













Midland's Climate Change Action Plan

Local Climate Change Action Plan
Sustainable Severn Sound

Midland

Sustainable Severn Sound and the Sustainability Committee

Sustainable Severn Sound (SSS) is a regional sustainability program supported by seven municipalities in the County of Simcoe and the District Municipality of Muskoka including the Towns of Midland and Penetanguishene, and the Townships of Georgian Bay, Severn, Oro-Medonte, Tiny and Tay. This project also receives in-kind support and Sustainability Committee (SC) representation from the North Simcoe Community Futures Development Corporation / Société d'aide au développement des collectivités Simcoe Nord (NSCFDC), the Severn Sound Environmental Association (SSEA), the Simcoe-Muskoka District Health Unit (SMDHU) and the County of Simcoe. The SC serves as an advisory committee to SSS by supporting the SSS objectives to: (1) educate municipalities and their communities on sustainable practices and policies and connect them to resources, tools and funding, (2) advance the adoption of practices/policies within municipal operations to support climate change action, greenhouse gas mitigation and sustainable communities, and (3) advocate for sustainable environmental, social and economic practices and policies at the direction of the partner municipalities.

This preparation of this plan was carried out with assistance from the Municipalities for Climate Innovation Program (MCIP), a fund financed by the Government of Canada and administered by the Federation of Canadian Municipalities (FCM). Notwithstanding this support, the views expressed are the personal views of the authors, FCM and the Government of Canada accept no responsibility for them. This plan was prepared by Victoria Ervick of SSS, with significant input from municipal staff.

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Background

In June 2018, SSS released the area's first Local Climate Change Action Plan (LCCAP) in collaboration with 7 municipalities and 3 community partners. The objective of the LCCAP is to educate municipalities and their communities on climate change and ways we can collectively reduce GHG emissions, the use of fossil fuels, and energy consumption, all while adapting to our changing climate. The LCCAP includes both a corporate and community inventory of GHG emissions for each of our municipal partners -- Midland, Penetanguishene, Georgian Bay, Severn, Oro-Medonte, Tiny and Tay, it recommends regional GHG reduction targets to be achieved by 2028, and identifies 18 high-level actions to mitigate the municipal and community contributions to climate change.

In September 2018, the Town of Midland further demonstrated it's commitment to taking action on climate change and approved a model resolution to join the Federation of Canadian Municipalities (FCM) Partners for Climate Protection (PCP) program. The PCP program is a joint initiative between FCM and ICLEI Canada - Local Governments for Sustainability, and is a national network of over 350 municipal governments working taking action on climate change by reducing GHG emissions in their communities and municipalities. The PCP program guides municipalities through a 5-milestone framework (Table 1), encouraging completion within 10 years after joining the program. In January 2019, the Town of Midland successfully achieved Milestone 1 of the program and through the adoption of the GHG reduction targets outlined in this Plan, will achieve Milestones 2 and 3.

Up to half of Canada's GHG emissions are under the influence of municipal governments. By reducing GHG emissions from municipal operations and in the larger community, Midland will receive multiple co-benefits, including cost savings, cleaner air and healthier people, more resilient infrastructure as well as the reduced impact on the environment. Climate change affects us all, and in order to ensure sustainability for future generations, support and buy-in is needed by Council, municipal staff, and the residents of Midland.

Table 1. The PCP program framework

Milestone	Status
Milestone 1 – Creating a GHG emissions inventory and forecast	Achieved January 2019
Milestone 2 – Setting an emissions reduction target	In-progress
Milestone 3 – Develop a local action plan	In-progress
Milestone 4 – Implementing a local action plan or set of activities	2020 & on-going
Milestone 5 – Progress and reporting results	2020 & on-going

Alignment with existing plans and policies

Sustainable Severn Sound's LCCAP, Midland's Climate Change Action Plan and the town's commitment to the PCP program, supports a number of existing corporate documents within the town including:

1. The Town's Council Strategic Planning Priorities, 2018-2022, specifically Pillar Three: Safe, Sustainable, Healthy Community (e) *'continue to expand current partnerships and opportunities to develop strategies to address climate change and incorporating resilient community planning.'*
2. The Town's Energy Conservation and Demand Management (CDM) Plan (O. Reg. 397/11) and the goal to, "continually improve the energy efficiency of our facilities and processes year over year in order to reduce our operating costs, our energy consumption and greenhouse gas emissions." Recognizing the recent changes to O. Reg 397/11, the Town is still required to report annually on its facility energy consumption and associated GHG emissions under the amended Electricity Act.
3. Midland's Asset Management Plan (AMP) (O. Reg. 588/17), to be updated in Spring 2019 with the requirement to have a Strategic Asset Management Policy, which is to include vulnerabilities that may be caused by climate change to the municipality's infrastructure assets.
4. Section 3.1.4 of the Town's Official Plan (Second Draft) and its reference to mitigating and adapting to the challenges of climate change.

