CITY OF TEMISKAMING SHORES

GREENHOUSE GAS (GHG) REDUCTION PLAN

AUGUST 2019

Prepared in co-operation with:



TABLE OF CONTENTS

TABLE OF CONTENTS			
OUR	COMMITMENT TO GREENHOUSE GAS REDUCTION	5	
INTRO	ODUCTION – EXECUTIVE SUMMARY	6	
BAC	CKGROUND	6	
Овј	BJECTIVES AND PURPOSE OF THE GHG REDUCTION PLAN	7	
Key	Y CITY STAFF	7	
1.0	PARTNERS FOR CLIMATE PROTECTION (PCP) PROGRAM	8	
2.0	GHG INVENTORY METHODOLOGY	9	
Puf	IRPOSE OF THE PCP PROTOCOLS	9	
3.0	GHG EMISSIONS INVENTORY		
Сом	Community Emissions		
Сом	Community Emissions Forecast to 2027		
COF	PRPORATE EMISSIONS		
COF	PRPORATE EMISSIONS FORECAST TO 2027		
4.0	SETTING REDUCTION TARGETS		
Сом	DMMUNITY GHG EMISSIONS REDUCTION TARGET – 5% BELOW 2017 LEVEL, BY 2027		
COF	PRPORATE GHG EMISSIONS REDUCTION TARGET – 10% BELOW 2017 LEVEL, BY 2027		
RISK	KS TO OUR SUCCESS		
5.0	GHG EMISSION REDUCTION MEASURES		
Con	IMMUNITY-BASED EMISSION REDUCTION ACTION PLAN		
COR	RPORATE-BASED EMISSION REDUCTION ACTION PLAN		

APPENDIX A: Energy Conservation Action Plan

OUR COMMITMENT TO GREENHOUSE GAS REDUCTION

Around the world, communities are embracing strategies for reducing the climatic effects of greenhouse gas (GHG) emissions. The City of Temiskaming Shores is joining the effort to reduce GHG emissions by becoming one of over 350 Canadian municipalities in the Partners for Climate Protection (PCP) program. This effort is a collaborative tool for climate action at municipal level. In its Official Plan, the City of Temiskaming Shores identified the desire to Build a Strong, Safe and Sustainable Community as a strategic priority. We believe that implementing this GHG Emissions Reduction Plan with clear and achievable targets, combined with other related efforts, the City of Temiskaming Shores will meet its strategic priority while serving as an example and leader in climate change mitigation.

INTRODUCTION – EXECUTIVE SUMMARY

BACKGROUND

Sustainability and environmental responsibility are important building blocks being initiated by communities around the world. Key international agreements, such as the Paris Agreement reached by Canada and 194 other countries in December 2015, have laid the groundwork for Canadian municipal governments to take important broad actions to fight climate change and its growing effects. The City of Temiskaming Shores has taken a leadership approach in terms of Community Energy Conservation, GHG emissions reductions and overall sustainability.

To reach these broad goals, the City has created a three-pronged approach:

- The creation of an updated Energy Conservation and Demand Management (ECDM) Plan (released in July 2019 as mandated by Ontario Regulation 507/18) addresses corporate energy initiatives. Building on the very successful original ECDM plan (released in July 2014), this will serve as the City's roadmap for its ongoing energy conservation efforts.
- 2. The City of Temiskaming Shores has also completed a Municipal Energy Plan (MEP) in 2016. This Plan outlines both specific and broad measures that will be implemented within the City that will reduce the overall energy used, the emissions levels per capita, and reduce or negate the impacts of future growth on both energy use and emission levels. These results will be achieved by implementing the MEP recommendations that ensure all of the links in the energy supply chain from the final use to the choice of energy source are as reliable, economic, efficient and clean as they can be. These recommendations build on each other and should be seen as an integrated solution and includes measures specifically geared towards City operations and broaden to include community-wide efforts.
- 3. This Greenhouse Gas Emissions Reduction Plan. The GHG Emissions Reduction Plan is designed to complement the City's commitment to sustainability. By combining and cooperating with the other initiatives described above, a synergistic approach can be developed to ensure that Energy and Environmental approaches are considered moving forward.

This GHG Reduction Plan:

- Includes a full Community and Corporate GHG emissions inventory and baseline.
- Sets targets for reducing Community (by 5%) and Corporate (by 10%) GHG emissions by 2027.
- Lists demonstrated methods and plans to achieve the reduction targets.

Like all other efforts, this GHG Reduction Plan has been developed to protect the interests of our constituents and ensure that the City of Temiskaming Shores continues its path towards environmental sustainability in an effective and fiscally responsible way. The City believes that a firm commitment to understanding and limiting GHG emissions is a key measure in becoming a more sustainable community, while operating in a cost-effective manner that respects the value of taxpayer dollars.

To achieve our goals the City of Temiskaming Shores has chosen to join over 350 other Canadian communities in following the Partners for Climate Protection 5 Milestone program. This GHG Emissions Reduction Plan covers Milestones 1 through 3. More information on this process is found in Section 1.0 Partners for Climate Protection (PCP) Program.

OBJECTIVES AND PURPOSE OF THE GHG REDUCTION PLAN

The GHG Emissions Reduction Plan will establish the City of Temiskaming Shores as a leader in reducing our impact on climate change and is designed to build on our previous steps towards environmental sustainability. The City of Temiskaming Shores has demonstrated in understanding of the financial and quality of life impacts that climate change presents. This Plan will create a measurable approach to reducing the City's carbon footprint. By inventorying both community and corporate emissions, an accurate baseline can be established as a starting point for the objective measurement of the effectiveness of our activities. This will ensure that the time-based targets set, as well as the measures identified to help reach those goals, remain both achievable and at the forefront of our actions.

KEY CITY STAFF

The development of this Plan, along with its implementation and success measurement, will be driven by the City's Building Maintenance Committee. These key staff members will be responsible for informing and recruiting the assistance of other staff, departments and personnel with regards to meeting the GHG Emissions Reduction Plan's goals and milestones. Progress and success will be reported at least annually to city leadership and Council Members.

1.0 PARTNERS FOR CLIMATE PROTECTION (PCP) PROGRAM

The City of Temiskaming Shores has joined the Partners for Climate Protection (PCP) program. The PCP program is a network of Canadian municipal governments that have made commitments to curb greenhouse gas emissions and take action on climate change. This program is the Canadian version of ICLEI's Cities for Climate Protection (CCP) campaign, which includes more than 1,000 communities worldwide and is a partnership between the Federation of Canadian Municipalities (FCM) and ICLEI Canada.

The PCP program is comprised of a five-milestone framework. Participating communities develop local GHG inventories, set GHG reduction targets, develop and implement climate change action plans and then monitor results. ICLEI provides support and reviews submissions to ensure they meet the requirements for milestone recognition.

