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Town of Aurora  
**Community Advisory Committee**  
No. CAC20-007

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**Subject:** Town of Aurora Community Energy Plan

**Prepared by:** Natalie Kehle, Energy and Climate Change Analyst

**Department:** Planning and Development Services

**Date:** November 19, 2020

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## **Recommendation**

- 1. That Report No. CAC20-007 be received; and**
- 2. That the Community Advisory Committee comments regarding the recommendations in the Community Energy Plan be received and referred to staff for consideration and action as appropriate.**

## **Executive Summary**

The purpose of this report is to present and receive feedback on the draft Community Energy Plan (CEP). The Town retained LURA Consulting for the development of this plan, in collaboration with ICLEI Canada and Wood, having considerable experience in developing other Municipal Community Energy plans in Ontario. The CEP provides strategic direction to move towards a sustainable energy future. It takes a long-term view to 2050 and aims to improve energy efficiency, reduce energy consumption and greenhouse gas emissions, and foster a culture of conservation for Aurora. It considers the impact of future growth and options for local clean energy generation. Supporting economic development by better meeting local energy needs is a key element within the overall Plan approach. Key points from the CEP are:

- Reducing the amount of energy used by the Aurora community creates new economic growth, supports an active community, and supports a healthier atmosphere for people and the planet.
- The direction of the Plan has been informed by members of the public, Town staff and community stakeholders.
- The Energy and Emissions Baseline analysis determined that over half of Aurora's greenhouse gas emissions are generated from heating homes and

other buildings (such as offices, stores, and schools) and from personal vehicle use.

- The Community Energy Plan provides a pathway towards the goal of reducing greenhouse gas emissions from the Community by 80% from 2018 levels by 2050. Fourteen Made-in-Aurora Strategies are developed to reduce Community greenhouse gas emissions and to achieve the Plan's energy goals.
- An Implementation Plan has been developed identifying Town roles and responsibilities, actions and budget implications.

## **Background**

A CEP is an important tool for Aurora to ensure energy security, support local economic development, foster a culture of social responsibility and sustainability, and to identify ways to reduce the community's energy consumption and GHG emissions. The CEP considers the environmental and economic benefits of how energy is consumed and generated in the community, as well as how this impacts the quality of life of Aurora's residents. Developing a CEP is considered best practice for municipal strategic, long-term planning.

LURA Consulting was retained to develop the plan, having considerable experience in developing other Energy Plans in the GTA, including for the City of Vaughan and the Town of Newmarket.

Central to the Plan's development was the Aurora CEP Stakeholder Working Group, comprising of key members from the Aurora Community. The group was consulted throughout the Plan's development, having met five times, while providing invaluable recommendations for the Plan's goals, strategies and implementation.

The following organizations formed the Stakeholder Working Group:

- Alectra Utilities
- Aurora Chamber of Commerce
- Counterpoint Engineering
- Desjardins
- Enbridge Gas
- Independent Electricity System Operator (IESO)
- Lake Simcoe Region Conservation Authority (LSRCA)
- Toronto Region Conservation Authority (TRCA)
- Town of Aurora Council
- Town of Aurora Community Advisory Committee

- Town of Aurora Staff – various divisions
- Windfall Ecology Centre
- York Catholic District School Board
- York Region
- York Region District School Board

### **Town of Aurora**

Community energy planning helps to address Aurora's role in the global climate crisis and is aligned with the Town's 2019 climate emergency declaration. By declaring a climate emergency, the Town deepened its commitment to reducing emissions and protecting the community from the impacts of climate change, in keeping with the Paris Accord.

Aurora's Official Plan directs the Town to develop policies and programs designed to reduce per-capita greenhouse gas emissions by two-thirds by 2031, and to reduce greenhouse gas emissions in industrial, commercial and institutional sectors. The Official Plan also requires the development of Town-wide Community Energy Plan to detail energy use requirements, establish a plan to reduce energy demand, consider the use of alternative and renewable energy generation options, and ensure that communities are designed to optimize passive solar gains.

### **Town of Aurora Corporate Emissions**

In 2019, the Town released its most recent five-year Corporate Energy Conservation and Demand Management Plan (ECDM Plan 2019-2023). Under Ontario Regulation 507/18, public agencies, such as the Town of Aurora, are required to report on energy consumption and GHG emissions annually from Town operations (i.e. from facilities, fleet and water/ wastewater facilities) and to develop and implement an energy reduction plan. The ECDM Plan must be reported on separately to the CEP and updated every 5 years. No such legislative requirement exists for the development of or reporting on community energy plans. Town facilities, corporate fleet and water/ wastewater facilities emitted over 3,000 tonnes of carbon dioxide equivalent in 2018 or 1% of the community's 2018 greenhouse gas emissions.

Corporately, the Town is an important member of the Aurora Community and leads by example. This holds true to leading efforts in the community to reduce greenhouse gas emissions from Town operations. Moving forward, the ECDM Plan should be viewed as the Corporation's contribution to the overall CEP. Updates to the Corporate ECDM Plan align with the goals of the CEP.