GHG emissions

As presented in SSS's LCCAP, the Town of Midland's total GHG emissions account for approximately 26% of the area's total emissions (Figure 1). In the baseline year of 2015, Midland's total emission inventory (both corporate and community) was approximately 136,305 tonnes of CO_2 equivalent (tCO_2e)[1], with corporate greenhouse gas (GHG) emissions accounting for 1% or 1,655 tCO_2e and community emissions accounting for 99% or 134,650 tCO_2e (Figure 2).

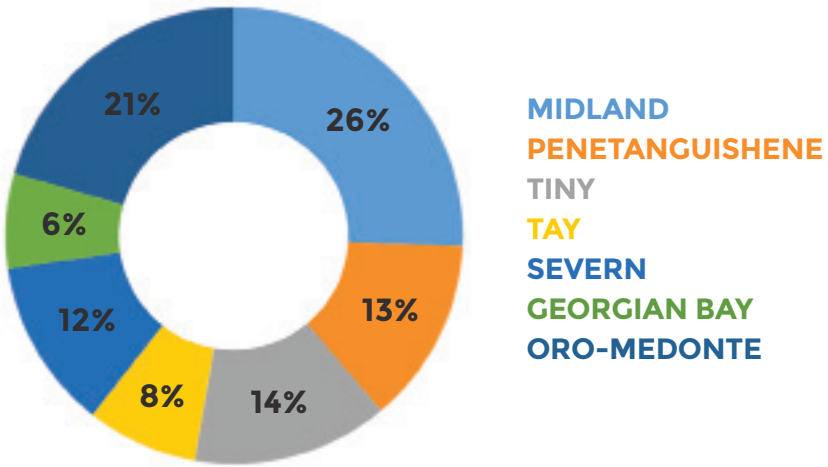

Figure 1. Per cent (%) of total regional GHG emissions per municipality, 2015

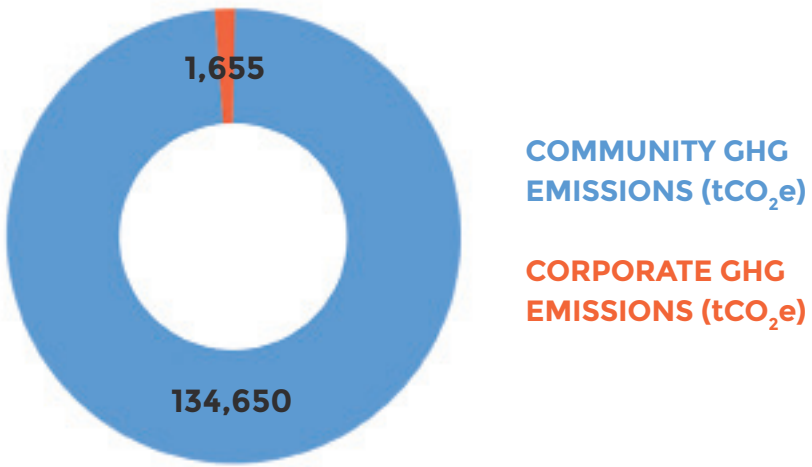

Figure 2. Midland's total GHG emissions (tCO_2e), 2015

[1] Carbon dioxide equivalent is a measure used to compare the emissions from various greenhouse gases based upon their global warming potential. Organisation for Economic Co-operation and Development, 2018. Available from: www.oecd.org

GHG emissions per capita

Measuring GHG emissions on a per capita basis allows us to examine and benchmark the emissions of each municipality relative to its population. With a recorded population of 16,864 in 2015 (Statistics Canada, 2016) the Town of Midland's per capita emissions were approximately 8.08 tCO_2e, which is slightly higher than the 7.07 tCO_2e per capita average. Even though per capita emissions allow us to draw comparisons amoung municipalities of different sizes, it is important to note that it is the total amount of GHG emissions that ultimately affects contributes to climate change. For example, a municipality with a high per capita emission rate but a small population such as Georgian Bay, likely produces fewer emissions than a municipality with a lower per capita emission rate and larger population, such as Tay.

Compared to the majority of the world's countries and population, Canadians, and Ontarians, have some of the world's highest per capita emissions, higher than most other developed countries, even higher than other northern countries with cold climates. To contribute to the GHG emission target of 80% less by 2050 as set by the Federal government, Ontario's emissions in 2050 will have to be less than 2 tCO_2e per person[2]. This will require a significant transformation in the way we live and how we use energy.

Table 2. Per capita GHG emissions (tCO_2e) per municipality, 2015

Municipality	Population	Total GHG emissions, 2015 (corporate + community)	Per capita emissions, including corporate (tCO_2e)
Georgian Bay	2,499	33,777	13.51
Midland	16,864	136,305	8.08
Penetanguishene	8,962	68,805	7.67
Tiny	11,787	74,024	6.28
Oro-Medonte	21,036	108,159	5.14
Severn	13,477	64,061	4.78
Tay	10,033	41,052	4.09
		AVERAGE	**7.07**

[2] The Environmental Commissioner of Ontario, 2018. Climate action in Ontario: What's next? Available from: https://eco.on.ca/reports/2018-climate-action-in-ontario/

Community GHG emissions

Climate change from a community perspective can be influenced by individuals, businesses, organizations, institutions and various levels of government. Following the PCP protocol, Canadian Supplement to the International Emissions Analysis, the community inventory caputured GHG emissions from 5 main sectors including, residential, commercial, institutional and industrial energy consumption, on-road vehicle transportation, and waste generation for the baseline year of 2015.