The five milestones are:

- 1. Creating a GHG emissions inventory and forecast.
- 2. Setting a GHG emissions reduction target.
- 3. Developing a local action plan.
- 4. Implementing the local action plan or a set of activities.
- 5. Monitoring progress and reporting results.



2.0 GHG INVENTORY METHODOLOGY

The basis for the PCP program is the premise that in order to "effectively manage GHG emissions, local governments must first measure and report". As with all types of information, the accuracy of the GHG data provides the City of Temiskaming Shores with a way to target specific areas of GHG emissions to reduce and have the greatest impact on the overall carbon footprint associated with Corporate activities. As well, ongoing access to reliable data enables on-going measurement and verification of the effectiveness of GHG reduction activities. From a community-wide perspective, GHG measurement also provides community partners and stakeholders with a visual to see the impact of their own activities, resulting in individual responsibility and ownership to reduce GHG footprint. Together, the corporate and community-wide inventories provide a clear picture and path to GHG emissions reduction and highlight areas of overlap where a combined effort can yield the greatest benefits.

PURPOSE OF THE PCP PROTOCOLS

According to the PCP Protocol: Canadian Supplement to the International Emissions Analysis Protocol document, the purpose of the PCP Protocol is to provide municipalities with a set of clear accounting and reporting guidelines for developing corporate and community-level GHG inventories within the context of the PCP program. These standards have been developed to meet the following objectives:

- Clarify the corporate and community inventory requirements so that PCP municipalities have a clear sense of which emissions sources must be reported and those that are optional.
- Clarify the relationship between the corporate and community-scale inventories to address overlapping emission sources and activity sectors, such as municipal landfills and public transit systems.
- Provide detailed accounting and quantification guidelines, including recommended best practices and alternate approaches, for each of the required reporting sectors.
- Clarify the relationship between PCP and other GHG inventory protocols so that municipalities can plan and coordinate their reporting according to their own needs and priorities.

The establishment of GHG emissions inventories is the first step towards developing GHG emissions reduction strategies.

3.0 GHG EMISSIONS INVENTORY

COMMUNITY EMISSIONS

Using the PCP Milestone 1 Tool, a community GHG Inventory and Carbon Footprint was established. For the purposes of measuring our future successes in reducing community emissions, a GHG emission baseline was established for the base year of 2017. The inventory process also provides the necessary baseline data to measure our progress. By monitoring emission levels at regular intervals, we will be able to determine if we are meeting our reduction goals or continuing along a 'business-as-usual' trajectory. This inventory will form the foundation for our community-based efforts, guiding our actions to the areas where the greatest impact can be made. The PCP Milestone Tool is based on the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC) and the PCP protocol.



Figure 3-1 – Community GHG (tCO_{2e}) Inventory by Sector (2017)

As illustrated in Figure 3-1, solid waste is the highest input in terms of GHG Emissions in the community. It should also be noted that waste contributes a significant portion of Community emissions at 38.7%. This particular input is unique in that the City controls the waste disposal and can likely have a greater direct influence on this area through the use of targeted waste reduction programs.

COMMUNITY EMISSIONS FORECAST TO 2027

Using the PCP Milestone 1, a 'business as usual' forecast was developed. This forecast was based on projected population increase for the community. Under this scenario, it is expected that community-based GHG emissions will increase from 112,661 tCO2e to 126,934 tCO2e.

CORPORATE EMISSIONS

Using the same PCP Milestone 1 tool as we did for the Community inventory, a corporate GHG Inventory and Carbon Footprint was established. As the City has detailed energy and fuels consumption data, as well as detailed waste information, the Corporate footprint is based on actual emissions information, making for a more robust and accurate footprint.



Figure 3-2 Corporate GHG (tCO_{2e}) Inventory by Sector (2017)

As illustrated in this chart, waste is the main emissions driver for the Corporation.

It is important to have a broad understanding of the Corporation's GHG emissions, as this is the area that city departments have the most influence over and can affect the greatest change. To gain better insight into the sources of the emissions, an overview of the City's energy usage is helpful.



Figure 3-3 City of Temiskaming Shores Corporate Energy Usage Overview (GJ's by Source 2017)

It is clear from this chart that water & sewage fuel use, as well as buildings' fuel usage, make up the vast majority of the Energy usage. Natural gas and fuels usage also present the greatest opportunity to reduce emissions.

CORPORATE EMISSIONS FORECAST TO 2027

Using the PCP Milestone tool, a 'business as usual' forecast was developed. This forecast was based on projected increases in GHG emissions by sector input. Under this scenario, it is expected that corporate-based GHG emissions will increase from 4,409 tCO2e to 4,967 tCO2e.

4.0 SETTING REDUCTION TARGETS

The City of Temiskaming Shores must set reduction targets in order to meet the goals and requirements of the PCP program. Across Canada, communities have set varying targets depending on their ability to achieve GHG emissions reductions. For example, a community that has a robust infrastructure and experience in this area, as well as high potential to reduce, may set a more aggressive target.

To be successful, the Federation of Canadian Municipalities (FCM) has published a guidebook. This information suggests that in order to be achievable, reduction targets should clearly state if they pertain to Corporate or Community reduction efforts. As well, targets should follow the following S.M.A.R.T. principles¹:

- Stretch the targets, acknowledging the climate change imperative. Targets should recognize the urgency of climate change and the need to act. The scale of the problem requires that municipalities stretch themselves to some extent to achieve reductions and protect the long-term interests of communities.
- Meaningful, connected to local context. To be successful, targets and plans should reflect the community, its values, priorities, and policy and planning activities. Targets and action plans should be linked to guiding documents such as community plans.
- Adopted by council. A PCP requirement, council adoption raises awareness of the target, demonstrates commitment, and provides authority to staff to work towards the reduction objective. Targets adopted by council have the weight of official community policy.
- Realistic targets. Reduction targets should be achievable. This does not mean they must be easy to achieve, or that it is known exactly how they will be achieved. But it does mean that targets should not be set if nobody believes in them and they are doomed to failure from the start.
- Time bound. Also, a PCP requirement, setting a target year allows communities to develop actions with a specific implementation schedule, and to effectively monitor and report on their progress.

