

# Tiny's Climate Change Action Plan

Local  
Climate Change  
Action Plan  
Sustainable Severn Sound



TOWNSHIP OF / CANTON DE  
**Tiny**

## Sustainable Severn Sound (SSS) and the Sustainability Committee (SC)

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.

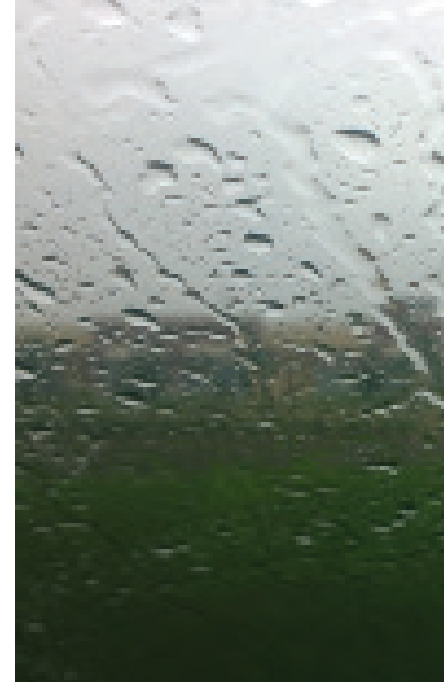


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# Contents

Sustainable Severn Sound and the Sustainability Committee .....	2
Background .....	4
Table 1. The PCP program framework .....	4
Alignment with existing plans and policies .....	5
GHG emissions .....	6
Figure 1. Per cent (%) of total regional GHG emissions, per municipality, 2015 .....	6
Figure 2. Tiny's total GHG emissions (tCO <sub>2</sub> e), 2015 .....	6
GHG emissions per capita .....	7
Table 2. Per capita GHG emissions (tCO <sub>2</sub> e) per municipality, 2015 .....	7
Community GHG emissions .....	8
Table 3. Tiny's community GHG emissions (tCO <sub>2</sub> e) per sector, 2015 .....	8
Figure 3. Community GHG emissions (per cent) per municipality as contributed to the regional total, 2015 .....	8
Figure 4. Tiny's community GHG emissions (per cent) per sector, 2015 .....	8
Community GHG forecast, 2015-2028 .....	9
Figure 5. Community GHG emissions forecast, 2015-2028 .....	9
Community GHG emissions reduction target to 2028 .....	9
Corporate GHG emissions .....	10
Table 4. Tiny's corporate GHG emissions (tCO <sub>2</sub> e) per sector, 2015 .....	10
Figure 6. Corporate GHG emissions (per cent) per municipality as contributed to the regional total, 2015 .....	10
Figure 7. Tiny's corporate GHG emissions (per cent) per sector, 2015 .....	10
Corporate GHG emissions forecast, 2015-2028 .....	11
Figure 8. Corporate GHG emission forecast, 2015-2028 .....	11
Corporate GHG emissions reduction target to 2028 .....	11
Table 5. Tiny's top 5 GHG emitting facilities and estimated energy cost, 2015 .....	12
Opportunities for reducing corporate GHG emissions .....	13
Actions and recommendations .....	13
Table 6. Actions to reduce GHG emissions, 2019-2028 .....	14-15
Table 7. Additional actions to reduce corporate GHG emissions .....	16
Summary .....	17
Links and resources .....	18
Contact .....	19



# Background


In collaboration with our municipal and community partners, SSS released the area's first Local Climate Change Action Plan (LCCAP): Regional Greenhouse Gas (GHG) Summary in June 2018. The LCCAP includes both a corporate and community inventory of GHG emissions for each of our municipal partners including: Midland, Penetanguishene, Georgian Bay, Severn, Oro-Medonte, Tiny and Tay; identifies regional GHG reduction targets to be achieved by 2028, and recommends 18 high-level actions to reduce municipal and community contributions to climate change.

In January 2018, the Township of Tiny's Council further demonstrated the municipalities 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 to address climate change. The PCP program guides your municipality through a 5-step Milestone Framework (Table 1) to take action on climate change by reducing emissions within your municipality and community. In July 2018, the Township of Tiny 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, Tiny will receive multiple co-benefits when mitigating the effects of climate change, including cost savings, cleaner air and healthier people, more resilient infrastructure as well as the reduced impact on the environment. Climate change effects us all and to ensure sustainability for future generations, support and buy-in is needed by Council, municipal staff, and the residents of Tiny Township.

Table 1. The PCP program framework

Milestone	Status
<b>Milestone 1</b> - Creating a GHG emissions inventory and forecast	Achieved Jul-2018
<b>Milestone 2</b> - Setting an emissions reduction target	Achieved Apr-2019
<b>Milestone 3</b> - Develop a local action plan	Achieved Apr-2019
<b>Milestone 4</b> - Implementing a local action plan or set of activities	Expected 2020 & on-going
<b>Milestone 5</b> - Progress and reporting results	2020 & on-going

A photograph of a file folder with a label that reads "Strategic Plan". The folder is made of brown cardboard and has a white label with the text in a black, typewriter-style font. The folder is part of a larger set of files, with other folders visible in the background, some with labels like "Documents" and "R".