As illustrated in Figure 4, on-road vehicle transportation was the largest emitter of GHG emissions, accounting for 46% or 61,433 tCO_2e of Midland's total community emissions in 2015. With the understanding that the personal vehicle, in large part, remains the dominant method of travel in our area, the Town in partnership with community organizations, such as Sustainable Severn Sound, will encourage residents to consider sustainable alternatives, such as telecommuting, carpooling, biking, walking or taking public transit when possible.

Table 3. Midland's community GHG emissions (tCO_2e) per sector, 2015

Sector	GHG emissions (tCO_2e)	% of total community emissions
Transportation	61,433	46%
Residential	28,685	21%
Commercial & Institutional	17,583	13%
Industrial	16,352	12%
Waste	10,597	8%
Total	**134,650**	**100%**

The residential sector was the 2nd largest emitter of Midland's community emissions in 2015. GHG emissions from energy use was approximately 28,685 tCO_2e which is equivalent to 2,717,568 Gigajoules (GJ) of energy consumption. To encourage GHG reductions, the Town will support initiatives led by Sustainable Severn Sound that encourage residents to reduce the amount of electricity and natural gas used in homes, through conservation, improved efficiency, and the use of renewable energy sources. The Town may also investigate the feasibility of a stronger planning policy that supports more sustainable homes, developments and neighbourhoods, that exceed the Building Code and/or Planning Act

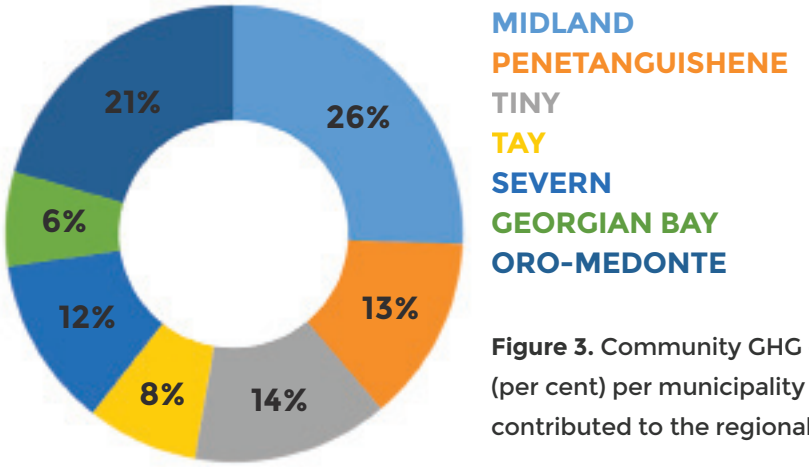

Figure 3. Community GHG emissions (per cent) per municipality as contributed to the regional total, 2015

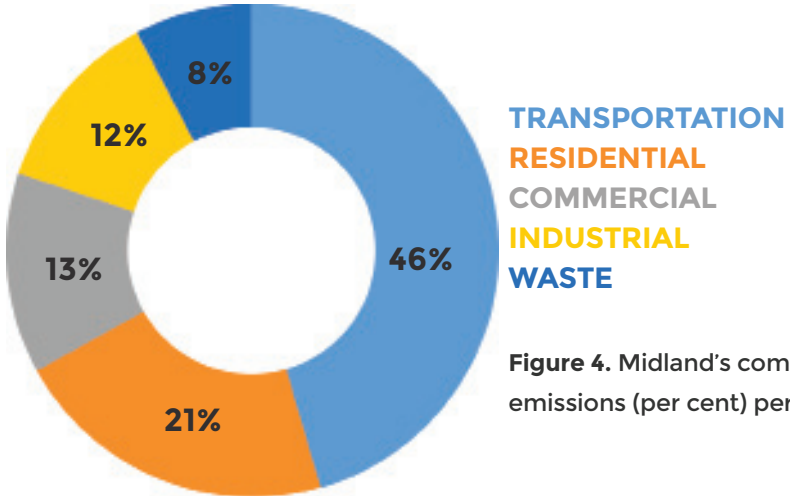

Figure 4. Midland's community GHG emissions (per cent) per sector, 2015

Community GHG emissions forecast, 2015-2028

In 2015, 134,650 tCO_2e were emitted through community day-to-day activities, including the energy used in residential, commercial, institutional and industrial sectors, and the GHG emissions created as a result of transporation and solid waste generation. This forecast was developed per an annual 1.67% population growth rate, based upon the projected increase of the Town's population to approximately 22,500 by 2031 from 2011, as contained in Schedule 7 of the Growth Plan and the County of Simcoe Official Plan[3]. As a result of this projected increase and considering a business-as-usual (BAU) approach, community GHG emissions are expected to reach 166,998 tCO_2e by 2028. If no significant action is taken, this increase of 19.3% over 2015 GHG emission levels would allow an additional 32,348 tCO_2e to be emitted by the community in 2028, further contributing to the acceleration of climate change.

