



Greater Peterborough Area Climate Change Action Plan

**Township of Otonabee-South Monaghan
Partners for Climate Protection Milestone 4 Report
Community Sector Implementation Results**

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Section 1: Introduction

The effects of climate change are projected to intensify over the next decade. In the Greater Peterborough Area (GPA) annual average temperature is projected to rise 2.1°C to 4.2°C above current levels (Appendix A). A changing climate will exasperate extreme weather events as the following risks will become more prevalent:

- Heightened frequency of severe rainfalls and windstorms
- Mean winter temperatures in 2030 to rise from -7°C to -4.9°C
- A 20% rise in 10-year storm rain events projected by 2030
- Days above 30°C to increase to 23 days from 6 days by 2030
- Chance of freezing rain events 40% more probable in winter

In 2018, the United Nation's Intergovernmental Panel on Climate Change (IPCC) released a special report urging mitigation of greenhouse gas (GHG) emissions to limit the global average temperature increase to only 1.5°C from the current 1°C of global warming. The IPCC recommends that a decrease in GHG emissions of 45 percent from 1990 levels by 2030 is necessary to prevent the worst implications of climate change. At present national commitment levels, a 3°C rise in global heating is forecasted by the year 2100.

The good news is that climate change can still be managed that restrains the worst effects, but immediate community action is critical. Residents and businesses can influence 95 percent of a community's GHG emissions through direct action and positive climate stewardship. Modifying one's home to restrict energy consumption through home retrofits, upgrading appliances, and replacing non-efficient furnace/boilers are possible avenues. Changing personal behaviour to limit unnecessary GHG emissions connected to driving, eating, and waste produced can also drastically reduce a community's collective emissions. Businesses too can seek to limit energy use, and GHGs emitted through transforming operations and striving towards sustainable business practices. When residents and businesses commit together in a concerted effort to no longer be a significant contributing source to climate change, then community-wide GHG emissions will decline.

Section 2: Overview

Background

In 2012, the City and County of Peterborough, the eight-member Townships, Curve Lake First Nation, and Hiawatha First Nation adopted the Greater Peterborough Area Integrated Community Sustainability Plan, coined Sustainability Peterborough Plan. Within this Plan, climate change was identified as one of the eleven key theme areas.

In 2014, each of the twelve Greater Peterborough Area (GPA) member communities came together to develop a Climate Change Action Plan (CCAP), designed to reduce local contributions to climate change while preparing the community for future changes. They joined a network of more than 250 other communities across Canada to address climate change through participation in the Federation of Canadian Municipalities' Partners for Climate Protection (PCP)

program. The PCP program aims at reducing GHG emissions from both municipal/First Nation operations (“corporate” emissions) and the community at large (“community” emissions). The program uses a five-milestone (Table 1) framework:

Table 1. Partners for Climate Protection Milestone Framework

	Milestone Description	Status
Milestone 1	Create a greenhouse gas emissions inventory & forecast	completed 2015
Milestone 2	Setting an emissions reductions target	completed 2016
Milestone 3	Developing a local action plan/CCAP	completed 2016
Milestone 4	Implementing the local action plan	underway 2019
Milestone 5	Monitoring progress & reporting results	planned 2020

Milestone 1 – Otonabee-South Monaghan Community GHG Emissions Inventory & Forecast

The CCAP established a 2011 GHG emission baseline and found the total Community Sector emissions for the Township of Otonabee-South Monaghan was 53,546 tonnes of carbon dioxide equivalent (tCO₂ e).

Milestone 2 – Setting an Emissions Reduction Target

In 2016, Otonabee-South Monaghan completed Milestone 2 that established a GHG emissions reduction target. A community sector GHG emissions reduction target of 25 percent was determined using 2011 as the baseline year. This reduction target is equivalent to removing 13,386 tCO₂ e from the community by 2031, lowering the total emissions generated to 40,160 tCO₂ e.

Milestone 3 – Developing a Local Action Plan/CCAP

One of the key requirements of the completion of Milestone 3 was the adoption of both the Corporate Sector and Community Sector emissions reductions targets and the Action Plan by the respective Council. On November 24, 2016, the Council of the Township of Otonabee-South Monaghan passed Resolution R524-2016:

“That the Council of the Township of Otonabee-South Monaghan hereby receives the presentation on Sustainable Peterborough – Climate Change Action Plan for information; and further Council hereby adopts both the Corporate and Community GHG Reduction Targets and Local Action Plans and will work with CCAP on implementation and next steps.”

The CCAP was developed to outline potential actions to assist the Township in achieving community emissions reduction targets. The CCAP outlined twenty-two overarching strategies to remove 13,386 tCO₂ e from community linked emissions in Otonabee-South Monaghan by 2031.

Section 3: Milestone 4 – Implementation of the CCAP

The implementation of climate change mitigation and adaptation strategies is a continual process in the effort to reduce community-wide GHG emissions that are generated from residential, commercial, industrial, transportation, agricultural/land-use, and waste. Since 2011, local actors and the Township staff have striven to incorporate many of the twenty-two strategies outlined in the Otonabee-South Monaghan community CCAP. These strategies are focused on six themes: Our Homes, Our Workplaces and Schools, On the Move, Our Food, Our Land, and Our People.

The following (Table 2) presents completed community-orientated actions that the municipality and community actors have fostered to date.