# Strategic Plan

## Alignment with existing plans and policies

The LCCAP, Tiny's Climate Change Action Plan and the Township's commitment to the PCP program, supports a number of existing corporate documents within the Township including:

1. The Township of Tiny's existing corporate Strategic Plan, 2015-2020, and the corporate goal of 'healthy environment and sustainable community planning.'
2. The Township's [Energy Conservation and Demand Management](#) Plan (CDM) ([O. Reg. 397/11](#)) and Tiny's Asset Management Plan (AMP) ([O. Reg. 588/17](#)). Recognizing the recent changes to O. Reg 397/11, the Township is still required to report annually on its facility energy consumption and associated GHG emissions under the amended Electricity Act. Both Plans are to be updated by Summer 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.
3. Official Plan (re: [Growth Plan for the Greater Golden Horseshoe, 2017, Section 4.2.10](#)).



# GHG emissions

As presented in the LCCAP, the Township of Tiny's total GHG emissions account for approximately 14% of the area's total emissions (Figure 1). This equates to 74,024 tonnes of CO<sub>2</sub> equivalent (tCO<sub>2</sub>e)<sup>1</sup>, with corporate emissions accounting for 1% (922 tCO<sub>2</sub>e) of Tiny's total emissions and community emissions accounting for 99% at 73,102 tCO<sub>2</sub>e (Figure 2).

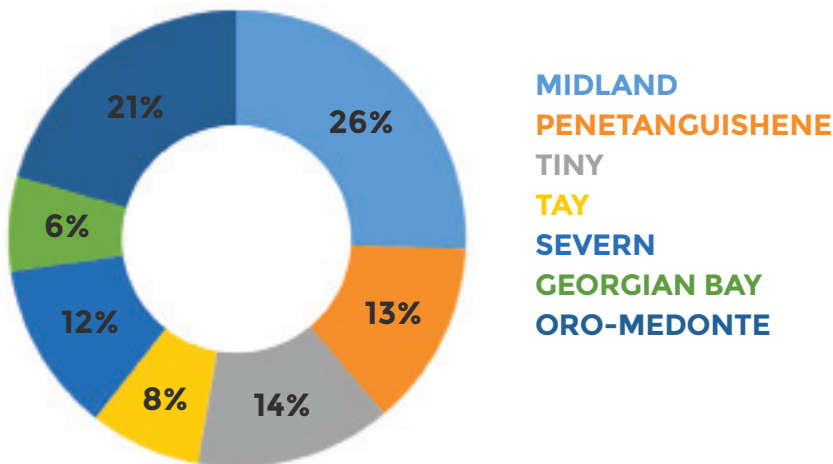


Figure 1. Per cent (%) of total regional GHG emissions, per municipality, 2015

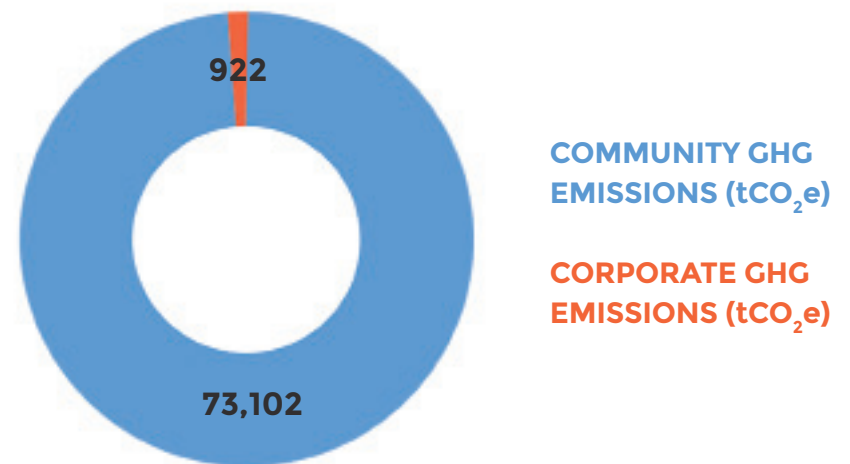


Figure 2. Tiny's total GHG emissions (tCO<sub>2</sub>e), 2015

<sup>1</sup> 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](http://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 permanent population. With a recorded permanent population of 11,787 in 2015 (Statistics Canada, 2016) the Township of Tiny emitted approximately 6.28 tCO<sub>2</sub>e per capita. Tiny has a seasonal population that approaches its permanent population in number. The total seasonal population for 2016 is estimated at 11,550 and therefore during the summer months, the Township's resident population can exceed 23,000. Although seasonal GHG emissions are outside the current scope of this inventory, it is expected that community emissions would significantly increase during those seasonal months. It is important to note that it is the absolute amount of GHG emissions that ultimately affects the environment. For example, an area with a high per capita emission rate but a small population (Georgian Bay) could produce fewer emissions than one with a lower per capita emission rate and larger population (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<sub>2</sub>e per person<sup>2</sup>. This will require a significant transformation in the way we live and how we use energy.