Figure 5. Community GHG emissions forecast, 2015-2028

Community GHG emissions reduction target to 2028

The community of Midland is aiming to achieve a 6% reduction in its GHG emissions from the 2015 baseline by 2028. This target represents an absolute emission reduction of 8,079 tCO_2e relative to the 2015 baseline emissions and a 2028 target of 126,571 tonnes of CO_2e. This reduction is equivalent* to:

- The emissions from 1,007 passenger vehicles.
- If 250 Midland residents reduced their annual kilometres travelled by 50km each year for 10 years.
- The replacement of 166,521 incandescent bulbs to light-emitting diodes (LEDs).

[3] Growth Plan for the Greater Golden Horseshoe, Schedule 7. http://placestogrow.ca/index.php?Itemid=14&id=430&option=c

Corporate GHG emissions

This municipal climate change action plan includes recommendations to reduce energy and emissions from municipal operations such as buildings and facilities, fleet, streetlights, water and wastewater and corporate waste. The corporate data inventoried focuses exclusively on energy and GHG emissions that are directly controlled by the Town. It does not include emissions that are a consequence of activities from sources not controlled or owned by the municipality (including third-party contractors, construction activities, business, or air travel) or those that occur outside Midland's geographical boundary.

In 2015, the Town of Midland's total energy use was approximately 47,055 GJ. This is equivalent to 1,655 tCO_2e and accounts for approximately 28% of the area's total corporate emissions as presented in the LCCAP (Figure 6). Using carbon accounting software, corporate GHG emissions were calculated based on litres of diesel and gasoline consumed (fleet), electricity usage (streetlights), and waste generated within municipal buildings.

Table 4. Midland's corporate GHG emissions (tCO_2e) per sector, 2015

Sector	GHG emissions (tCO_2e)	% of total corporate emissions
Buildings & facilities	658	40%
Water & wastewater	630	38%
Fleet	327	20%
Streetlights	34	2%
Solid waste	6	0%
Total	**1,655**	**100%**

As illustrated in Figure 7, the Town's corporate GHG emissions predominately stem from buildings and facilities, making up 40% of the town's total corporate emissions. The corporate buildings sector tracks GHG emissions associated with the use of energy across the Town's 33 buildings and facilities. Emissions in this sector can be produced directly from stationary energy, such as natural gas, or indirectly from the use of grid electricity. The water and wastewater sector is the 2nd largest contributor of corporate GHG emissions (38%), and tracks energy consumption and the corresponding GHG emissions generated by municipal water and wastewater infrastructure, such as lift and pumping stations, treatment facilities and storage tanks.

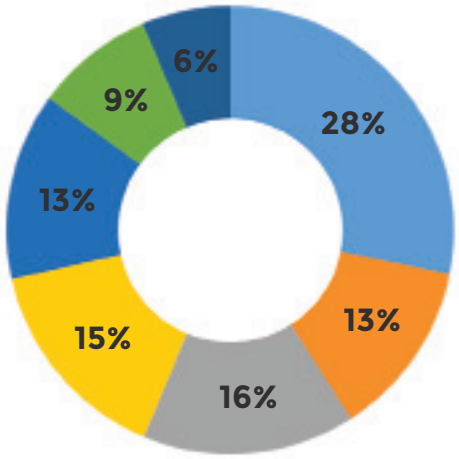

Figure 6. Corporate GHG emissions (per cent) as contributed per municipality, 2015

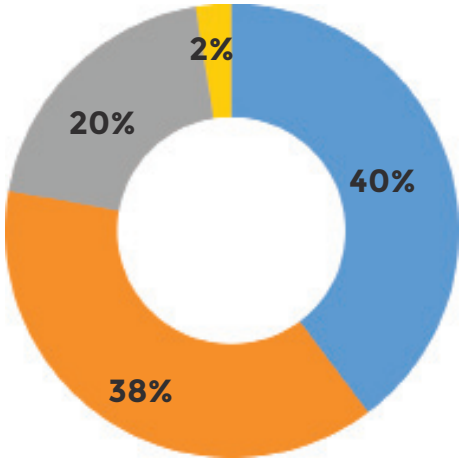

Figure 7. Midland's corporate GHG emissions (per cent) per sector, 2015

Corporate GHG emissions forecast, 2015-2028

In 2015, the Town's corporate GHG emissions were 1,655 tCO_2e as a result of day-to-day municipal operations. Based upon the projected increase of the Town's population to approximately 22,500 by 2031 from 2011, as contained in Schedule 7 of the Growth Plan and the County of Simcoe Official Plan[4], the Town's corporate GHG emission forecast is projected per a 1.67% annual population increase to 2028. As a result of that increase and considering business-as-usual (BAU) operations, corporate GHG emissions are expected to reach 2,057 tCO_2e, or increase by 19.5% by 2028. As GHG emissions are directly correlated to energy usage, the expectation is that municipal expenses would either increase or decrease relative to the level of energy consumption. The Town of Midland's target of 15% below 2015 levels by 2028 contributes to Canada's has commitment to reducing GHG emissions by 30% below 2005 levels by 2030.