Some examples of Corporate and Community targets are illustrated in Figure 4.1²

Figure 4.1 – Examples of Canadian Community GHG Emissions Reduction Targets²

Corporate Targets		Community Targets	
Bridgewater, NS	15% below 2007 by 2017	Kelowna, BC	33% below 2007 by 2020
Halton Hills, ON	20% below 2011 by 2031	Sackville, NB	10% below 2011 by 2021
Ritchot, MB	15% below 2011 by 2025	Thunder Bay, ON	10% below 2005 by 2017

The City has chosen to set individual targets for Corporate and Community GHG emissions reductions as recommended by the FCM. To frame our reduction targets, a base year of 2017 was chosen, along with a reduction

² Reaching Milestone 2: How to set emissions reduction targets

target term of 10 years. This approach was chosen in recognition of some current programs in development that will assist the City in getting a head start on reaching reduction targets, as well as anticipation of new ideas being developed throughout the term. A 10-year window also allows the City of Temiskaming Shores sufficient time to plan, develop, implement and then measure the effects of these programs.

COMMUNITY GHG EMISSIONS REDUCTION TARGET - 5% BELOW 2017 LEVEL, BY 2027

Setting Community reduction targets must consider a number of factors to be successful. These include:

- The degree of influence that the City has over citizen habits and behaviours.
 - The potential impact of any actions on the day-to-day lives of the citizens can have a profound effect on whether citizens will take part.
 - If the City has a history of successful community interactions, this can help ensure the success of the GHG emissions reduction programs.
- The presence of like-minded community-based organizations.
 - Local environmental action groups can be key allies in ensuring success, if key partnerships can be formed.
- The level of engagement of the citizens on community-based programs.
- The influence of environmental factors in the day-to-day lives of local community members.
 - For example, is there a large tourism-based economy surrounding environmental factors?

While these are only a few of the factors, a realistic approach must be considered when developing communitybased targets and related actions. The City must be prepared to invest in effective communication channels that are inclusive to all members of the public and provide appropriate means for feedback and highlight the immediate benefits of any programs if they are to be successful. This needs to lay out realistic scenarios that highlight the benefits and costs of both action and inaction. This messaging is a key factor in the community-based action plan outlined in later sections.

CORPORATE GHG EMISSIONS REDUCTION TARGET - 10% BELOW 2017 LEVEL, BY 2027

The corporate target is slightly more aggressive than the community target for several reasons:

- The City has full control over the operations of its programs, facilities, and vehicles, as well as greater influence over employee behaviour and habits. Targeted actions can be achieved through employee training in City facilities, and then reinforced through an enforcement process that includes a system for feedback to evaluate the success and improvement of the programs implemented.
- 2. The City has a history of developing savings/conservation targets and achieving them. The 2014 Energy Conservation and Demand Management Plan (currently being updated for 2019) was a successful endeavour as the City was able to exceed their goal reduction target. City personnel involved in this Plan gained valuable experience through the process that they can apply to the GHG emission reduction initiative, avoiding many of the growing pains that often accompany implementation of new programs.
- 3. The City can potentially access direct funding to assist with planned action implementation. While incentives and funding programs change frequently, being 'shovel ready' with a plan and actionable initiatives already mapped out means the City is more prepared to react quickly to apply for funding than

communities without an established process City personnel are already actively seeking potential funding from the FCM and have also been successful in accessing incentive funding from both the electricity and natural gas utility programs.

4. Some savings ideas may be captured through existing capital improvement/renewal projects. Having GHG emissions reduction targets already in mind will ensure these ideas are considered when developing infrastructure renewal and replacement projects (i.e. purchasing more efficient vehicles or developing a higher standard for new building efficiency).

The City of Temiskaming Shores has taken several steps to ensure its leadership in the areas of energy conservation and climate change adaptation and mitigation. This leadership role is re-enforced through the creation of plans-of-action in these areas. The action plan outlined below will form the basis for the City's short and medium-term activities. Through the use of the GHG emissions inventory, areas of high emissions can be targeted and addressed in a manner that yields the highest reductions with limited City resources.

One thing that must be considered when developing GHG emissions reduction and energy conservation plans simultaneously, is the often juxtaposing positions of each. For example, electricity is often the most expensive form of energy, but also has a low emissions footprint in Ontario. This means that actions to reduce the City's energy budgets may not necessarily lead to large GHG emissions reductions. By understanding the influence that each plan has on the other's success, the City of Temiskaming Shores can create a strategy to efficiently meet both goals.

RISKS TO OUR SUCCESS

While the City of Temiskaming Shores realizes that realistic targets are important, it is also crucial to have an ambitious outlook to drive success. However, there are potential challenges to ensuring that our targets are reached, and these include:

- Availability of municipal funds to implement measures. Shifting local, provincial and national spending priorities can lead to changes in the focus of how budget dollars are allocated.
- **Changes in economic conditions.** Similar to above, economically challenging times can shift the priorities of local residents and businesses.
- **Investment of time.** Changing attitudes and habits take time. However, a regular, consistent messaging campaign can help overcome these challenges.

5.0 GHG EMISSION REDUCTION MEASURES

COMMUNITY-BASED EMISSION REDUCTION ACTION PLAN

This section describes measures that will be put in place to achieve maximum buy-in and results from the City of Temiskaming Shores' community members and partners. As the Corporation does not have direct control over the habits and energy consumption of this sector, education, outreach and awareness will be the key features of this part of our GHG Emissions Reduction Plan. Below are a few of the key messaging targets, as well as some important steps the Corporation can take to achieve the Community GHG Emissions Reduction Targets. As energy use is the key factor in reducing GHG emissions, this will be one of the primary focuses of our community-based programming.

PROGRAM 1: DEVELOPING A GHG EMISSIONS AWARENESS AND A CULTURE OF REDUCTION

Developing awareness of a GHG Emissions Reduction culture is a key focus within the community. This awareness will lead to meaningful behaviour changes from the residents of Temiskaming Shores, ensuring the full potential of GHG emissions efforts will be achieved. While reducing GHG Emissions is perceived as driven though changes in carbon-based fuels, usage habits among the citizenry and commercial/industrial base often leads to significant reduction without a major capital investment. The challenge lies in encouraging people to embrace change. Early adopters will always be a part of any new cultural movement, just as there will always be detractors on the other end of the spectrum. Encouraging those in the middle ground to shift towards positive action will be the key challenge to ensuring the success of this program in the greater community.

A leading-edge community engagement effort in GHG emissions reduction initiatives (conservation, retro-fits, and efficiency programs) will be created to enhance implementation effectiveness and support a sustainable quality of life in Temiskaming Shores.