Table 2. Per capita GHG emissions (tCO<sub>2</sub>e) per municipality, 2015

Municipality	Permanent population (Census 2016, Statistics Canada)	Total GHG emissions, 2015 (corporate + community)	Per capita emissions, including corporate (tCO <sub>2</sub> e)
Georgian Bay	2,499	33,777	13.51
Midland	16,864	136,305	8.08
Penetanguishene	8,962	68,805	7.67
<b>Tiny</b>	<b>11,787</b>	<b>74,024</b>	<b>6.28</b>
Oro-Medonte	21,036	108,159	5.14
Severn	13,477	64,061	4.75
Tay	10,033	41,052	4.09
		<b>AVERAGE</b>	<b>7.07</b>

<sup>2</sup> 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

Following the PCP's program [Canadian Supplement to the International Emissions Analysis Protocol](#), community energy use and emissions were reported by sector (transportation, residential, community solid waste, commercial and institutional, and industrial buildings) and collected for the baseline year of 2015. The Township of Tiny's community GHG emissions account for 14% of the area's total community emissions (Figure 3), being the 3<sup>rd</sup> highest emitter out of the 7 municipalities inventoried.

As illustrated in Figure 4, community transportation is the largest emitter of GHGs, accounting for 56% (41,031 tCO<sub>2</sub>e) of Tiny's total community emissions. The personal vehicle, in large part, remains the dominant method of choice for travel in our area, which can be attributed to the largely rural setting of the community. SSS and the Township of Tiny are recommending that residents consider alternatives to the obvious choice, such as telecommuting, carpooling, biking, walking or public transit when possible.

Table 3. Tiny's community GHG emissions (tCO<sub>2</sub>e) per sector, 2015

Sector	GHG emissions (tCO <sub>2</sub> e)	% of total community emissions
Transportation	41,031	56%
Residential	23,280	32%
Waste	7,407	10%
Commercial & Institutional	1,332	2%
Industrial	52	0%
<b>Total</b>	<b>73,102</b>	<b>100%</b>

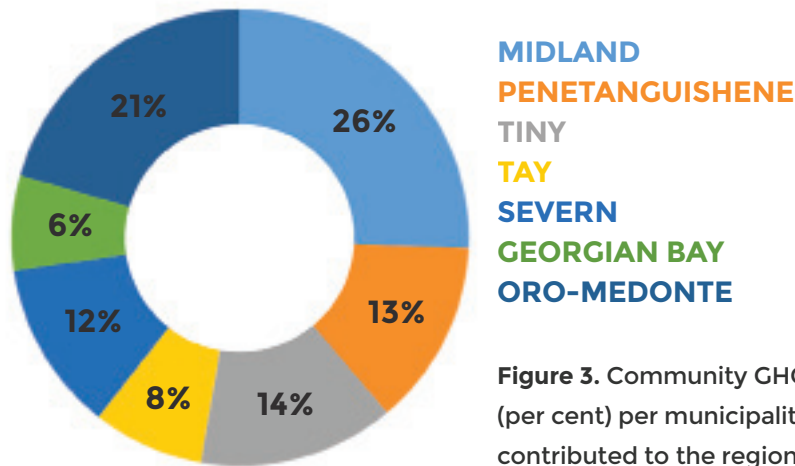


Figure 3. Community GHG emissions (per cent) per municipality as contributed to the regional total, 2015

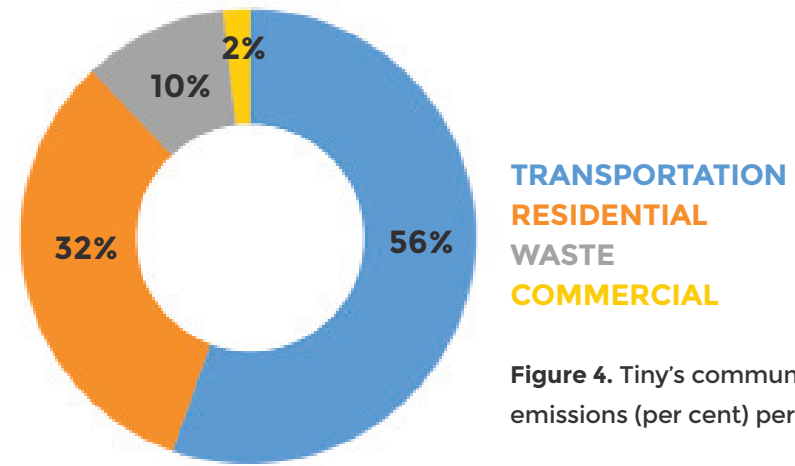


Figure 4. Tiny's community GHG emissions (per cent) per sector, 2015

The residential sector was the second largest emitter of community emissions in 2015. GHG emissions from energy use was approximately 23,280 tCO<sub>2</sub>e which is equivalent to 670,725 Gigajoules (GJ) of energy consumption. Moving forward, SSS will explore opportunities to work with the community to encourage a reduction in the amount of electricity and natural gas used in our homes through conservation, improved efficiency, and the use of renewable energy sources. We also encourage the Township of Tiny to consider a strong planning policy that supports more sustainable homes, developments and neighbourhoods that exceeds Building Code or Planning Act requirements.



# Community GHG emissions forecast, 2015-2028

In 2015, 73,102 tCO<sub>2</sub>e 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 transportation and solid waste generation. Based upon the projected increase of the Township's permanent population to approximately 12,500 by 2031 from 2011, as contained in Schedule 7 of the Growth Plan and the County of Simcoe Official Plan<sup>3</sup>, the Township's community GHG emission forecast is projected per a 0.30% annual population growth rate to 2028. Considering business-as-usual (BAU) operations, GHG emissions are expected to grow to 76,007 tCO<sub>2</sub>e or by 3.9% by 2028 if no significant action is taken. This increase over 2015 GHG emission levels would allow an additional 2,905 tCO<sub>2</sub>e to be emitted by the community by 2028, further contributing to the acceleration of climate change.