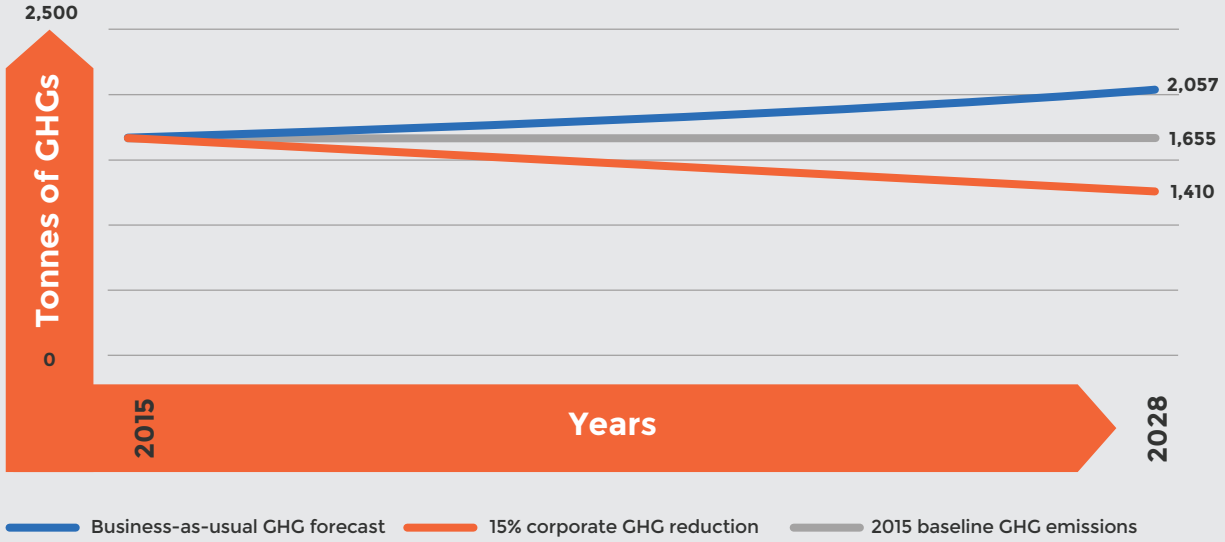

Figure 8. Corporate GHG emission forecast, 2015-2028

Corporate GHG emissions reduction target to 2028

The Town of Midland is aiming to achieve a corporate GHG emissions reduction target of 15% below 2015 levels by 2028. This target represents an absolute emissions reduction of 245 tCO_2e relative to the 2015 baseline emissions of 1,655 tCO_2e, and encourages the Town to emit no more than 1,410 tCO_2e from corporate activities in 2028. Below are examples of activities that contribute approximately* 245 tCO_2e. By achiving the below actions, the Town of Midland could achieve its 15% reduction target.

- Reduce corporate gasoline usage by 8,939 litres by 2028, or 894 litres per year for the next 10 years.
- Reduce vehicle kilometres travelled (VKT) by 50km in Year 1 on 15 corporate vehicles.
- Encourage 35 corporate vehicles to idle 10 minutes less per year for the next 13 years.

[4] Growth Plan for the Greater Golden Horseshoe, Schedule 7. http://placestogrow.ca/index.php?Itemid=14&id=430&option=c

* Equivalent calculations produced by the Government of Canada's Calculator for greenhouse gases and common air contaminants

Based on Ontario's average historical commodity cost for electricity and natural gas in 2015*, the Town of Midland spent approximately $637,090 on energy consumption for their municipal buildings and facilities, with an estimated $334,575 spent on the top 5 GHG emitting buildings alone (Table 5). Achieving a corporate GHG reduction target of 15% below 2015 levels by 2028, could result in a total projected cost savings of up-to approximately $95,563 per year over the next 10 years[5] across all buildings and facilities, or a savings of $50,186 per year from the top 5 GHG emitting buildings and facilities alone. This is a conservative estimate[6] which considers average annual costs for buildings and facilities only, with the opportunity for greater cost-savings highly likely if the targets are achieved and GHG emissions are reduced across each of the 5 sectors.

*Estimates are based on commodity price and do not include fixed or semi-fixed costs (i.e. delivery charges, etc.)

