higher density neighborhoods and industrial parks.
- **Reduce waste** – Use all available resources, such as landfill gas and municipal, agricultural, industrial and forestry wastes.
- **Use renewable energy resources** – Tap into local opportunities for biomass, biogas, solar, wind energy, and opportunities for inter-seasonal storage.
- **Use energy delivery systems strategically** – Optimize use of energy delivery systems and use them as a resource to ensure reliability and for energy storage to meet varying demands. Optimize community investments, and have a flexible distribution approach.
How can we help you?

• With your approval we are prepared to:
  ➢ Help Norwich take steps now to get ‘out in front’ of the GHG reduction process as competition for funding will only increase – ‘first come first served’. Meeting GHG targets will mean investment, incremental economic activity and jobs for Norwich
  ➢ Work with Norwich to secure funding for the Municipal Energy Planning process and CEP preparation
  ➢ Explain and keep Council informed on the complexities of meeting GHG reduction targets proposed at the Provincial and Federal levels of government
  ➢ Prepare the CEP to meet the specific requirements of Ontario’s Climate Change Action Plan to streamline the funding process
  ➢ Prepare the CEP which targets specific funding streams for identified initiatives and use the CEP to progress the funding application process
  ➢ Manage the funding process, manage reduction initiatives and programs, provide engineering, etc.
The Result of Inaction on Climate Change