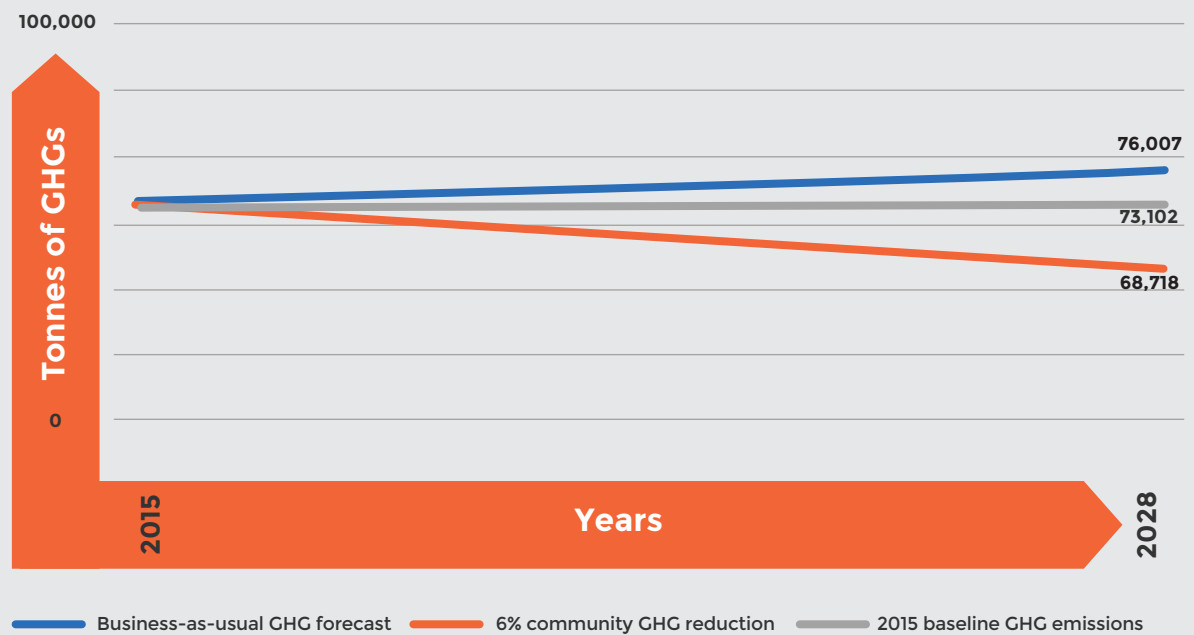


Figure 5. Community GHG emissions forecast, 2015-2028

## Community GHG emissions reduction target to 2028

The Township of Tiny community is aiming to achieve a 6% reduction in its GHG emissions from the 2015 baseline by 2028. This target represents an absolute emissions reduction of 4,384 tCO<sub>2</sub>e relative to 2015 baseline emissions and is equivalent\* to:

- Removing approximately 1,007 passenger vehicles from the road.
- Replacing 166,521 incandescent bulbs to light-emitting diodes (LEDs).
- 250 Tiny residents closing their blinds during the summer months to reduce electricity consumption.

\* Equivalent calculations produced by the Government of [Canada's Calculator for greenhouse gases and common air contaminants](#)

<sup>3</sup> Growth Plan for the Greater Golden Horseshoe, Government of Ontario. [Schedule 7](#)

# Corporate GHG emissions

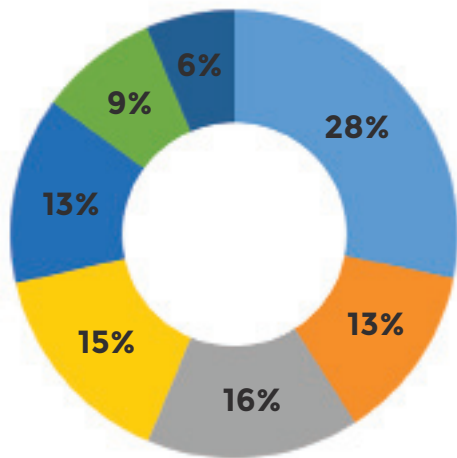
Tiny's Climate Change Action Plan includes actions to reduce energy and emissions from municipal operations including fleet, buildings and facilities, water and wastewater, solid waste and streetlights. Although the Township has done significant work to reduce the GHG emissions associated with your streetlights, this sector is included as it is a required reporting sector per the PCP Protocol. The corporate data inventoried focuses exclusively on energy and GHG emissions that are directly controlled by the Township. It does not include emissions that are a consequence of activities from sources not controlled or owned by the Township (including third-party contractors, construction activities, business, or air travel) or those that occur outside Tiny's geographical boundary.

In 2015, the baseline year, the Township of Tiny's total corporate energy use was approximately 17,974 GJ. This is equivalent to 922 tCO<sub>2</sub>e and accounts for approximately 16% of the region's total corporate emissions as presented in the LCCAP (Table 4). Tiny's total corporate emissions are generated from the use of diesel, gasoline, electricity and natural gas. In comparison, the Township of Tay's municipal GHG emissions accounted for 15% of the regional corporate total, while Penetanguishene's corporate GHG emissions account for 13% of the regional corporate total (Figure 6).