Table 5. Midland's top 5 GHG emitting facilities and estimated energy cost, 2015

Municipal operation	Address	Total indoor space (sq. m^3)	Energy consumption		GHG emissions (tCO_2e) per facility
			Electricity (kWh)	Natural Gas (m^3)	
Rec centre	527 Len Self Boulevard	9,200	1,367,554	160,091	358,124
Sewage pump station no.1	444 Bay Street	99	269,460	160,091	313,598
Waste water treatment centre	200 Bay Street	1,302	172,231	123,861	241,159
Municipal office	575 Dominion Avenue	2,761	408,084	34,158	81,127
Public works maintenance	731 Ontario Street	1,234	114,690	30,110	61,577
		Total	**2,332,019**	**508,311**	**1,055,585**
		Estimated total cost ($)*	**$290,211**	**$44,363**	**$334,575**

[5] This projection uses 2015 historical costs and does not include expected energy cost increases, price fluctuations, nor hedge/spot market billing scenarios. The projected cost savings is only representative of those 5 buildings and facilities (top 5 emitters), and does not include opportunities within other buildings or sectors.

[6] This estimate assumes average building and facilities energy costs of $637,090 per year over 10 years, for a total of $6,370,900 in costs, with a direct 15% reduction in those costs presented as a result of the achieved 15% reduction in corporate GHG emissions.

Opportunities for reducing corporate GHG emissions

As part of the implementation plan for the LCCAP, the Town of Midland encourages Sustainable Severn Sound to review the town's long-term and annual capital budgets to identify opportunities that have the potential to reduce GHG emissions. Moving forward, Sustainable Severn Sound will provide recommendations as to what scheduled projects and/or plans have the potential to reduce GHG emissions, how those initiatives may result in additional GHG reductions through enhanced sustainability options, and will work closely with municipal staff to integrate these recommendations into municipal operations, policies and procedures where feasible. With that being said, as changes to policy, legislation, technology, climate and/or other changes occur, the recommended actions may evolve. Some of the recommendations are directly aligned with Midland's Energy Conservation and Demand Management Plan, and all have positive environmental, social and economic outcomes.

Actions and recommendations

In collaboration with municipal staff, SSS developed a list of actions that the town can implement in order to achieve its 6% community and 15% corporate GHG emission reduction targets, below 2015 levels by 2028 (Table 6). Moving forward, as the town's Associate Member to the PCP program SSS will update the actions outlined in Table 6 every 5 years to reflect new projects and GHG emission reduction opportunities, while continuing to monitor and report on the town's progress.

Implementation costs

As the town's Associate Member to the PCP program, SSS can provide a detailed Implementation Cost Analysis (ICA), based upon approval by the Sustainability Committee and municipal staff. For the purpose of this plan, four expenditure categories were used to estimate the total cost associated with the implementation of each action listed in Table 6.

Capital	Capital expenditures by local jurisdictions are typically for projects and programs related to local jurisdictional operations, such as installing solar photovoltaics (PV) on municipal facilities, or bike lane construction.
Salary	Represents the personnel costs required to implement CAP activities. Salary costs were estimated at staff hours per action.
Consultants	Municipalities often hire external consultants to support the implementation of climate plan actions.
Materials	Some actions may require materials and supplies (i.e. brochures and meeting materials).

The cost is expressed as low ($ = less than $1,000), moderate ($$ = more than $1,000 but less than $5,000), medium ($$$ = more than $5,000 but less than $10,000), high ($$$$ = more than $10,000 but less than $20,000), ICA (more than $20,000). If the cost of any action is estimated as more than $20,000, this will automatically require the preparation and municipal review of an ICA, either provided by SSS or by rown staff. As relevant, the expected return on investment (ROI) will also be considered by both SSS and the municipality prior to implementation.

Table 6. Actions to mitigate GHG emissions, 2019-2028

#	Recommended action items
1	Continue to upgrade streetlights, traffic signals, cross walks to light-emitting diodes (LEDs) & consider the feasibility of a solar power streetlight pilot program
2	Install electric vehicle (EV) chargers in municipal parking lots
3	Conduct municipal energy audits to identify opportunities to increase energy efficiencies
4	Implement water & wastewater treatment plant upgrades & retrofits (i.e. replacing the roof of the second digestor at Midland's WTCC) to improve energy efficiencies
5	Conduct a Solid Waste Audit Program within municipal buildings & facilities to better identify how much solid waste the town's corporate buildings are generating. This will give SSS and the town a better understanding of which corporate facilities would benefit from further solid waste reduction actions and planning.
	Policy related action items
6	Include educational communication pieces in regular newsletters, water & tax bills on various topics relating to climate change, ways residents can reduce their GHG emissions, energy conservation, etc.
7	Include climate change language & the influence of management decisions on GHG emissions in the new Strategic Asset Management Policy, required as part of 2019 Asset Management Plan update (O. Reg. 588/17)
8	Integrate climate change considerations within staff reports, request for proposals (RFP), & request for tenders (RFT), etc. to ensure decisions are made in consideration of energy efficiency & GHG reduction targets
9	Incorporate GHG inventories, GHG reduction targets, climate change considerations & the Town's commitment to the Partners for Climate Protection program into Council's Strategic Plan, as well as the town's Official Plan, Transportation Master Plan, Waterworks Master Plan, etc.)
10	Establish a Corporate Energy Revolving Fund[7] to finance corporate energy retrofit projects
11	Develop a 'no-mow' & pollinator policy with municipal commitments to reduce corporate fuel use while improving the environment for pollinators species
12	Develop a Sustainable Fleet Management Plan to reduce GHGs associated with corporate transportation
13	Prepare a Water Conservation Plan that provides strategies to enhance and extend the commitment to water conservation programming, water resource protection, energy conservation, and GHG reduction.