## **York Region**

York Region recognizes the need to address climate mitigation and adaptation from a corporate and community perspective. This commitment is identified in Vision 2051 and the York Region Official Plan. Vision 2051 is the blueprint for York Region's future and helps guide Regional Council and staff decisions. Vision 2051 challenges York Region to achieve net-zero carbon by 2051. Under *Adapting to a New Climate, Mitigating the Change*, the Vision 2051 aims to:

- Advocate for increased energy efficiency and building standards to move toward zero carbon buildings;
- Encourage initiatives that move toward zero greenhouse gas emissions by 2051;
- Build resiliency into infrastructure and communities;
- Promote preparedness for emergencies related to climate change including more frequent extreme weather days, droughts and flooding, vector borne diseases, invasive species, water borne diseases, extreme heat events and air quality issues;
- Adapt to a changing climate by developing and implementing a corporate Climate Change Adaptation Action Plan and mitigating the climate impacts of urban development through cooling measures including urban forestry initiatives and other shade promoting initiatives

## **Provincial Government**

In November 2018, the provincial government released the Made-in-Ontario Environment Plan. The Plan aims to: protect air, land and water; reduce litter and waste; reduce Ontario's share of GHG emissions; and help communities prepare for climate change. Ontario's target for emissions reduction (30% below 2005 levels by 2030) aligns with the Federal Government's 2030 target.

The Provincial Growth Plan is the Ontario government's initiative to plan for growth and development in a way that supports economic prosperity, protects the environment, and helps communities achieve a high quality of life. Upper and single-tier municipalities are required to develop policies in their official plans to identify actions that will reduce greenhouse gas emissions and address climate change adaptation goals, aligned with other provincial plans and policies for environmental protection. In planning to reduce greenhouse gas emissions and address the impacts of a changing climate, municipalities are encouraged to:

- develop strategies to reduce greenhouse gas emissions and improve resilience through the identification of vulnerabilities to climate change, land use planning, planning for infrastructure, including transit and energy, green infrastructure, and low impact development, and the conservation objectives in policy.
- develop greenhouse gas inventories for transportation, buildings, waste management and municipal operations; and,
- establish municipal interim and long-term greenhouse gas emission reduction targets that support provincial targets and reflect consideration of the goal of low-carbon communities and monitor and report on progress made towards the achievement of these targets.

### **Federal Government**

In 2016, Canada adopted the Pan-Canadian Framework on Clean Growth and Climate Change (PCF). The PCF builds on four pillars – carbon pricing, emission reductions, adaptation and resilience, and clean technology and innovation – and aims to meet Canada’s emissions reduction target of 30% below 2005 levels by 2030 and 80% by 2050.

### **International Panel on Climate Change (IPCC)**

The Paris Agreement aims to keep the global average temperature rise well below two degrees Celsius and to drive efforts to limit the temperature increase to 1.5 degrees Celsius; entering into force in November 2016. In 2018, the Intergovernmental Panel on Climate Change (IPCC) released a special report on the impacts of a 1.5-degree temperature rise – underscoring the need for “rapid and far-reaching” transitions in how we use our lands, energy, industry, buildings, transportation and design our cities.

## **Analysis**

### **Reducing the amount of energy used by the Aurora community creates new economic growth, supports an active community, and supports a healthier atmosphere for people and the planet**

Energy planning provides a numerous benefit to the local community, ranging from environmental and climate benefits to economic and health benefits. These benefits are well-documented in research, which analyses the successful implementation of CEPs across the country. The benefits of energy planning can be summarized in four main pillars: environmental, economic, social and health.

**The direction of the Plan has been informed by members of the public, Town staff and community stakeholders**

The public has been engaged throughout the plan's development. As part of the early project activities, LURA developed a public engagement strategy for the Plan, based on municipal best practices. Public engagement activities for this Plan included:

- In the Summer of 2019, the public was invited to share what was important to them about energy and emissions at the Aurora farmer's market.
- In the Summer of 2020, an online survey was available through the Town's engagement website, which invited residents to tell us their priorities for action on climate change and energy efficiency. In the Fall of 2020, members of the public were invited to participate in a "virtual open house". This self-guided experience included a slide show, pre-recorded presentation and opportunities for feedback. Participants were asked their opinion of the proposed strategies and suggestions to support the implementation of the CEP.

At each touchpoint, feedback from the public was reviewed by the project team and considered within the plan as appropriate.

**The Energy and Emissions Baseline analysis determined that over half of Aurora's greenhouse gas emissions are generated from heating homes and other buildings (such as offices, stores, and schools) and from personal vehicle use**

Some key findings from the Energy Baseline and Emissions analysis in 2018 for the Aurora Community include:

- Consuming 6.8 million GJ of energy to heat and power homes and buildings and for transportation fuel,
- spending \$178 million on their energy needs; \$2,900 per person annually; and
- producing over 326,000 tonnes of carbon-dioxide equivalent.