The community conservation culture will be created by:

- 1. Creating and maintaining a dedicated interactive online presence for GHG Emissions awareness and community reduction initiatives.
- 2. Having the City of Temiskaming Shores become the 'clearinghouse' for financial incentive programs, allowing the City to leverage available incentive funding to promote energy and fuel conservation and demand management programs for local residents, businesses and industries.
- Helping organizations (commercial, industrial and institutional) to rationalize longer-term payback periods by identifying cost-saving opportunities and behaviour-based programs that can reduce energy consumption.
- 4. Working with local stakeholders on a public education campaign (public forums, local events tabling, etc.) to educate the community on the financial and environmental benefits of GHG emissions reduction.
- 5. Implementing an energy conservation or GHG emissions recognition program.
- 6. Using gamification, contests or reward programs to increase participation in conservation programs.
- 7. Educating the community on the benefits of the ENERGY STAR[®] program, particularly when purchasing new appliances and electronics, and the impact of phantom loads.
- 8. Continuing to promote provincial and national initiatives such as Earth Hour and recycling programs.
- 9. Supporting school programs to engage the community with GHG emissions reduction initiatives.

10. Working with regional partners to expand reduction culture beyond our community borders. This will help create additional program momentum within our own community.

PROGRAM 2: ENERGY EFFICIENCY

To achieve our emissions reduction goals, energy efficiency will be an important piece of the puzzle. By encouraging community energy efficiency, GHG emissions reductions can be achieved while providing a financial incentive and payback for community partners to act. Therefore, improving community energy efficiency will be a key part of the GHG emissions reduction plan. Working collaboratively with the community and key stakeholders to create new standards of efficiency in both new and existing buildings will contribute to Temiskaming Shores' overall economic competitiveness.

This will be achieved by:

- 1. Targeting conservation programs to older residential and commercial buildings, in areas identified as high consumption during the energy mapping process.
- 2. Seeking out programs, and/or incentives and financing programs to assist residents to finance energy or GHG emissions reducing retrofits.
- 3. Lobbying provincial and national governments to extend and expand both energy conservation and GHG emissions reduction programs and funding.
- 4. Encouraging building owners to benchmark energy usage of their buildings and help develop an existing energy usage database for the community. This data can then be used to further improve the community's culture of conservation.
- 5. Continuing to encourage building owners/managers to consider third party energy efficiency programs such as LEED[™] and BOMA BEST.
- 6. Encouraging builders to improve energy efficiency, GHG emissions and sustainability of new buildings beyond the Ontario Building Code, using third party programs.
- 7. Ensuring all new commercial, industrial and institutional buildings consider energy and water efficiency improvements during renovations or new builds.
- 8. Encouraging our regional partners to consider adopting similar standards.

PROGRAM 3: LAND USE AND GROWTH

Traditionally, GHG emissions reduction planning has not been a major consideration during community planning. However, the methods and considerations we use to plan our communities has a significant effect on the community's GHG emissions and energy use.

Reducing the GHG emissions of local municipal and community buildings, as well as modernizing architectural principles will aid the City of Temiskaming Shores in building a complete and healthy community, where mixed-use areas are supported by active transportation measures and a robust local transit system. The City will seek opportunities to improve our integrated community energy systems, efficiency opportunities and GHG emissions in land use planning by:

- 1. Promoting pedestrian-friendly design through:
 - a. Creating convenient walking distances to transit and parks.
 - b. Expanding on dedicated walkways and pathways/trails to link activity nodes (e.g. home to work).

- c. Encouraging compact, efficient mixed-use areas that optimize redevelopment and integrate residential, office and retail commercial developments.
- 2. Creating opportunities for GHG emissions reduction and energy conservation through:
 - a. Orienting new buildings to take advantage of solar gain.
 - b. Retaining/planting and maintaining shade trees for summer cooling and winter shelter.
 - c. Encouraging pedestrian and bicycle use over vehicle travel (where applicable and possible).
 - d. Encouraging the use of green infrastructure and systems (e.g. use of permeable surfaces, green facades, green/grass roofs and passive design landscaping, solar shading, use of recycled building and construction materials).
 - e. Enhancing the capacity of municipal staff to consider passive energy and GHG emissions reducing building measures through the planning approvals process, where feasible.

PROGRAM 4: ACTIVE TRANSPORTATION AND ANTI-IDLING CAMPAIGNS

Active transportation is an important feature of any GHG emissions reduction plan. In 2015, the City established a Bicycle Friendly Community Committee and adopted its terms of reference to establish a 5-year Active Transportation Plan. This plan included a vision for Temiskaming Shores building a more bicycle-friendly community and was compiled based on the feedback received from workshop attendees and on best practices from other Bicycle-Friendly Communities across North America.

Temiskaming Shores' places high value on encouraging a culture ot outdoor activity and recreation including walking and cycling throughout the community. The Terms of Reference envisioned including a wide range of programs to educate residents about the importance of safely sharing the road with all road users, and residents will be encouraged to walk and bike more often. Children in Temiskaming Shores will regularly walk or bike to school, and cycling will be a common activity for residents of all ages and abilities.¹

By continuing to encourage local residents to use active transportation rather than vehicles to travel throughout the City, emissions reductions can be achieved while also promoting a healthier lifestyle. As a Northern Ontario community Temiskaming Shores has climatic challenges to some extent, with an active transportation program; this must be considered in both the program messaging and the expectations for reductions. Also, providing an efficient, cost-effective, reliable and integrated multi-modal transportation system is identified as a priorit.

The city will take the following actions to achieve this target:

- 1. Implement a corporate anti-idling policy as well as support anti-idling promotion throughout the community as a whole.
- 2. Supporting efforts to promote local work opportunities, ride sharing and reducing outbound commuting.
- 3. Continuing to emphasize the importance of sustainable transportation measures, such as transit and active transportation.
- 4. Considering the feasibility of car share and cycling programs.
- 5. Supporting/encouraging school-oriented programs to increase active transportation initiatives and reduce vehicle idling near schools.

¹ 'The Corporation of the City of Temiskaming Shores By-law No. 2016-105Being a by-law to adopt Terms of Reference for the Bicycle Friendly Community Committee

- 6. Ensuring new and reconstructed arterial and collector roads are built as Complete Streets that are safe and accessible for pedestrians and cyclists of all ages, where feasible.
- 7. Exploring opportunities to modernize the local transit system by improving bus shelters, ticketing systems, routes and online accessibility.
- 8. Ensuring new development is transit friendly.
- 9. Working within the region to lobby government for inter-region public transportation options.

CORPORATE-BASED EMISSION REDUCTION ACTION PLAN

Corporately, the City of Temiskaming Shores has a profound effect on how energy is used, fuel is consumed and GHGs are emitted. Through management of facilities and fleet, GHG reductions can be significant if the proper measures are in place. For the City of Temiskaming Shores, the suggestions below target the identified major sources of GHG emissions: waste, fuels use and facilities energy use.