As illustrated in Table 4 and Figure 7, the Township's corporate GHG emissions predominately stem from fleet (76%) and buildings and facilities (19%). Compared to the fleets of neighbouring municipalities, Tiny is the largest fleet emitter and thus this sector presents the greatest opportunity for GHG emissions reduction. Most building and facility emissions are generated from electricity and natural gas, used to heat and power each of the Township's 13 buildings and facilities, while fleet emissions are generated from diesel and gasoline consumption.

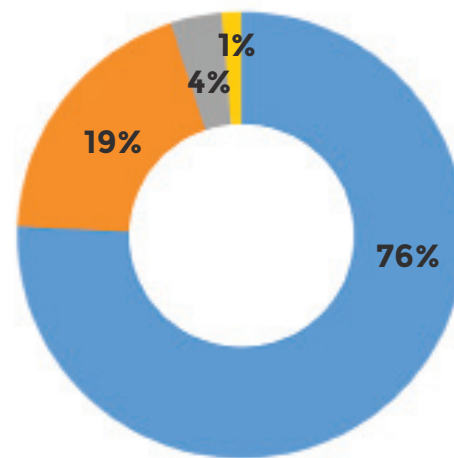
Table 4. Tiny's corporate GHG emissions (tCO<sub>2</sub>e) per sector, 2015

Sector	GHG emissions (tCO <sub>2</sub> e)	% of total corporate emissions
Fleet	700	76%
Buildings & facilities	179	19%
Water & wastewater	32	4%
Solid waste	11	1%
Streetlights	0	0%
<b>Total</b>	<b>922</b>	<b>100%</b>



MIDLAND  
 PENETANGUISHENE  
 TINY  
 TAY  
 SEVERN  
 GEORGIAN BAY  
 ORO-MEDONTE

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



FLEET  
 BUILDINGS  
 WATER & WASTEWATER  
 WASTE

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

# Corporate GHG emissions forecast, 2015-2028

In 2015, the Township's corporate GHG emissions were 922 tCO<sub>2</sub>e as a result of day-to-day municipal operations. Based upon the projected increase of the Township's permanent population to approximately 12,500 by 2031 from 2011, as contained in Schedule 7 of the Growth Plan and the County of Simcoe Official Plan, the Township's corporate GHG forecast is projected per a 0.30% population increase to 2028. Considering BAU operations, corporate GHG emissions are expected to reach 963 tCO<sub>2</sub>e by 2028 or an increase of by 4.4%. As GHG emissions are directly correlated to energy costs, the expectation is that municipal expenses would also increase relative to the increase of GHGs. Under the Paris Agreement, Canada has committed to reducing GHG emissions by 30% below 2005 levels by 2030<sup>4</sup>. The 30% target to be achieved by the Township remains consistent with the selected Federal target.

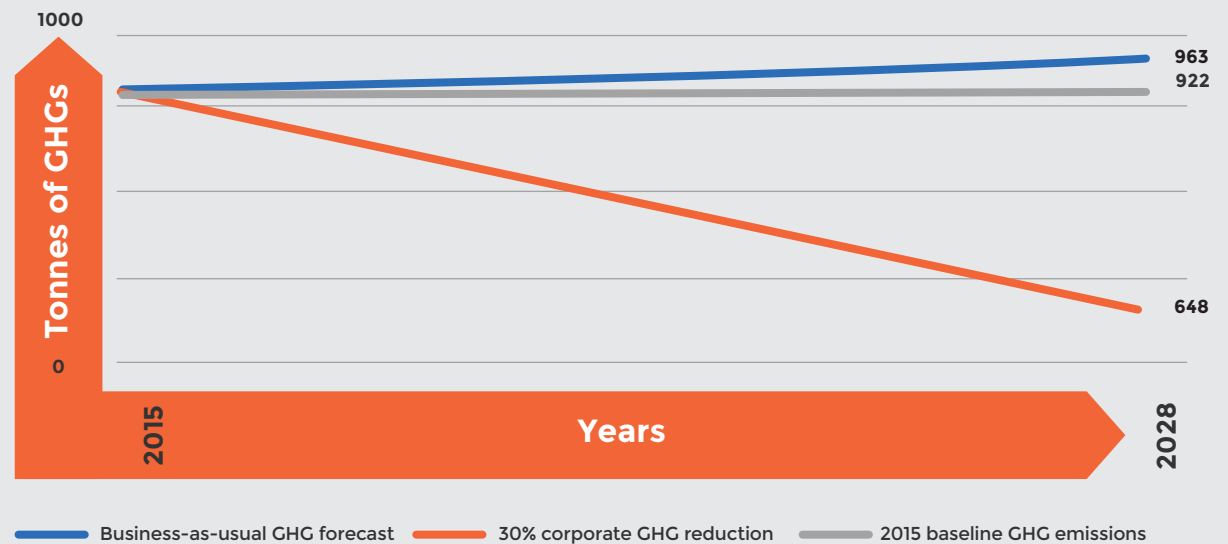


Figure 8. Corporate GHG emission forecast, 2015-2028

## Corporate GHG emissions reduction target to 2028

The Township of Tiny is aiming to achieve a 30% reduction in its corporate GHG emissions from the baseline of 2015 by 2028. This target is equivalent to an emission reduction of 274 less tonnes of CO<sub>2</sub>e emitted overall by 2028. The Township is striving to emit no more than 648 tCO<sub>2</sub>e in 2028 compared to the baseline of 922 tCO<sub>2</sub>e. This emission reduction of 274 tonnes is equivalent\* to:

- Reducing gasoline usage by 8,939 litres by 2028, or 894 litres per year for the next 10 years.
- Having 35 corporate vehicles idle 10 minutes less per year for the next 13 years.
- Reducing kilometres travelled on 15 corporate vehicles by an average of 50km for one year.