A breakdown of energy consumption and greenhouse gas emissions from the Town are:

- Homes are responsible for 45% of all energy use in Aurora and 37% of total emissions. On average, residents in Aurora are spending about \$910 to heat and power their homes each year.
- Businesses and institutions are responsible for 16% of all energy used in the community and 14% of emissions.

- Industrial buildings and facilities are responsible for 13% of total energy. This represents 3% of total emissions.
- The transportation sector is responsible for 26% of the total energy used and 37% of total emissions. Most trips made by residents of Aurora are completed in a car. Personal vehicle use is responsible for 99% of all transportation energy and emissions.
- Waste emissions account for 9% of the total in 2018.

The energy and GHG emissions for Aurora are anticipated to stay around the same level to 2050 despite future population growth. The minimal change in levels can be attributed to modest energy efficiency retrofits, energy performance of new buildings, the changing carbon content of electricity and natural gas, improved fuel economy as well as the provincial and federal efforts.

**The Community Energy Plan provides a pathway towards the goal of reducing greenhouse gas emissions from the Community by 80% from 2018 levels by 2050**

The strategies outlined will reduce annual emissions in Aurora by 72,361 tonnes of carbon dioxide equivalent in 2030 and 212,364 tonnes of carbon dioxide equivalent in 2050. This is a 22 percent and 65 percent reduction in emissions, respectively. A significant transformational effort will be required to meet these reductions by the Town, agencies, homeowners and businesses. While the CEP strategies are significant, there remains a gap in achieving an 80% emissions reduction by 2050. An additional effort by federal and provincial governments as well as advances in technologies will be needed.

The CEP's planning horizon is thirty-years (i.e. 2050) and the Town will continue to evaluate progress over time and identify ways to narrow the gap. This CEP is intended to guide the Town of Aurora and the wider community to reduce energy and greenhouse gas emissions.

**Fourteen Made-in-Aurora Strategies is developed to reduce greenhouse gas emissions and to achieve the Plan's goals**

The plan includes a series of strategies, developed in collaboration with the Stakeholder Working Group. Overall, the strategies aim to:

- Reduce the amount of energy used in new and existing buildings - this includes homes, businesses, offices, apartments, Town facilities, schools, and industry
- Consider cleaner ways of powering our Town (through district energy systems and solar power)

- Rely less on gasoline-powered cars and switch to electric vehicles
- Promote walking, cycling, rolling and transit use in Aurora
- Reduce the amount of waste generated in the Town; and
- Pursue compact, mixed-use development.

**An Implementation Plan is developed identifying Town roles and responsibilities, actions, and budget implications**

The CEP is intended to guide the Town of Aurora and the wider community to reduce energy and GHG emissions. A strong focus on implementation, governance and monitoring is essential to the Plan's success. The implementation framework includes guidance for:

- Governance
- Financing
- Engagement and Communications
- Reporting and Renewal
- Enabling Components
- Potential Partners

The Plan does not identify budget needed for capital projects but provides a list of next steps and action items for the Town. Capital projects will be identified as part of the 10-year capital planning process and through the annual budget process.

**Link to Strategic Plan**

The CEP is aligned with Aurora's Strategic Plan, which is based on the three pillars of sustainability – environment, community, economy – and establishes a vision for Aurora as “an innovative and sustainable community where neighbours care and businesses thrive”. The CEP also aligns with the Strategic Plan's objectives, including:

- improving transportation, mobility, and connectivity,
- promoting and advancing green initiatives; and
- encouraging the stewardship of Aurora's natural resources.

The CEP also aligns with the Town's Economic Development Strategic Plan (2019) includes several strategic actions, including:

- working with the business community and York Region to examine and implement solutions aimed at providing transportation options to allow staff to easily commute to businesses located in employment areas currently not well serviced by public transit,



- continuing to support residential intensification in the appropriate locations in the Aurora Promenade and Town wide; and
- examining the feasibility of providing a bike share/e-bike program for downtown Aurora.

## **Alternative(s) to the Recommendation**

None.

## **Conclusions**

This report seeks feedback from the Community Advisory Community on the Draft Community Energy Plan. The Plan presents a road map, which determined priorities, technologies, projects and opportunities for the Town and the Community in order to meet energy and GHG emission targets. In addition to alleviating some of the potential challenges arising from Aurora's population growth, the energy, environmental and economic benefits of community energy planning include:

- Fewer greenhouse gas emissions and avoided energy costs
- Less strain on energy infrastructure
- Improved resilience to power outages
- Job creation and investment in the local economy

The Plan also creates an implementation plan to ensure success, including a Town led working group, Town budget impacts, potential external partners and identifies roles and responsibilities.

## **Attachments**

Attachment 1 – Draft Community Energy Plan

## **Previous Reports**

None

## **Pre-submission Review**

Agenda Management Team review on October 29, 2020

## **Approvals**

**Approved by David Waters, Director, Planning and Development Services**