THE CORPORATE ENERGY CONSERVATION AND DEMAND MANAGEMENT (ECDM) PLAN 2019

The City of Temiskaming Shores, under Ontario Regulation 507/18, is required to create and implement an ECDM Plan every 5 years. The latest update of this plan is set to be released in July 2019 (attached in Appendix A). Under this initiative, the City has identified an energy conservation target as well as several measures that will be implemented to achieve these targets. Under the original 2014 ECDM plan, a 5% reduction in energy intensity per m³ was established. The City was able to meet this target by implementing several significant energy savings projects such as LED street lighting, HVAC improvements, controls improvements and various other facility LED lighting projects.

For the 2019 ECDM Plan, a similar target of a 5% reduction in energy intensity has been established and supported by a list of energy conservation measures to support it. By achieving this target, a 1% reduction in GHG emissions is expected.

SOLID WASTE MANAGEMENT AND REDUCTION PROGRAMS

The City of Temiskaming Shores is currently exploring a textile diversion program to reduce the amount of textiles entering the landfill. The program is envisioned to potentially include a curbside collection service along with dropoff bins throughout the City. Items collected will include used clothing, footwear and linens, as well as damaged or ripped textiles. This program is has a potential to remove approximately 2% reduction in overall solid waste collection.

The City is also considering a backyard composting program for the community. It is currently in the research phase in order to identify and determine the feasibility and potential cost/savings for the program as well as the availability of composting equipment to meet the requirements of the City program.

APPENDIX A

City of Temiskaming Shores ECDM Plan 2019



Discover a whole new Ontario • Découvrez un tout nouvel Ontario

City of Temiskaming Shores

5-Year Corporate Energy Conservation and Demand Management Plan

July 2019

Prepared in co-operation with:



Table of Contents

TAE	BLE OF CONTENTS	2
INT	TRODUCTION – EXECUTIVE SUMMARY	3
B P	BACKGROUND	3 3
1.0	HISTORIC ENERGY PERFORMANCE	5
H C E	IISTORICAL ENERGY USAGE CITY OF TEMISKAMING SHORES ENERGY BASELINE ANALYSIS INERGY CONSERVATION PROJECT SUCCESSES	5 7 9
2.0	ENERGY CONSERVATION AND MANAGEMENT POLICY	11
0 0 0 5	Dur Commitment Dur Vision Dur Goals and Objectives Strategic Action Plan	11 11 11 12
3.0	STRATEGY 1: ENERGY MANAGEMENT CORPORATE PRACTICES	14
Т	HE ENERGY MANAGEMENT TEAM: ROLES AND RESPONSIBILITIES	14
4.0	STRATEGY 2: EDUCATION, AWARENESS AND OUTREACH	16
E O F	NERGY SKILLS TRAINING PROGRAM OUTREACH, ENGAGEMENT, RECOGNITION AND ENERGY AWARENESS TRAINING PROGRAM EEDBACK SYSTEM FOR EMPLOYEE SUGGESTIONS	16 16 17
5.0 MA	STRATEGY 3: ENERGY CONSERVATION ACTIVITIES AND INFORMATION	۱ 18
E	NERGY CONSERVATION ACTION PLAN	18
E	NERGY INFORMATION MANAGEMENT	19

Introduction – Executive Summary

Background

The City of Temiskaming Shores' Energy Conservation and Demand Management (ECDM) Plan was developed in response to Ontario Regulation 507/18 which requires all public sector organizations to complete an update to their original 2014 ECDM Plan by July 1, 2019. In response to this regulatory requirement, as well as rising energy costs, the City of Temiskaming Shores has developed this Energy Conservation and Demand Management (ECDM) Plan. This comprehensive Plan is the most effective method of identifying energy conservation opportunities, selectively implementing the best projects and then measuring their effectiveness. The Plan has been developed to protect the interests of our constituents and ensure that the City of Temiskaming Shores obtains the best possible value from our operating budgets. In addition to meeting our regulatory obligations, the City believes that a strong commitment to energy management and a reduction of energy use is demonstrated evidence of our belief in becoming a more sustainable community while operating in a cost-effective manner that respects the value of taxpayer dollars.

Purpose of the Plan

The 5-Year Corporate Energy Conservation and Demand Management Plan is designed to guide the City of Temiskaming Shores towards a more energy-efficient future. The policies, practices and energy conservation measures identified illustrate the importance the City places on acting responsibly towards energy consumption through the wise use of resources in City operations.

To enhance our understanding of energy use and return on investment through conservation, this document contains a thorough review of the measures implemented since the creation of the original plan, issued on July 1, 2014. Since then, the City has initiated several substantial energy projects, yielding significant savings results including:

- City-wide street lighting replacements (2015)
- LED lighting conversions of various facilities (throughout the Plan period)
- Operations equipment upgrades (throughout Plan period)

The above projects have resulted in an estimated annual savings of over \$200,000.

The wise and efficient use of energy are two of the lowest cost options for meeting energy demands. They also provide many other environmental, economic and social benefits, including reducing greenhouse gas (GHG) emissions, cost avoidance and savings. Along with the primary benefits, the responsible use of energy also promotes local economic development opportunities, energy system reliability, improved energy supply security and reduced-price volatility. Following the path of our previous ECDM Plan, this document is a continuation of a process involving the:

- Integration of establishing and evaluating a baseline for performance to be measured against;
- Reviewing the effectiveness of previous conservation efforts while setting future performance goals and objectives;
- Continuous improvement through identification of energy conservation potential;
- Strategic alignment of improvement measure implementation and fiscal constraints; and,
- Evaluation, measurement and communication of results achieved.

The following report summarizes the significant efforts applied by the City of Temiskaming Shores Conservation Team to create a Plan that can be implemented responsibly, over time, to create lasting results. The Plan takes advantage of internal expertise as well as all available external financial incentives and rebates currently being offered to support the implementation of energy savings ideas. The current energy picture for the City of Temiskaming Shores and our Vision, Goals and Objectives as shown in the Corporate Energy Conservation and Management Policy, are outlined. Our strategic focus areas are discussed in detail and our 5-year Action Plan is laid out on a project-by-project basis.

1.0 Historic Energy Performance

Historical Energy Usage

Effectively managing energy requires the creation of a robust energy monitoring strategy and procedures and establishing an accurate energy baseline is an essential first step in this process. This baseline assists with energy conservation and greenhouse gas reduction target setting, energy procurement and budgeting, bill verification, energy awareness, and the selection and assessment of potential energy projects. The City of Temiskaming Shores, similar to many other communities, relies on utility bills to establish this energy baseline.