<sup>4</sup> Government of Canada, 2018. Available from: <https://www.canada.ca/en/environment-climate-change/services/environmental-indicators/progress-towards-canada-greenhouse-gas-emissions-reduction-target.html>

\* Equivalent calculations produced the Government of [Canada's Calculator for greenhouse gases and common air contaminants](#)

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

Municipal operation	Address	Total square feet (sq.ft)	Energy consumption			GHG emissions (tCO <sub>2</sub> e) per facility
			Electricity (kWh)	Natural Gas (m <sup>3</sup> )	Fuel oil (L)	
Roads complex	220 Concession 9 E	12,672	96,012	34,914	0	70
Fire station #2	817 County Rd. 6	6,820	36,130	12,871	0	26
Municipal office	130 Balm Beach Rd.	4,399	162,144	7,531	0	21
Fire station #1	384 Lafontaine Rd.	4,405	19,643	5,150	0	11
Tiny Community Centre	91 Concession 8 E	5,280	22,080	0	3,436	10
<b>Total</b>			<b>336,009</b>	<b>60,466</b>	<b>3,436</b>	<b>138</b>
<b>Estimated total cost (\$)*</b>			<b>\$41,833</b>	<b>\$5,277</b>	<b>\$3,470</b>	<b>\$50,580</b>

Based on Ontario's average historical commodity cost for electricity, natural gas and fuel oil in 2015\*, the Township of Tiny spent approximately \$170,454 on energy consumption for all 13 of their municipal buildings and facilities, with an estimated \$50,580 spent on their top 5 buildings alone. Achieving the 30% target could result in a projected cost savings of up-to approximately \$511,000 over the next 10 years<sup>5</sup> from all municipal buildings and facilities. This is a conservative estimate<sup>6</sup> 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.)

<sup>5</sup> 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 the buildings and facilities sector and does not include opportunities within the other 4 sectors ((1) fleet, (2) streetlights, (3) waste, (4) water and sewage).

<sup>6</sup> This estimate assumes average building and facilities energy costs of \$170,000.00 per year over 10 years, for a total of \$1,700,000.00 in costs, with a direct 30% reduction in those costs noted as a result of the achieved 30% reduction in GHGs.



# Opportunities for reducing corporate GHG emissions

As part of the implementation plan, SSS staff will review Tiny's long-term and annual capital budgets on an on-going basis to identify opportunities to reduce corporate GHG emissions. Moving forward, SSS 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 as feasible. With that being said, as changes to policy, legislation, technology, climate and/or other changes occur, the recommended actions will evolve. Some of the recommendations are directly aligned with Tiny's Energy Conservation and Demand Management Plan, Asset Management Plan and/or Strategic Plan, and all have positive environmental, social and economic outcomes.



## Actions and recommendations

The table on next page (Table 6) lists the actions SSS and the Sustainability Committee have identified to guide the Township in meeting their 30% corporate and 6% community GHG reduction targets. Municipal staff had the opportunity to review these actions and provide comment, to ensure successful implementation. Both this Plan and the actions listed on the next page will be reviewed by SSS and municipal staff every 5 years to reflect new opportunities that can further contribute to the reduction of GHG emissions.

## Implementation costs

A detailed Implementation Cost Analysis (ICA) can be provided by SSS 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 the actions listed in Table 6, and estimated per hourly wage.
- 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 Township staff.

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

#	Recommended action items	Year	EOI
1	Include updates of municipal & community energy consumption & climate messaging in regular newsletters, water bills & tax bills	Q2 2019, Ongoing	Green
2	Ensure business decisions & activities, including staff reports, bids, tenders & contracts - include climate change considerations involving the energy efficiency & expected GHG impact of that decision &/or activity, & how it relates to the Township's PCP program commitment	Q2 2019	Yellow
3	Include climate change language & influence of management decisions on GHG emissions in a new Asset Management Policy as part of 2019 AMP update	Q2 2019	Orange
4	Include GHG inventories, GHG targets & climate change action items into Official Plans & municipal Strategic Plans (i.e., Council strategic plans, AT, transit, parks & recreation, master plans, etc.)	Ongoing	Yellow
5	Consider recommendations to update Emergency Management Plans, specifically the Hazard Identification Risk Assessment (HIRA) to include climate change impacts (i.e., extreme weather, wildfire, flooding, etc.) & how residents can be better prepared	Q4 2019	Yellow
6	Prepare an inventory of municipal buildings & their associated energy audit status (not-completed, completed, implemented, etc.) & utilize this inventory in the update of the municipalities' CDM Plan in 2019, complete further actions as feasible - prioritizing top 5 GHG emission sources (see Table 5)	2020	Green
7	Establish a Corporate Energy Revolving Fund* to finance corporate energy retrofit projects	2021	Orange
8	Develop a 'no-mow' & pollinator policy with municipal commitments to improve the environment for pollinators & reduce corporate fuel use	2021	Yellow
9	Designate warming centres for winter, designate cooling centres for summer, & ensure on-site cooling locations for summer festivals & events	2021	Yellow
10	Develop a Sustainable Fleet Management Plan to reduce GHGs associated with corporate transportation	2021	Yellow
11	Investigate the feasibility of completing building & facility waste audits, complete audits & implement recommendations	2022	Yellow
12	Prepare a Water Management Plan to reduce corporate & community water use & to minimize the risk for flooding & drought	2022	Yellow
13	Complete a climate change infrastructure vulnerability & assessment	2023	Yellow
14	Develop a community & corporate energy plan	2025+	Red