Table 2. Completed and Ongoing Community Mitigation and Adaptation Actions

CCAP Community Strategy	Action Description	Year	Quantifiable GHG Saved (tCO ₂ e)
Strategy F1: Support localization of the food system	Official Plan includes the preservation of prime agricultural land from development/keeping the land in production as a policy	2013	
Strategy F2: Encourage purchasing locally-produced foods	Keene Farmers Market was established to sell produce from local farmers and reduce the reliance on intra-provincial/imported foods during the growing season	2013	
Strategy M1: Build an active transportation network	Township in partnership with Peterborough County paved 5.2 km of road shoulders to support cycling by residents	2013	
Strategy H3: Waste diversion initiative	Township increased diversion rates of residents through drywall, leaf and yard, and electronic pick-up programs, thereby limiting these items from entering the County-City Landfill	2013	
Strategy F1: Support localization of food	<i>Farms at Work</i> supports farmland remaining in agricultural production. Created a land stewardship program with farmers to protect pollinators' habitat within farmland.	2013	
Strategy L2: Prepare for climate change impacts	Township infrastructure projects highlighted adapting to climate change by enlarging culverts and relining culverts to be able to handle extreme weather events	2013	
Strategy P2: Foster climate change awareness through programming	<i>Peterborough GreenUp</i> supports GPA-wide nature-based programs that connect children to nature and highlights how climate change will disrupt these inter-connected systems.	2013	

CCAP Community Strategy	Action Description	Year	Quantifiable GHG Saved (tCO ₂ e)
Strategy W5: Facilitate low carbon energy generation	Ground-mounted and rooftop solar installations supported by Township Council to enhance energy security and reduce GHG emissions	2014	
Strategy M1: Support active transportation	Sidewalk replacement program was completed in Keene, ON to support walking and reduce the reliance of vehicle use of town residents	2014	
Strategy F2: Encourage purchasing locally-produced foods	Inaugural <i>Farms, Fields, and Food Tour</i> to connect residents with farmers and highlight the need for a localized food system	2015	
Strategy W5: Facilitate low carbon energy generation	The Township implemented a solar policy that outlined how solar energy systems will be prioritized: <ol style="list-style-type: none"> 1. Rooftop solar 2. Micro ground-mounted solar 3. Small scale <5 acres and not on prime agricultural land 4. Large scale >5 acres solar projects will not be accepted for consideration to protect natural heritage and reduce development pressures on farms 	2015	
Strategy M1: Support active transportation	Four new cycling routes established that added 29.5km of designated bike pathways to support residents shift from combustion vehicles	2015	
Strategy P1: Prepare for health impacts of climate change Strategy L2: Identify climate change risks	Floodplain mapping of Meade Creek in partnership with the Otonabee Region Conservation Authority to gain insight into how extreme precipitation events will affect flooding potentials to reduce vulnerabilities and risks to residents	2016	
Strategy M1: Support active transportation	Another sidewalk replacement program was completed in Keene, ON to support more walking and reduce the reliance of vehicle use by town residents	2016	
Strategy W5: Facilitate low carbon energy generation	Township approved multiple small scale rooftop solar installations	2017	
Strategy L3: Enhance natural assets	Township planted 62 trees during the Canada 150 celebration	2017	4 tCO ₂ e stored

CCAP Community Strategy	Action Description	Year	Quantifiable GHG Saved (tCO ₂ e)
Strategy P1: Prepare for health impacts	County-wide Peterborough Public Health unit is in the planning stages for a community survey and forum in 2019 that will inform its climate change working group in assessing community vulnerabilities from climate change.	2018	
Strategy L3: Protect and enhance natural assets	Otonabee Region Conservation Authority planted 30,000 trees in the Township between 2011-2018 to support naturalization and carbon sequestration.	2018	1,800 tCO ₂ e stored

Decision-making Process & Engagement

Developing and implementing climate actions at the community scale has been adopted by Otonabee-South Monaghan Township Council Resolution R524-2016. This resolution has led to the operationalization by senior management and staff in carrying out and supporting community climate mitigation and adaptation initiatives.

Community climate engagement opportunities are also found through Sustainable Peterborough's Annual Report Cards, public presentations, and Annual Awards Gala that allows community members to participate in climate discussions involving the Township and the community. However, many community workshops/ events are held regionally, and the Township of Otonabee-South Monaghan has not hosted one to date.

Conclusion

With the adoption of the Climate Change Action Plan on December 2016, the Township of Otonabee-South Monaghan has made a steadfast commitment to reducing its community sector emissions. Action is being taken by multiple local actors along with the municipality to provide residents with alternative low-carbon choices. These community-focused climate strategies can foster positive changes in residents' lifestyles/behaviours that are integral for any meaningful reduction in emissions.

The leadership provided by local actors and Township staff has demonstrated that Otonabee-South Monaghan is taking its responsibility to tackle climate change seriously. However, with twelve years remaining to reach its community target of 25 percent, more is needed to activate residents and businesses to change consumption patterns. The target can be achieved through dedicated Township programs that residents can access or via policies that promote behaviour changes. Additionally, teaming up with community agencies, businesses, service clubs, and other levels of government is another viable option to foment rapid community change. By concentrating all efforts into implementing community-wide emission reduction strategies will be the only way, Otonabee-South Monaghan will surpass its 2031 goal and reduce its contribution as a source of climate change.

Works Cited

IPCC. (2018). *Global Warming of 1.5°C*. Retrieved from:

https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Headline-statements.pdf

Sustainable Peterborough. (2015). Greater Peterborough Area: Climate Change Action Plans.

University of Waterloo. (2015). *The Changing Climate of Waterloo Region*.

<https://uwaterloo.ca/climate-centre/sites/ca.climate-centre/files/uploads/files/climate-infographic.pdf>

Appendix A

Future Climate Projections

Refer to for more information: https://www.peterborough.ca/en/city-hall/resources/Documents/Climate-Science-Report_Peterborough_Sep17-2018.pdf