Tay's Climate Change Action Plan

Local Climate Change Action Plan

Sustainable Severn Sound

TAY TOWNSHIP est. 1994

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 Tracy Roxborough and Victoria Ervick of SSS.

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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 March 2018, your Council further demonstrated Tay's commitment to taking action on climate change and approved a model resolution put forth by SSS 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 you through a 5-step Milestone Framework (Table 1) to take action on climate change by reducing emissions in your municipality and community. In July 2018, the Township of Tay successfully achieved Milestone 1 of the program and through the adoption of the GHG reduction targets outlined in this Plan, has achieved 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, Tay will receive multiple co-benefits, including cost savings, cleaner air and healthier communities, 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 understanding is needed by Council, municipal staff, and the residents of Tay.

Table 1. The PCP program framework

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

Alignment with existing plans and policies

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

1. Township of Tay's corporate strategic plan and goal to, *'build a strong and collaborative community, provide value for money spent and to establish priorities to preserve and protect the environment, waterfront, heritage, character and lifestyles of Tay'.*

2. The Township's Energy Conservation and Demand Energy Management (CDM) Plan (re: O. Reg. 397/11) and Tay's Asset Management Plan (AMP) (re: 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 Tay's total GHG emissions account for approximately 8% of the area's total emissions (Figure 1). This equates to 41,052 tonnes of CO_2 equivalent (tCO_2e)[1], with corporate emissions accounting for 1% (898 tCO_2e) of Tay's total GHG emissions and community GHG emissions accounting for 99% at 40,154 tCO_2e (Figure 2).