\*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

Department lead	Secondary lead*	tCO <sub>2</sub> e reduction by 2028**	Cost***
Communications	CAO	N/a	\$
Multiple departments	CAO	Med: 45	\$\$
Public works	Finance/Treasurer	N/a	\$
Multiple departments	CAO	N/a	\$
Fire/emergency services	CAO	N/a	\$
Public works	Finance/Treasurer	High: 55	\$\$
Finance/Treasurer	CAO	N/a	\$\$
Parks/recreation	Public works/roads	Low: 10	\$\$
Fire/emergency services	Communications	N/a	\$
Finance/Treasurer	Public works/roads	High: 55	\$\$\$
Public works/roads	Parks/recreation	Low: 10	\$\$\$\$
Public works/roads	Communications	Low: 10	\$\$\$\$
Public works/roads	Engineering	N/a	\$\$\$
Planning	Engineering	N/a	ICA

### 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<sub>2</sub>e less
- Med: Equal to or less than 5% GHG reduction, estimated at approximately 45 tCO<sub>2</sub>e less
- High: Greater than 5% GHG reduction, estimated at approximately 55 tCO<sub>2</sub>e or more
- NA: No estimate available

<b>Total corporate GHG emissions (tCO<sub>2</sub>e) per 2015 baseline</b>	<b>922</b>
<b>Total GHG reduced (estimated tCO<sub>2</sub>e) through implementation of the action items</b>	<b>185</b>
<b>Additional GHG reduction (tCO<sub>2</sub>e) potential through low-level implementation of Table 7 actions</b>	<b>86</b>
<b>Total achievable GHG reductions by 2028</b>	<b>30%</b>

\* Your municipal Sustainability Committee & PCP program representatives are considered as support for all actions as needed.

\*\* 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 reduce corporate and community GHG emissions

List of actions	Approx. cost of implementation*	Estimated GHG reduction potential per action (one-time reduction)
Adoption of climate change policies and GHG emissions considerations in all municipal plans & documents	\$	LOW 10 (tCO <sub>2</sub> e) of GHGs reduced Equal to or less than 1% GHG reduction, estimated at approximately 10 tCO <sub>2</sub> e or less
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.)	\$	MED 45 (tCO <sub>2</sub> e) of GHGs reduced Equal to or less than 5% GHG reduction, estimated at approximately 45 tCO <sub>2</sub> e or less
Employee training and 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	\$-\$\$	HIGH 55 (tCO <sub>2</sub> e) of GHGs reduced Greater than 5% GHG reduction, estimated at approximately 55 tCO <sub>2</sub> e or more
Install/add exterior lighting control for buildings & facilities	\$\$-\$\$\$	
Install low-flow faucets with sensors & automatic shut-offs	\$-\$\$	
Purchase/replace office equipment with energy efficient models	\$-\$\$	
Replace weather-stripping for doors & windows	\$-\$\$	N/a No estimate available
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	\$\$	
Renovation/reconfiguring building or facility interior	\$\$\$-ICA	
Replace window glazing & doors	\$\$-\$\$\$\$	
Retrofit/replace supply fan motor & variable frequency drives (VFDs) in buildings & facilities	\$\$-\$\$\$\$	
Update inefficient heating/furnaces & cooling systems	\$\$\$-ICA	
Upgrade outdoor lighting 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 station(s)	\$\$	
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	





## Summary

This climate change action plan places the Township of Tiny in a position to take results-driven action towards your 30% corporate and 6% community GHG reduction targets while also working towards your on-going municipal priorities. Your climate change action plan also builds upon the work already completed by the Township (i.e. LED streetlight conversion, energy and water conservation efforts, recognition as Ontario's first Blue Community, successful pollinator protection work, innovative local food programming) and encourages these actions to continue through a lens that supports GHG emission reductions.

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 your municipalities' Associate Member to the PCP program, SSS will continue to support the Township of Tiny in completing PCP Milestones, as well as:

1. The submission of formal reports to the PCP Secretariat every 2 years on behalf of the Township, documenting Tinys achievements in the PCP program,
2. The submission of progress reports to the PCP program Secretariat to track actions and provide recognition as the Township 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 Township of Tiny'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 Township of Tiny, especially Deputy Mayor Steffen Walma and CAO Doug Luker, the Council and staff PCP program point-of-contacts, and Sustainability Committee member and Chair, respectively, for supporting climate change action within the municipality. The insight and support provided by both Deputy Mayor Walma and Mr. Luker has allowed SSS and the Sustainability Committee to succeed in delivering on their collective goal to complete the LCCAP and prepare Tiny's Climate Change Action Plan, establishing the framework for climate change action within the Township of Tiny.