To evaluate the effectiveness of the City's previous energy conservation measures, the year 2013 was chosen as the base year for measurement; this aligns with the Ministry of Energy's Regulation 507/18 requirements for reporting. Overall, the City's consumption in 2013 was 5.9 million kWh of electricity and 584,000 m³ of natural gas. The breakdown of energy use by facility type is as follows:

Facility Type	Electricity Use (1,000's kWh)	Natural Gas Use (1,000's m3)
Administrative offices and related facilities, including municipal council chambers	512.97	31
Community centres	46	50
Cultural facilities	0	-
Facilities related to the pumping of sewage	336	-
Facilities related to the pumping of water	304	-
Facilities related to the treatment of sewage	1,222	-
Facilities related to the treatment of water	1,766	12
Fire stations and associated offices and facilities	104	49
Indoor ice rinks	454	52
Indoor recreational facilities	278	77
Indoor swimming pools	443.75	195.80
Public libraries	65.57	23.07
Storage facilities where equipment or vehicles are maintained, repaired or stored	296.09	94.97

Figure 1-1 – Energy Use by Facility Type in 2013

For comparative purposes, the raw energy consumption breakdowns by month since the original baseline for the City are as follows:

Figure 1-2 – Electricity Use (2014 – 2018)



January 2014 - December 2018

Figure 1-3 – Natural Gas Use (2013 – 2018) January 2014 – December 2018



City of Temiskaming Shores Energy Baseline Analysis

The following analysis uses RETScreen analysis of consumption data for the base year (2013) forward. This type of review allows for an objective evaluation of conservation progress by removing the variables that can independently affect energy consumption and are largely out of the City's control (i.e. weather, temperature, cooling or heating degree days).

In the original ECDM Plan, the City set a target of a 1-5% reduction in energy consumption over the 5-year term of the Plan (2014-2019). The chart below outlines the methods by which the City intended to meet this target.

Program/ Policy **Program/ Policy Objective** Number Sets the goals, objectives and policies to guide growth and development within the City for the next 20 years, while creating **Official Plan** By-law 2014-040 opportunities for sustainable and energy efficient Development for conservation, and to encourage the use of green infrastructure and systems. Places limitations on engine idling for the City's Vehicle & Equipment entire fleet to reduce air pollution; promote fossil By-law 2014-031 Idling Policy fuel conservation; reduce noise pollution; and to reduce wear and service needs on the fleet. To ensure City Hall is as energy efficient as Energy Efficiency at possible by implementing a temperature set Motion 2013-557 City Hall point. To ensure the City assets are well Asset Management managed/maintained to meet performance Plan & Management By-law 2013-202 levels used to deliver service, and that consider Policy environmental and energy conservation goals. Issuance & Enforcement of Water Restricts water used at the discretion of Council By-law 2006-051 Conservation in the from time-to-time. City of Temiskaming Shores

Figure 1-4 Energy Management Initiatives from the City's Original CDM Plan (Source: City of Temiskaming Shores 2014 CDM Plan):

In order to adequately assess the City's energy conservation progress, an examination of the Equivalent Kilowatt Hours (ekWh) must be conducted. This allows for natural gas and electricity consumption to be reviewed together. The City's overall ekWh energy consumption between 2014 and 2018 declined by 1.1 million (2014 - 12.9 million eKwh, 2018 - 11.7 million eKwh) meaning the City exceeded its target with an overall 9% reduction in annual ekWh consumption over the 5-year period.



Figure 1-5 Equivalent Kilowatt Hour Energy Consumption (ekWh)

While electricity consumption remained relatively stable, natural gas consumption declined by 19% with the bulk of the change occurring between 2014 and 2015.

Figure 1-6 Natural Gas Consumption (m³)







Energy Conservation Project Successes

Since the creation of the last 5-Year ECDM Plan, the City has initiated significant investments in energy efficiency and energy-cost reduction. These projects include:

Facility-Related Projects

2013

• LED lighting retrofits for the Public Works #2, New Liskeard Water Treatment Plant (WTP), New Liskeard Arena and Haileybury WTP

2014

• HVAC upgrades for the New Liskeard WTP, Riverside Place and City Hall

2015

• Humidification system upgrades at the Pool and Fitness Centre

2016 to 2018

- Looping of water systems
- Upgrading of removal filters
- Replacement of motor control centers (MCCs)
- LED lighting upgrade for Haileybury Arena surface lighting, City Hall and Haileybury Medical Centre
- High Efficiency Furnace Upgrades

2019

• Conversion of the New Liskeard Medical Centre to Library Use

City-Wide Street Lighting

In 2015 the City of Temiskaming Shores embarked on a major street lighting retrofit across the City. This project included the replacement of over 1,250 HPS street lights, leading to an annual savings of over \$100,000. The City received project funding incentives to complete this project.

2.0 Energy Conservation and Management Policy

Our Commitment

The City of Temiskaming Shores is committed to allocating staff and resources to develop and implement a strategic Energy Conservation and Demand Management (ECDM) Plan that will reduce energy consumption and its related environmental impact. As an organization, we value the notion of efficient operations and creating a more sustainable community. The ECDM Plan builds on our previous Municipal Energy Plan as well as our Greenhouse Gas Emissions Reduction Plan. These plans are all aimed at reducing our energy costs and creating a more sustainable community.

We are committed to managing energy responsibly and will use energy efficiency practices throughout our facilities, fleet, operations and equipment wherever it is cost effective to do so.

Our Vision

The City of Temiskaming Shores will endeavour to minimize energy consumption, related costs, and carbon emissions by continuously improving its energy management practices without compromising the level of service delivery to the community.

Our Goals and Objectives

As part of our 2019 ECDM Plan, the City created several strategic avenues to achieve specific goals and targets with regards to energy management. We have re-examined our past objectives and are re-committing to this updated version.

- 1. Reduce energy intensity in City facilities by 5% by 2024 compared to our revised base year (2018). This is in addition to the reductions achieved between 2013 and 2018, based on our original 2011 base year.
- 2. Enhance our culture of conservation through training and outreach to staff, clients and business partners. All employees will have the appropriate knowledge and training to be empowered to reduce energy consumption.
- 3. Expand upon our comprehensive corporate energy management policy and practices by enhancing key existing business practices to include energy efficiency standards and energy management best practices.
- 4. Expand our monitoring and tracking program for energy use by providing access to our energy management system to make energy consumption visible to everyone in the Corporation and support facility/management decision-making.

- 5. Deliver energy cost savings through the identification and implementation of processes, programs and projects that will reduce energy consumption.
 - Re-assess and benchmark the top energy consuming facilities across the Corporation (2019)
 - Review previously identified energy savings opportunities by reviewing past energy audits and plan to renew energy audits and analysis of the capital asset renewal program. (Ongoing)
 - Review and/or enhance standard operating and maintenance procedures to include energy conservation best practices. (Ongoing)
 - Seek funding for energy-related projects from various sources to enhance the payback and reduce implementation costs. (Ongoing)

Strategic Action Plan

To achieve our new ECDM Plan, the City will employ the following strategic actions designed to ensure a positive outcome over the next 5 years. These key strategies support the delivery of our Goals and Objectives.