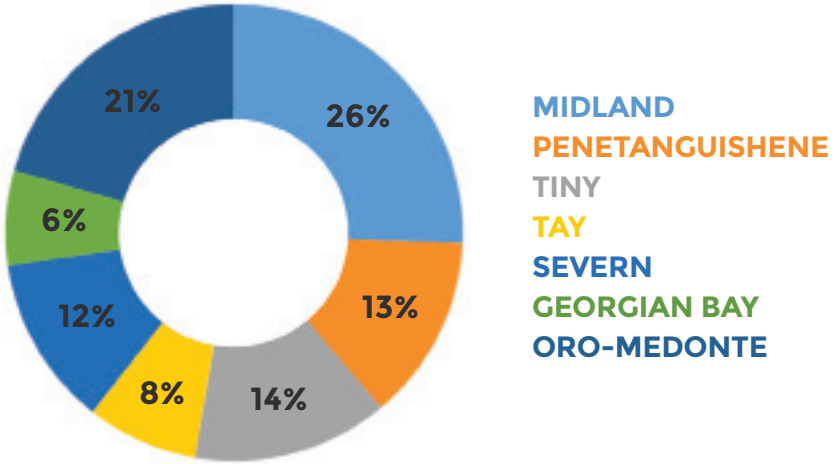


Figure 1. Per cent (%) of total regional GHG emissions, per municipality, 2015

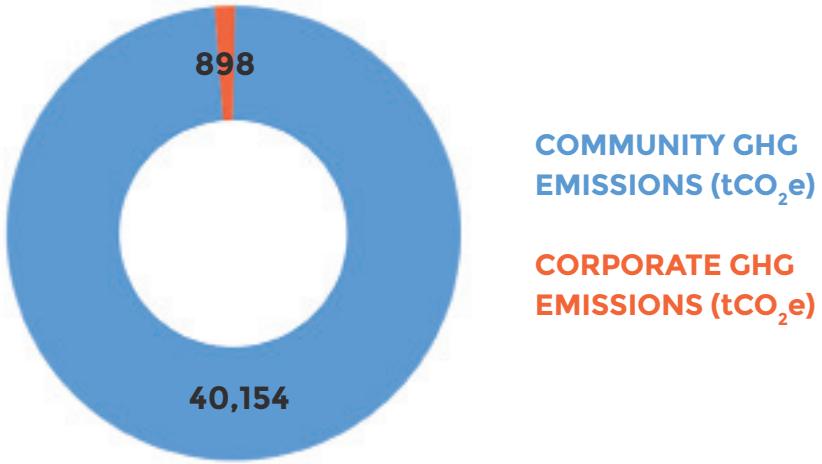


Figure 2. Tay's total GHG emission (tCO_2e), 2015

[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 10,033 (Statistics Canada, 2016)[2] the Township of Tay emitted approximately 4.09 tCO_2e per capita. As shown in Table 2, Tay has the lowest per capita GHG emission rate compared amongst our 7 municipal partners. 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). However, there are still several opportunities to significantly reduce both corporate and community GHG emissions. As 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 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[3]. 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	Permanent population (Census 2016, Statistics Canada)	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	4.75
Tay	10,033	41,052	4.09
		AVERAGE	**7.07**

[2] Statistics Canada, Census Profile, 2016 Census. Available from: https://www12.statcan.gc.ca/census-recensement/2016/dp pd/prof/details/pagecfm?Lang=E&Geo1=CSD&Code1=3543071&Geo2=CD&Code2=3543&Data=Count&SearchText=tay&SearchType=Begins&SearchPR=01&B1=All&TABID=1

[3] 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/

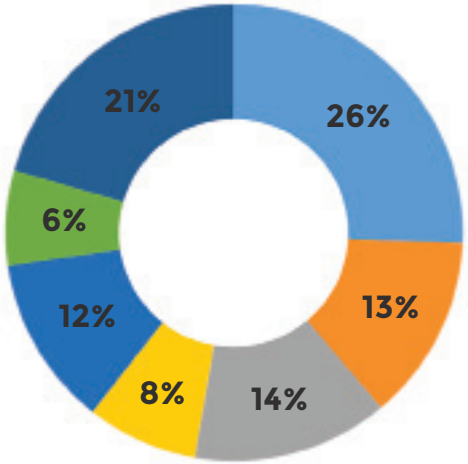
Community GHG emissions

Following the PCP's program Canadian Supplement to the International Emissions Analysis Protocol, community energy use and emissions were reported by sector (transportation, residential, solid waste, commercial and institutional, and industrial) and collected for the baseline year of 2015. The Township of Tay's community GHG emissions account for 8% of the area's total community emissions (Figure 3), being the 6th highest, or 2nd lowest, GHG emitter out of the 7 municipalities inventoried.

As illustrated in Table 3, transportation is the largest emitter of GHGs, accounting for 46% (18,519 tCO_2e) of Tay'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 Tay recommend residents to consider alternatives to the obvious choice, such as telecommuting, carpooling, biking, walking or public transit where possible.

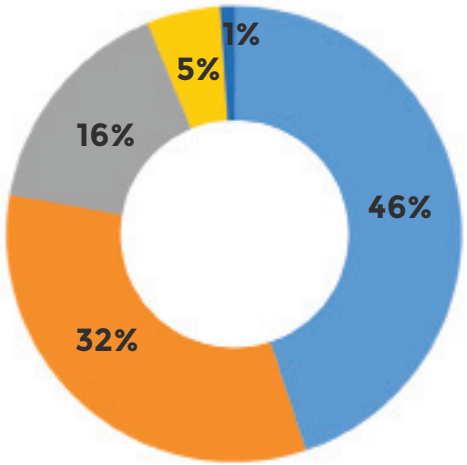
Table 3. Tay's community GHG emissions (tCO_2e) per sector, 2015

Sector	GHG emissions (tCO_2e)	% of total community emissions
Transportation	18,519	46%
Residential	12,913	32%
Waste	6,305	16%
Commercial	2,053	5%
Industrial	364	1%
Total	**40,154**	**100%**



MIDLAND
PENETANGUISHENE
TINY
TAY
SEVERN
GEORGIAN BAY
ORO-MEDONTE

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



TRANSPORTATION
RESIDENTIAL
WASTE
COMMERCIAL
INDUSTRIAL

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

The residential sector was the 2nd largest emitter of community emissions in 2015. GHG emissions from energy use was approximately 12,913 tCO_2e which is equivalent to 277,996 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 Tay to consider a strong planning policy that supports more sustainable homes, developments and neighbourhoods that exceeds Building Code and/or Planning Act requirements.