[7] The premise is to provide sufficient funding from a percentage of savings incurred through renewable energy projects, grants, utility rebates, approved capital projects, demand response, etc. to finance on-going energy management initiatives

Year	EOI	Department lead	Support*	tCO_2e reduction by 2028**	Cost***
Ongoing		Operations	Finance	Med: 45	$$
2020		Operations	Fianace	Med: 45	$$
2020		Engineering	Finance	High: 55	$$
2021		Engineering	Finance	High: 55	$$$$
2021		Operations	Sustainable Severn Sound	Low: 10	$$$$
Q2, 2019 & Ongoing		Finance	Sustainable Severn Sound	N/a	$
Q2, 2019		Engineering	Finance	N/a	$
Q3, 2019		Multiple departments	Administration	Low: 10	$$
Ongoing		Multiple departments	Administration	N/a	$
2020		Finance	Administration	N/a	$$
2021		Operations	Sustainable Severn Sound	Low: 10	$$
2022		Operations	Finance	High: 55	$$$
2022		Engineering	Sustainable Severn Sound	Low: 10	$$$$

LEGEND

Priority (Light Green = Highest)

Ease of implementation (EOI)
'quick-win', medium, hard, difficult

GHG reduction potential

Low: Equal to or less than 1% GHG reduction, estimated at approximately 10 tCO_2e less

Med: Equal to or less than 5% GHG reduction, estimated at approximately 45 tCO_2e less

High: Greater than 5% GHG reduction, estimated at approximately 55 tCO_2e or more

N/a: No estimate available

Total GHG reduced (estimated tCO_2e) through implementation of the listed action items	**295**
Total corporate GHG emissions (tCO_2e) per the 2015 baseline	**1,655**
Additional GHG reduction (tCO_2e) potential through low-level implementation of supplementary actions	**86**
Total achievable GHG reductions by 2028	**15%**

* Your municipal Sustainability Committee & PCP program representatives are considered as support for all actions as needed, and will report to SSS when decisions that impact GHG are made.

** Low estimates of GHG reductions are presented, actual GHG reductions are anticipated to be 15-20% higher than estimated.

*** These estimates for implementation include consideration for costs associated with capital, salary, consultant & materials/supplies. The cost is expressed as low ($ = less than $1,000), moderate ($$ = more than $1,000 but less than $5,000), medium ($$$ = more than $5,000 but less than $10,000), high ($$$$ = more than $10,000 but less than $20,000), & ICA (more than $20,000). It should be noted that the majority of actions are not 'stand-alones,' in that most align with required municipal activities, either as existing work plan items, or as anticipated items required per Provincial legislation

Table 7. Additional actions to mitigate corporate & community GHG emissions

List of Actions	Cost*
Adding or rearranging windows for increased daylight in retrofits & new builds	$-$$$
Adoption of green driving policy (i.e., anti-idling, right-sizing, car-pooling, telecommuting, etc.)	$
Employee training & awareness program to conserve water, energy & resources	$$
Environmental stewardship or conservation actions (i.e., tree planting & preservation, habitat enhancements, etc.)	$-$$$$
Install occupancy sensors to control interior building or facility lighting	$-$$
Install/add exterior lighting control for buildings and facilities	$$-$$$
Install low-flow faucets with sensors & automatic shut-offs	$-$$
Purchase/replace office equipment with energy efficient models	$-$$
Replace weather-stripping for doors & windows	$-$$
Use cool/white roofs on buildings & facilities	$$$-ICA
Seal building(s) or facility with caulking or spray foam	$-$$
Upgrade indoor lighting systems	$$-$$$$
Vehicle replacement with a hybrid, electric, or alternative fuel vehicle	ICA
Add insulation in building(s) or facility	$-$$$
Add solar thermal water heaters for recreation facilities	$$-$$$$
Install sub-metering (building monitoring system)	$$$-$$$$
Operator (building) training to optimize performance & return-on-investment	$$
Public transit enhancements to either routes and/or equipment	$$$-ICA
Renovation/reconfiguring building or facility interior	$$$-ICA
Retrofit/replace supply fan motor & variable frequency drives (VFDs) in buildings & facilities	$$-$$$$
Update inefficient heating/furnaces & cooling systems	$$$-ICA
Add Demand Controlled Ventilation for larger buildings and facilities	$$-$$$
Replace the roof, considering green roof, solar shingles, renewable technologies, etc.	$$$-ICA
Install electric vehicle (EV) charging stations	$$
Install solar photo-voltaic (PV) systems or solar thermal installations for buildings or facilities	$$$$-ICA
Replace heating, ventilation &/or air-conditioning system (HVACs) with a renewable technology (i.e., ground-source heat pump)	ICA
Replace HVACs with more energy efficient models (i.e., radiant, chilled beams, displacement or natural ventilation, water-source heat pumps)	ICA

*The cost is expressed as low ($ = less than $1,000), moderate ($$ = more than $1,000 but less than $5,000), medium ($$$ = more than $5,000 but less than $10,000), high ($$$$ = more than $10,000 but less than $20,000), & ICA (more than $20,000). These are estimates only, as the cost will be impacted by a number of factors, including fees & services, project scope, size & location of project, or facility, & varying cost, quality & availability of materials, etc.