Strategy 1. Corporate Practices

Expand upon our policies and practices that support the energy conservation effort and show leadership and commitment within the Corporation and community.

- Energy Management Team: Roles, Responsibilities and Accountability
- Energy Procurement
- Renewed focus on reducing our energy footprint in day-to-day operations

Strategy 2. Education, Awareness & Outreach

Provide the guidance and leadership necessary to empower employees and develop a culture of conservation.

- Energy Skills Training Program
- Energy Awareness Training
- Outreach, Engagement and Recognition Programs
- Feedback System for Employee Suggestions
- Employee Brainstorming Sessions

Strategy 3. Energy Conservation Action Plan and Energy Information Management

Continually identify and deliver energy conservation processes, programs and projects in all areas of the Corporation (facilities, fleet, equipment, water plants etc.). Demonstrate sound operating and maintenance practices to complement the energy efficiencies implemented through the capital asset renewal program. Employ a robust Energy Information Management System to ensure that all conservation activities are measured and verified to ensure the City receives and maintains specified energy reductions and savings.

Energy Conservation Action Plan

- Key facility energy audits and re/retro-commissioning studies
- Asset renewal plan and energy conservation project delivery
- Standard facility operations procedure review

Energy Information Management

- Maintenance of the online energy monitoring and reporting system (electricity, natural gas and fuels)
- Regular Energy Use Review presentations for the community, council, accountable staff and energy users
- Energy bill verification and rate optimization
- Reporting requirements for Regulation 507/18 (formerly 397/11)
- Consistent updates and review of key performance indicators (KPIs) / Benchmarking
- Standardize and implement project measurement and verification

3.0 STRATEGY 1: Energy Management Corporate Practices

The City of Temiskaming Shores has implemented several corporate practices, including key personnel deployment, to ensure a strong focus on energy management and savings. These efforts remain a key component of our renewed ECDM Plan.

The Energy Management Team: Roles and Responsibilities Energy Sponsor and Champion: Manager of Physical Assets

The Energy Sponsor and Champion is ultimately responsible for creating budgets, securing spending authority and resources for the program. This role is responsible for setting the program's high-level vision, goals and objectives, keeping track of major project activities and approving resources and funding for the team and its approved projects. The Energy Sponsor and Champion has direct knowledge of the organization's major energy-using systems and is responsible for developing and maintaining the focus for the Energy Management Team. In addition, this role coordinates meetings, set agendas, and delegates and manages tasks related to the Energy Management Team and is responsible for ensuring that the monitoring and tracking systems for energy are accurate, up-to-date and available for use by City employees.

Corporate Energy Management Team

The Corporate Energy Management Team functions on a strategic level to set expectations for each of the facilities, develop metrics for tracking overall energy improvement, and build accountability for energy management activities. In addition, this cross-functional team has direct responsibility for the consumption of energy within their respective departments. As a group, the team supports and monitors the energy management initiatives (processes, programs, and projects) at the various facilities and across the corporation.

The Energy Management Team at City of Temiskaming consists of the Building Maintenance Committee, which currently includes the following members:

- Danny Whalen Chair and Council Member
- Doug Jelly Council Member
- Carman Kidd Mayor
- Chris Oslund City Manager
- Doug Walsh –Director of Public Works
- Steve Burnett Technical & Environmental Compliance Coordinator
- Kelly Conlin Executive Assistant
- Mitch Lafreniere –Manager of Physical Assets

Actions: Continue to seek cross-departmental membership and support for the Energy Management Team. Continue to meet bi-weekly to discuss the Energy Management Program to ensure implementation of new savings ideas, as well as maintain the positive momentum built over the past 5 years.

Energy Procurement

The City continues to utilize the energy procurement service provided by Local Authority Services (LAS). This program provides options for fixed-price energy procurement services to maintain predictable electricity and natural gas commodity costs. In addition, the program permits the City to work together with a large number of other municipal entities throughout the province to create bulk-buying power to leverage aggregated energy purchasing opportunities.

Actions: Continue to review the LAS program annually and evaluate the City's level of participation. Review potential alternative programs for merit and analyze the net result of participation annually.

4.0 STRATEGY 2: Education, Awareness and Outreach

The City's Education, Awareness and Outreach program has been utilized over the past 5 years to assist with the maintenance of a culture of conservation. This has been achieved by raising the level of awareness, understanding and general knowledge amongst staff regarding energy spending, usage and conservation. The City will continue to utilize a successful combination of program engagement, direct awareness marketing and hands-on training to enhance our energy reduction efforts to support the achievement of our energy conservation goals and objectives. As well, energy will continue to be a regular agenda item at staff meetings to solicit new ideas for reduction of energy use, promote continued awareness of the cost of energy and ensure that energy conservation remains a key consideration for all City employees.

The Education, Awareness and Outreach program provides guidance, leadership and the framework to empower employees and foster our culture of conservation. The program informs the organization of current energy use, operational practices as well as improvement opportunities, while ensuring that all employees have an opportunity to remain informed of the City's energy reduction efforts. This continued practice will foster the greatest possible impact of education and awareness.

The program is comprised of the following four focus areas:

Energy Skills Training Program

The Energy Skills Training Program is a vehicle for City employees to continue to develop a general awareness and understanding of current energy use within City facilities as well as skills to identify opportunities for improvement. The Training Program combines both general knowledge training and hands-on experience to gain maximum benefit.

Employee Brainstorming Sessions are an important part of the Energy Skills Training Program and are encouraged during the Energy Team meetings as a way of generating new ideas for energy conservation. As regular users and managers of City facilities, our employees are one of the City's most valuable resources to both generate and implement our energy conservation strategies.

Outreach, Engagement, Recognition and Energy Awareness Training Program

The City will continue to engage all users of City facilities (both staff and the general public) and recognizes that this is essential to the continued success of the energy management program. Our energy program will continue to employ a comprehensive approach to both engaging employees and recognizing the efforts of City staff who provide important support and ideas.

The Energy Awareness Training Program has been developed to provide consistent energy conservation messaging throughout all departments using Community-Based Social Marketing (CBSM) techniques to engage all users of City facilities. Specific methods used to date include conservation tips, eye-catching posters, City intranet messaging and other relevant marketing tools. It is the intention of this Plan to expand our ability and focus to enable the City to become a 'clearinghouse' of information for local residents to discover ideas and incentives to improve their own energy usage practices.

Feedback System for Employee Suggestions

The City will continue to employ a feedback system to encourage employees to provide input and ideas. The email messages are sent to a specific address and are forwarded to members of the Energy Management Team in order to ensure prompt response. The Energy Team members can engage relevant employees to ensure that all suggestions are captured and explored.