Community GHG emissions forecast, 2015-2028

In 2015, 40,154 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 transportation and solid waste generation. Based upon the projected increase of the Township's population to approximately 11,400 by 2031 from 2011, as contained in Schedule 7 of the Growth Plan and the County of Simcoe Official Plan, the Township's community GHG emission forecast is projected per a 0.68% annual population growth rate to 2028. As a result of that increase and considering business-as-ususal (BAU) operations, GHG emissions are expected to grow to 43, 854 tCO_2e, or by 9.2 % by 2028, if no significant action is taken. This increase over 2015 GHG emission levels would allow an additional 3,700 tCO_2e to be emitted by the community by 2028.

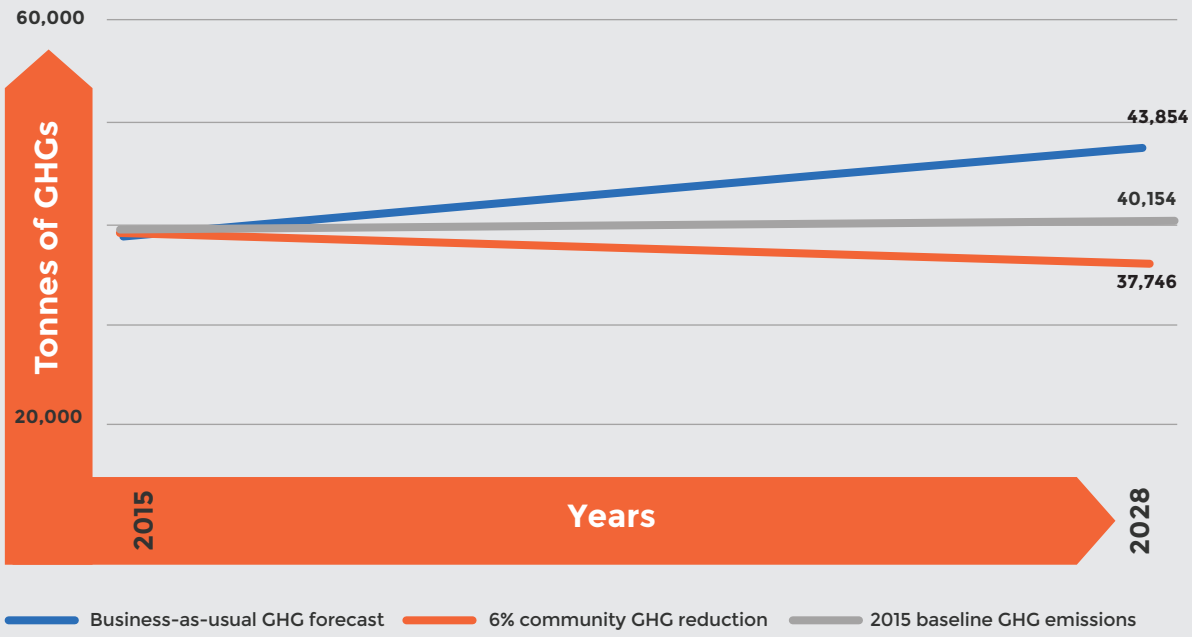


Figure 5. Community GHG emissions forecast, 2015-2028

Community GHG emissions reduction target to 2028

The community of Tay 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 2,678 less tCO_2e relative to the 2015 baselin, and a 2028 target of 37,746 tCO_2e. This reduction is equivalent* to:

- Removing approximately 590 passenger vehicles from the road.
- 150 Tay residents reducing their annual vehicle kilometers (km) travelled by 50 km over the next 10 years.
- 75 Tay 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

Corporate GHG emissions

This municipal climate change action plan includes recommendations to reduce energy and emissions from municipal operations including fleet, water and wastewater, buildings and facilities, solid waste, and streetlights. 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 Tay's geographical boundary.