Estimated GHG reduction potential per action (one-time reduction)

LOW 10 (tCO_2e) of GHGs reduced

Equal to or less than 1% GHG reduction, estimated at approximately 10 tCO_2e less

MED 45 (tCO_2e) of GHGs reduced

Equal to or less than 5% GHG reduction, estimated at approximately 45 tCO_2e less

HIGH 55 (tCO_2e) of GHGs reduced

Greater than 5% GHG reduction, estimated at approximately 55 tCO_2e or more

N/a

No estimate available

Summary

The regional LCCAP and Midland's Climate Change Action Plan allows your municipality to take results-driven action towards corporate and community GHG reduction targets while also working towards on-going Town priorities. The LCCAP builds upon the work already completed by the Town and encourages these actions to continue through a lens that supports GHG emission reduction.

Many GHG and energy reduction actions are being pursued within existing municipal work plans and in many cases through initiatives driven by co-benefit priorities (i.e., cost-savings through retrofits and improvements, protection of land and water, multi-modal communities). As the town's Associate Member of the PCP program, SSS will continue to support the Town of Midland in completing PCP Milestones, as well as:

1. The submission of formal reports to the PCP Secretariat every two years on behalf of the Town, documenting Midland's achievements in the PCP program,

2. The submission of progress reports to the PCP program Secretariat to track actions and provide recognition as the Town advances through the milestone framework,

3. Completion of an annual PCP Members Survey, which will provide FCM with information that can be used to recognize the Town of Midland's achievements in FCM's yearly National Measures Report, and

4. An annual report to Council from SSS and the Sustainability Committee highlighting program activities, achievements, implementation progress as well as an update on corporate and community GHG emissions every two years.

Acknowledgements

SSS and the Sustainability Committee would like to thank the Town of Midland, especially Councillor Jon Main, former PCP Council representative and incoming SC representative Councillor Carole McGinn, as well as staff-appointed PCP representative, Andy Campbell, Director of Engineering, Water and Wastewater, for supporting climate change action within the municipality. The insight and support provided by representatives of the town has allowed our organization to succeed in delivering on our goal to complete the LCCAP, and to develop your municipal-level climate change action plan, establishing the framework for municipal climate change action within the municipality.

Links and resources

1. Sustainable Severn Sound https://www.sustainablesevernsound.ca/
2. SSS's Local Climate Change Action Plan: Greenhouse Gas (GHG) Summary
   https://www.sustainablesevernsound.ca/about-page.php?id=3
3. Federation of Canadian Municipalities, Partners for Climate Protection program
   https://fcm.ca/home/programs/partners-for-climate-protection.htm
4. Canadian Supplement to the International Emissions Analysis Protocol
   https://fcm.ca/Documents/reports/PCP/PCP_Protocol_Canadian_Supplement_EN.pdf
5. Town of Midland, Official Plan, 2017
   https://www.midland.ca/townhall/dpt/plan/official-plan
6. Town of Midland, Official Plan (Second Draft), 2019
   https://www.midland.ca/Shared%20Documents/February%202019%20-%20Second%20Draft%20for%20Public%20Comment%20-%20Town%20of%20Midland%20Official%20Plan%20with%20Schedules.pdf
7. Town of Midland, Strategic Plan, 2018-2022
   https://www.midland.ca/Shared%20Documents/2018-2022%20Council%20Strategic%20Priorities-Final.pdf
8. Town of Midland, Energy Conservation and Demand Energy Management (CDM) Plan, 2014
   https://www.midland.ca/Shared%20Documents/Energy%20Demand%20Management%20Plan%20Approved%20%20June%2023%202014.pdf
9. Town of Midland, Asset Management Plan (AMP), 2014
   https://www.midland.ca/PublishingImages/Pages/Financial%20Documents/Asset%20Management%20Plan.pdf
10. O. Reg. 397/11: Energy Conservation and Demand Management Plans (anticipated to be amended under Ontario's Electricity Act*) https://www.ontario.ca/laws/regulation/r11397
11. Ontario's Electricity Act* https://www.ontario.ca/laws/statute/98e15
12. O. Reg. 588/17: Asset Management Planning for Municipal Infrastructure
    https://www.ontario.ca/laws/regulation/r17588
13. Growth Plan for the Greater Golden Horseshoe, 2017
    http://placestogrow.ca/index.php?Itemid=14&id=430&option=com_content&task=view#4.2.10

Local Climate Change Action Plan
Sustainable Severn Sound

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