## 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](https://fcm.ca/Documents/reports/PCP/PCP_Protocol_Canadian_Supplement_EN.pdf)
5. Township of Tiny, Official Plan, 2018 <https://drive.google.com/open?id=14x4ZF7uJK2crpkHu3G7adBPrXYPRw5p>
6. Township of Tiny, Strategic Plan, 2015-2020 <https://drive.google.com/open?id=0B0yPSaaMSvkOeWhaYXB3MmxXbGM>
7. Township of Tiny, Energy Conservation and Demand Energy Management (CDM) Plan, 2014-2019 <https://drive.google.com/open?id=0B0yPSaaMSvkOVHISczd5Mld4UUU>
8. 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>
9. Ontario's Electricity Act\* <https://www.ontario.ca/laws/statute/98e15>
10. O. Reg. 588/17: Asset Management Planning for Municipal Infrastructure <https://www.ontario.ca/laws/regulation/r17588>
11. 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](http://placestogrow.ca/index.php?Itemid=14&id=430&option=com_content&task=view#4.2.10)



Councillor Cindy Hastings and Doug Luker, CAO accepting the Township's PCP recognition statue, June 2018.



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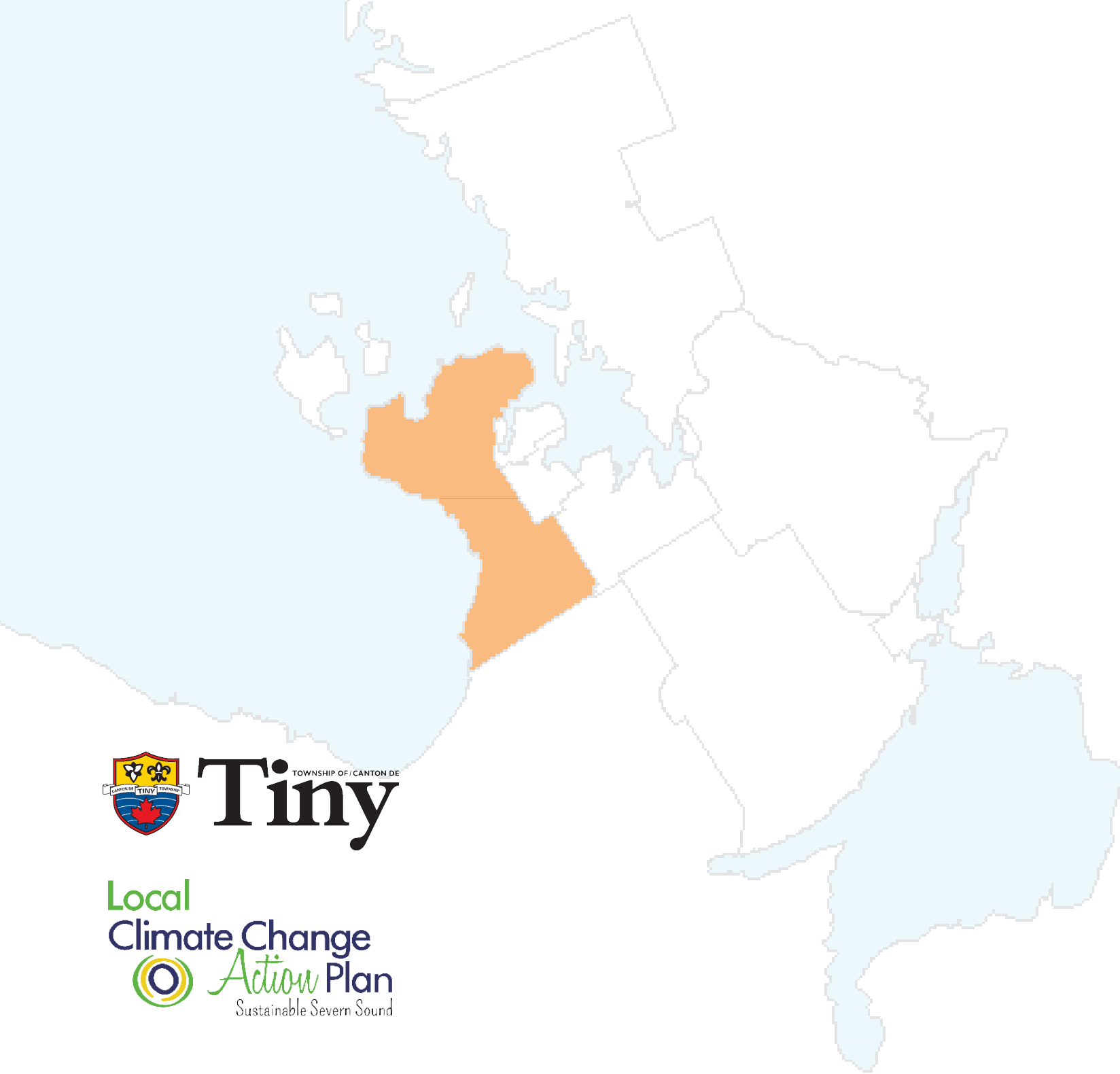


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