In 2015, the baseline year, the Township of Tay's total corporate energy use was approximately 27,124 GJ. This is equivalent to 898 tCO_2e and accounts for approximately 15% of the region's total corporate emissions as presented in the LCCAP (Table 4 and Figure 5). Tay's total corporate emissions are generated from the use of diesel, gasoline, electricity and natural gas. In comparison, the Township of Tiny'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.

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

Sector	GHG emissions (tCO_2e)	% of total corporate emissions
Fleet	342	38%
Water & wastewater	309	34%
Buildings & facilities	217	24%
Streetlights	16	2%
Solid waste	14	2%
Total	**898**	**100%**

As illustrated in Table 4 and Figure 7, the Township's GHG emissions predominately stem from fleet (38%) and infrastructure related to water and wastewater (34%). Most water and wastewater emissions are generated from electricity and natural gas, used to heat and power each of the Township's 39 water related buildings, while fleet emissions are generated from diesel and gasoline consumption. Of Tay's top 5 GHG emitting buildings and facilities, two are related to water and wastewater infrastructure (Table 5), and make up approximately 27% (251 tCO_2e) of Tay's total corporate emissions.

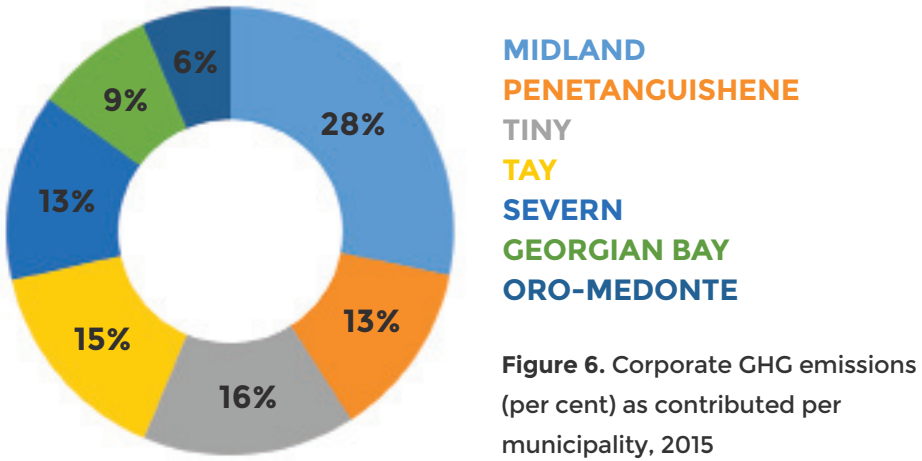


Figure 6. Corporate GHG emissions (per cent) as contributed per municipality, 2015