Actions: Review available energy training opportunities both generally (i.e. all staff) and for specific facilities (i.e. water plant). Establish and maintain at least annual Outreach and Engagement efforts to keep energy conservation 'top-of-mind' for staff and stakeholders.

5.0 STRATEGY 3: Energy Conservation Activities and Information Management

Energy Conservation Action Plan

The Energy Conservation Action Plan forms the blueprint for implementing energy conservation and cost saving measures. The City has created a list of potential projects based on previous facility energy audits. The attached action plans have been created to guide this process based on a prioritized implementation schedule. All available incentives and funding sources will be explored to minimize the implementation cost of each measure. In addition to the measures shown, the City anticipates that further energy audits, completed over the next 5 years, will augment the list of available energy conservation measures.

Below is our current list of known projects to be implemented during the life of this Plan. In all, the measures will include:

- LED lights on New Liskeard Arena surface (2019)
- LED upgrades to decorative lights in downtown cores (throughout the life of the Plan)
- Boiler and lighting upgrades for the New Liskeard Library (2019)

Additional measures will be added as funding becomes available on an annual basis. In general terms, our actions are expected to yield the following results:

- Education, Awareness and Outreach: 1-2% annual energy savings
- On-going regular reviews of consumption and baselines: .5% to 1% annual energy savings
- Re/retro Commissioning: 2-7% annual energy savings within the facilities where it is implemented (estimated to be 1% overall potential total annual savings)

Actions: Maintain a schedule of energy audit and re/retro-commissioning renewals to ensure that our list of measures is up-to-date and that previous measures are still functional and providing savings. Perform periodic reviews of available incentives and stay up-to-date on potential sources of funding to offset the implementation costs of the proposed future measures. Review the list of measures at least annually and update as necessary.

Energy Information Management

Online Energy Monitoring and Reporting System

The City of Temiskaming Shores currently has a system for managing and reporting its energy consumption (electricity, natural gas, fuels). The motivation for this effort is the notion that "you can't manage what you are not aware of". By making our energy usage visual, and keeping the information real-time, all personnel with access to the information can benefit from understanding the nature of energy use in their facilities, as well as the impact their actions or inactions have on the City's overall energy cost and budgeting.

In order to enhance our ability to monitor and track the progress of some of our facilities, the City currently employs a Supervisory Analytics program to monitor and track consumption in selected buildings against an established baseline using a CUSUM analysis. This information is also key in evaluating the potential of new conservation projects as well as measuring the effectiveness of initiatives already taken.

Actions: Continue to gather and upload energy data into the Energy Information Management System regularly and analyze the data for patterns and savings opportunities using our Supervisory Analytics program.

Energy Management Presentations for the Community, Council, Accountable Staff and Energy Users

To gain traction for the initiatives within this Plan and ensure that the City of Temiskaming Shores reaches its stated reduction targets, it is imperative that information regarding energy usage and cost, as well as the City's energy conservation plans and projects, are well understood and top of mind of everyone from front-line employees to senior department heads and City Council. This broad awareness will lead to additional buy-in and support for the City's continued efforts to reduce its energy usage and spending.

Actions: Make energy a key topic at staff and senior management meetings as well as provide an update on energy use and conservation to Council at least annually.

Key Performance Indicators (KPI's) and Monitoring and Verification

To ensure momentum continues, and the City of Temiskaming Shores receives value-for-money with regards to its energy conservation efforts, a rigorous program of establishing KPI's and then monitoring and verifying ongoing savings is an essential element of this Plan. By establishing agreed upon KPI's (as suggested in the table below) and then performing regular and frequent monitoring, not only will City personnel be able to verify that savings expected from various projects is achieved, but that the savings continue for the duration of the project or retrofit's useful life. This practice will protect the City's investments as well as provide transparency and support for successful savings initiatives

Figure 5.1 – KPI Suggestions

Facility Type	Energy KPIs	Measured
		Variables
Cultural Facilities, Indoor Recreational Facilities and Community Centres	Baseline Electricity (Summer/Winter/Shoulder Season) • kWh / month • Peak kW / month Baseline Natural Gas • m ³ / month Other Energy Sources	 Daily Weather Occupancy Rates / month Sheet rentals / month
Facilities Related to Treatment or Pumping of Water or Sewage	Baseline Electricity (Summer/Winter/Shoulder Season) • kWh / month • Peak kW / month Baseline Natural Gas • m ³ / month Other Energy Sources	 Daily Weather (Temperature and Rainfall) m³ treated water or waste water / day
Administrative Offices	Baseline Electricity (Summer/Winter/Shoulder Season) • kWh / month • Peak kW / month Baseline Natural Gas • m ³ / month Other Energy Sources	• Daily Weather
Public Libraries	Baseline Electricity (Summer/Winter/Shoulder Season) • kWh / month • Peak kW / month Baseline Natural Gas • m ³ / month Other Energy Sources	Daily WeatherOccupancy
Fire Stations and Associated Offices	Baseline Electricity (Summer/Winter/Shoulder Season) • kWh / month • Peak kW / month Baseline Natural Gas • m ³ / month Other Energy Sources	 Daily Weather Occupancy
Storage Facilities	Baseline Electricity (Summer/Winter/Shoulder Season) • kWh / month • Peak kW / month Baseline Natural Gas • m ³ / month Other Energy Sources	• Daily Weather
Street Lighting	Electricity	Number of Lights
Recreation and Outdoor Lighting	Baseline Electricity (Summer/Winter/Shoulder Season) • kWh / month • Peak kW / month	 Occupancy or Rentals / Month Opening / Closing Dates
Fleet	Baseline Diesel Use Baseline Gasoline Use	 Number of Vehicles km driven / month

Actions: Review all conservation initiatives to understand the most appropriate monitoring and verification process. Review the project savings at pre-defined regular intervals and report outcomes to senior management/City Council.

Bill Verification and Rate Optimization

A consistent, periodic review of the City's energy invoices is important to ensure that rates and recorded consumption values on energy bills is accurate. This ensures that the invoices presented by utilities are correct and are providing appropriate and relevant data to the City's Energy Management Platforms.

Actions: Perform a rationalization check on monthly invoices and conduct at least annual detailed billing reviews to ensure accuracy.

Ongoing Ontario Regulation 507/18 Reporting

In addition to completing this Plan, the City of Temiskaming Shores is required to submit annual energy consumption and greenhouse gas emissions templates to the appropriate Ministry of Energy portal. Gathering and recording monthly energy invoices are necessary to complete these reports.

Actions: Complete all required regulatory reporting by July 1 of each year.