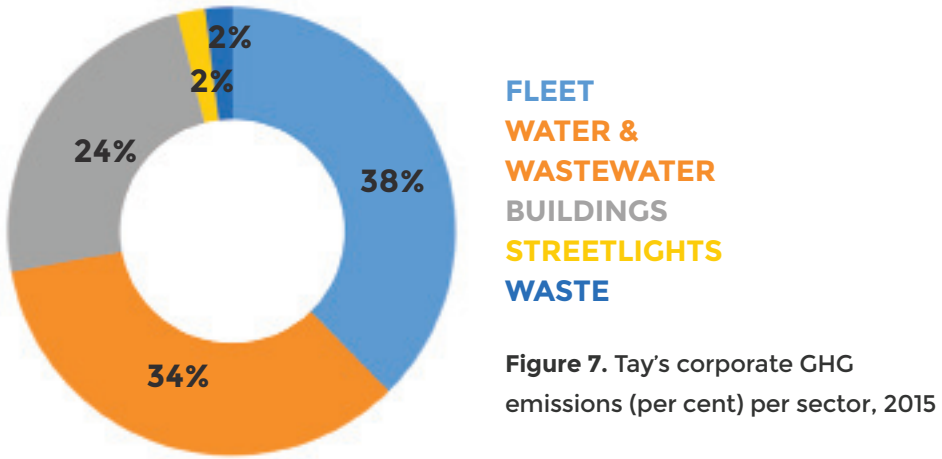


Figure 7. Tay's corporate GHG emissions (per cent) per sector, 2015

Corporate GHG emissions forecast, 2015-2028

In 2015, the Township's corporate GHG emissions were 898 tCO_2e as a result of day-to-day municipal operations. Based upon the projected increase of the Townhip's population to approximately 11,400 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 0.68% population increase to 2028. As a result of that increase and considering BAU operations, corporate GHG emissions are expected to grow to 983 tCO_2e, or by 9.5% by 2028. As GHG emissions are directly correlated to energy costs, the expectation is that municipal expenses would also increase relative to this increase of GHGs. Under the Paris Agreement, Canada has committed to reducing GHG emissions by 30% below 2005 levels by 2030[5]. The 25% target to be achieved by the Township remains consistent with the selected Federal target.

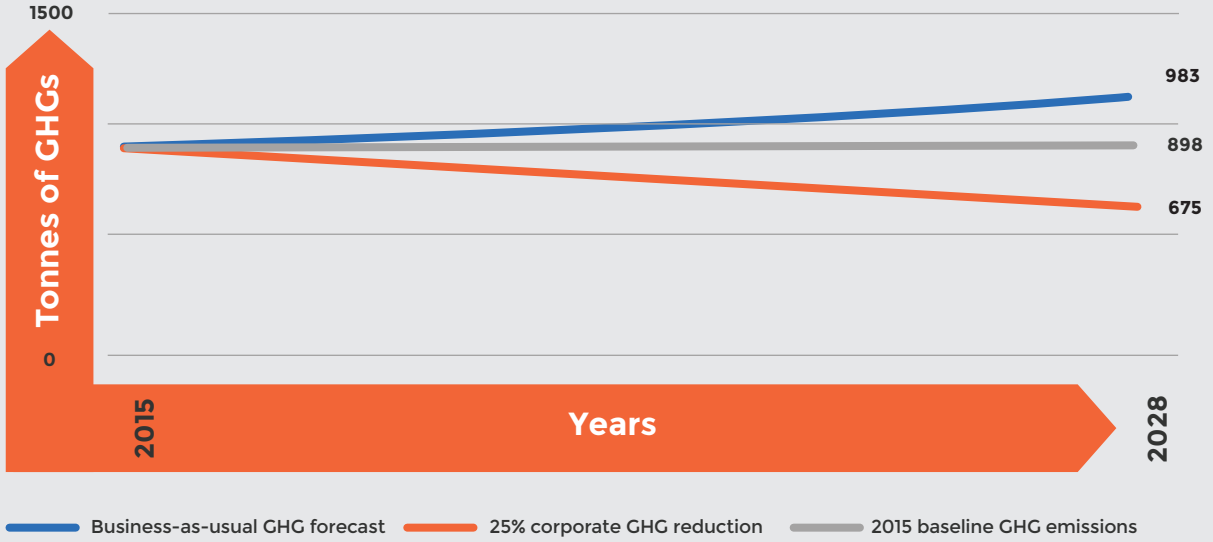


Figure 8. Corporate GHG emission forecast, 2015-2028

Corporate GHG emissions reduction target to 2028

The Township of Tay is aiming to achieve a corporate GHG emissions reduction target of 25% below 2015 levels by 2028. This target represents an absolute emissions reduction of 223 tCO_2e relative to 2015 baseline emissions, having the Township strive to emit no more than 675 total tCO_2e from corporate activities in 2028. A reduction of 25%, or 223 tCO_2e 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.

5 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

6 Equivalent calculations produced from the calculations derived from the Partners for Climate Protection Tool (PCP Milestone Tool) per the selection of an absolute 25% GHG reduction from 2015-2028 for the Township of Tay.

Based on Ontario's average historical cost for electricity in 2015 and the average commodity price* for natural gas paid by Tay in 2015, the Township spent approximately $338,864 on energy consumption for their top 5 buildings alone in the baseline year. Achieving a 25% GHG reduction target would result in a projected cost-savings of up-to approximately $847,161 from the top 5 buildings and facilities alone[7] over the next ten years, or $84,716 per year. This is a conservative estimate[8], 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.

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

Municipal operation	Address	Total square feet (sq.ft)	Energy consumption		GHG emissions (tCO_2e) per facility
			Electricity (kWh)	Natural Gas (m^3)	
Port McNicoll WWTP	551 First Ave.	6114	1,764,585	56,307	178
Tay Treatment Plant	45 Lighthouse Cres.	7815	558,422	26,801	73
Garage	450 Park St.	13,735	47,472	30,353	59
Administrative office	450 Park St.	7804	110,768	17,336	37
Oakwood Community Centre	290 Park St.	9354	67,527	12,817	26
		Total	**2,548,774**	**143,614**	**373**
		Estimated total cost ($)*	**$317,322**	**$21,542**	**$338,864**

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

7 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).

8 This estimate assumes average building and facilities energy costs of $338,864 per year over 10 years, for a total of $3,388,640 in costs, with a direct 25% reduction in those costs presented as a result of the achieved 25% reduction in corporate GHG emissions.

Opportunities for reducing corporate GHG emissions

As part of the implementation plan, SSS staff will review Tay'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 Tay'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

Table 6 lists the actions SSS and the Sustainability Committee have identified to guide the Township in meeting their 25% corporate and 6% community GHG reduction targets. These recommendations will be updated every 5 years by SSS and the Sustainability Committee to reflect new projects and GHG emission reduction opportunities.

Implementation costs

For the purpose of this plan, four expenditure categories were used to estimate the total cost associated with the implementation of each action in Table 6.

Capital	Capital expenditures by local jurisdictions are typically for projects and programs related to ocal 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 Township 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 reduce GHG emissions, 2019-2028

#	Recommended action items	Year
1	Include updates of municipal & community energy consumption & climate messaging in regular newsletters, water bills & tax bills	Spring/fall, 2019
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 Tay's PCP program commitment	May, 2019
3	Consider recommendations to update Emergency Management Plans to include climate change impacts (i.e., extreme weather, wildfire, flooding, etc.)	June/July, 2019
4	Include climate change language & influence of management decisions on GHG emissions in a new Asset Management Policy as part of 2019 AMP update	April, 2019
5	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
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
7	Develop a 'no-mow' & complementary pollinator policy with municipal commitments to improve the environment for pollinators & reduce corporate fuel use	2020
8	Designate warming centres for winter, designate cooling centres for summer, & ensure on-site cooling locations for summer festivals & events	2021
9	Develop a Sustainable Fleet Management Plan to reduce GHGs associated with corporate transportation	2021
10	Investigate the feasibility of completing building & facility waste audits, complete audits & implement recommendations as deemed feasible	2022
11	Prepare a Water Conservation & Management Plan to reduce corporate & community water use & to minimize the risk for flooding & drought	2022
12	Complete a climate change vulnerability & risk assessment	2023
13	Establish a Corporate Energy Revolving Fund* to finance corporate energy retrofit projects (i.e. revenues could be generated by renewable projects, energy inventive savings, & a percentage of savings generated by externally funded energy reduction projects)	2023
14	Establish a local municipally-owned & managed forest plot to supply municipal & community tree planting projects (i.e., 1 hectare)	2024+
15	Develop a community & corporate energy plan	2025+

* The concept is to develop a sustainable municipal fund that is derived from a portion of the cost-savings achieved as a result of energy efficiency projects, renewable energy savings, energy grants &/or rebates, etc. , to finance GHG reduction & energy conservation projects.

EOI	Department lead	Secondary Lead	tCO_2e reduction by 2028**	Approx. cost***
	Communications	CAO	N/a	$
	CAO	All/multiple	Med: 45	$$
	Emergency services	CAO	N/a	$
	Finance	Public works	N/a	$
	CAO	All/multiple	N/a	$
	Finance	Public works	High: 55	$$
	Parks/recreation	Public works	Low: 10	$$
	Emergency services	Communications	N/a	$
	Finance	Public works	High: 55	$$$
	Parks/recreation	Public works	Low: 10	$$$$
	Public works	Communications	Low: 10	$$$$
	Public works	Parks/recreation	N/a	$$
	Finance	CAO	N/a	$$
	Parks/recreation	Public works	Low: 10	ICA
	Planning	Public works	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_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

NA: No estimate available

Total corporate GHG emissions (tCO_2e) per 2015 baseline	**898**
Total GHG reduced (estimated tCO_2e) through implementation of the action items	**195**
Estimated GHG reductions by 2028	**21%**
Additional GHG reduction (tCO_2e) potential through low-level implementation of Table 7 actions	**86**
Total achievable GHG reductions by 2028	**25%**

** 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 GHG emissions

List of actions	Appox. cost of implementa-tion*
Adoption of climate change policies and GHG emissions considerations in all municipal plans & documents	$
Adding or rearranging windows for increased daylight in retrofits & new builds	$-$$$
Adoption of green driving policy (i.e., anti-idling, right-sizing, car-pooling, telecommuting, etc.)	$
Employee training and awareness program to conserve water, energy & resources	$$
Environmental stewardship or conservation actions (i.e., tree planting & preservation, habitat enhancements, etc.)	$-$$$$
Install occupancy sensors to control interior building or facility lighting	$-$$
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	$-$$
Use cool/white roofs on buildings & facilities	$$$-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

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 or less

MED 45 (tCO_2e) of GHGs reduced

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

*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.

Summary

The regional LCCAP and your municipal-level action plan puts your municipality in a position to take results-driven action towards your 25% corporate and 6% community GHG reduction targets while also working towards your on-going Township priorities. This document builds upon the work already completed by the Township (i.e. energy and water conservation efforts, building upgrades, and streetlight replacements) 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 your municipalities' Associate Member of the PCP program, SSS has committed to completing Milestones 2 and 3 on behalf of the Township and SSS staff will continue to:

1. Submit formal reports to the PCP Secretariat every 2 years on behalf of the Township, documenting Tay's achievements in the PCP program to meet membership requirements,

2. Submit progress reports to the PCP program Secretariat to track actions and provide recognition as the Township advances through the milestone framework, and

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

Acknowledgements

SSS and the Sustainability Committee would like to thank the Township of Tay, especially Councillor Catherine Root and CAO Mr. Robert Lamb, the Council and staff PCP program point-of-contacts, respectively, for supporting climate change action within the municipality. The insight and support provided by Councillor Root and Township representatives has allowed SSS and the SC 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 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. Township of Tay, Official Plan, 2018 https://drive.google.com/open?id=1zzNNDngWGCbiklkZfeUxEYGjn8RJpg86
6. Township of Tay, Strategic Plan, 2015-2018 https://drive.google.com/drive/folders/0B0yPSaaMSvkOdUppdnZuaEFSZDQ7
7. Township of Tay, Energy Conservation and Demand Energy Management (CDM) Plan, 2014-2019 https://drive.google.com/open?id=0B0yPSaaMSvkOX3M1VURiTUJ2YjQ
8. Township of Tay, Asset Management Plan (AMP), 2013 https://drive.google.com/open?id=1tCQo70RO74If9FgUQDXVSUCsOnK30Sck
9. 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
10. Ontario's Electricity Act* https://www.ontario.ca/laws/statute/98e15
11. O. Reg. 588/17: Asset Management Planning for Municipal Infrastructure https://www.ontario.ca/laws/regulation/r17588
12. 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

PCP representative Mr. Robert Lamb, CAO, accepts the PCP recognition statue from Ian McVey, Regional PCP program representative, June 2018.

Local Climate Change Action Plan
Sustainable Severn Sound

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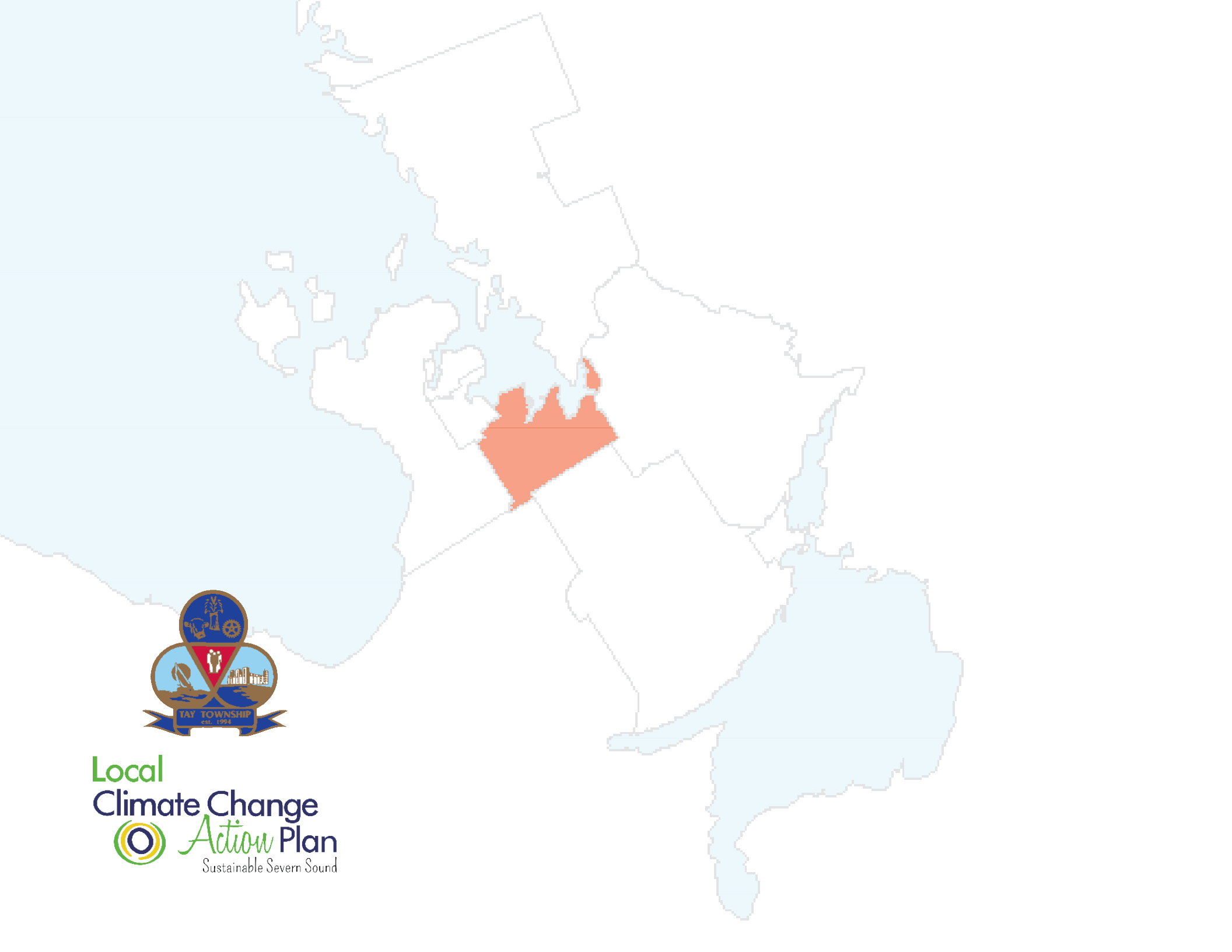

Local Climate Change Action Plan

Sustainable Severn Sound