

City of Sault Ste. Marie Corporate Greenhouse Gas Emissions Inventory Update: 2022

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List of Acronyms

Δ – Delta (change)

CAC - Community Adjustment Committee

CDD – Cooling Degree Days

FCM – Federation of Canadian Municipalities

GHG – Greenhouse Gas

HDD – Heating Degree Days

ICLEI – Local Governments for Sustainability (ICLEI Canada)

PCP – Partners for Climate Protection

ROI – Return on Investment

tCO₂e - tonnes of carbon dioxide equivalent

UN – United Nations

Executive Summary

Accurate and reliable greenhouse gas (GHG) measurement provides local government with the necessary baseline information to monitor emissions reduction performance over time. In 2019, the City of Sault Ste. Marie (the City) joined the Federation of Canadian Municipalities (FCM) Partners for Climate Protection (PCP) program to help them develop and monitor their GHG emissions. A baseline emissions inventory was created based on 2017 data. On December 14, 2020, City Council endorsed the *Sault Ste. Marie Community GHG Reduction Plan: 2020 – 2030*, which targets a 10% corporate and 5% community reduction of emissions by 2030, with net zero emissions by 2050. In 2021, City Council further solidified their reduction commitment by signing the United Nations (UN) Cities Race to Zero pledge which requires them to report on their corporate GHG emissions on an annual basis. This report completes the UN Cities Race to Zero requirement with an update to the corporate GHG emissions inventory for the year 2022. Emissions in tonnes of carbon dioxide equivalent (tCO₂e) for 2022 are highlighted below.

Table 1: City of Sault Ste. Marie 2022 Corporate GHG Emissions

Sector	Emissions (tCO ₂ e)	% of Emissions	Scope of Data
Buildings	4,063.10	36%	Natural gas and electricity
Fleet and Equipment	6,034.64	53%	Gasoline and diesel
Outdoor lighting	71.49	1%	Electricity
Water and Sewage	1,194.32	11%	Electricity and natural gas
Total Emissions	11,363.55	100%	

Emissions from fleet and equipment are the highest corporate emitter, followed by buildings, which is the same as the 2017 baseline. To understand emissions reduction efforts and trends, the author of this report prepared five (5) corporate emission inventories for the years 2018, 2019, 2020, 2021 and 2022, and conducted a review of emissions over each inventory year in comparison to the baseline inventory in 2017. Emissions trends indicate a steady increase of emissions up to 2018 and then a visible decline during the COVID-19 lockdown years of 2020 and 2021 with an increase again due to more normal operations in 2022.

The 2022 corporate GHG inventory update indicates that emissions have increased 10% from 2017 to 2022 or an average of 2% increase per year from the 2017 (baseline) to 2022. In 2019, the City began tracking emissions reduction potential from corporate energy efficiency retrofits. Records indicate that even though nine (9) building energy efficiency retrofits were completed from 2019 to 2022, they are only estimated to have reduced emissions by 38.28 tCO₂e or 0.09% per year from 2019 to 2022, which falls short from the 1% reduction target per year for 10% corporate emissions reduction by 2030. As well, heating and cooling degree day analysis indicates that Sault Ste. Marie winters are getting milder and shorter and summers are getting longer and hotter, as a result of climate change, which will impact energy consumption and use. It must also be noted that from 2017 to 2021, the Ontario electrical grid has become more carbon intensive due to an increase in natural gas electricity generation. This is forecast to continue to increase and will impact future emissions inventory updates.

A lack of project prioritization and financial commitment to energy efficient retrofits and emission reduction projects has resulted in City not being on track to meeting its corporate GHG emissions reduction target of 10% by 2030. A more aggressive corporate financial commitment and effort from all departments will be required to meet the 2030, and also 2050 net zero emissions reduction target.

1. Background

In February of 2019, the City received funding from the FCM Municipal Climate Innovation Program (MCIP) to increase capacity to reduce community GHG emissions. The funding aligns with the community development pillar of Environmental Sustainability, which was identified as one of four strategic priorities in the Community Adjustment Committee (CAC) report *A Common Cause and New Direction for Sault Ste. Marie* (Community Adjustment Committee, 2017). FutureSSM was tasked with implementing and building on recommendations in the CAC report, including creating the City's first community GHG emissions inventory to help plan and implement municipal climate change priorities.

To support municipalities in creating GHG emissions inventories, the FCM and ICLEI – Local Governments for Sustainability (ICLEI Canada) created the Partners for Climate Protection (PCP) Program to provide a forum for municipal governments on how to reduce GHG emissions. Participation in the program includes the completion of a 5-milestone framework which is intended to guide the municipality towards the development of a Climate Action Plan. The program is free to join and allows member cities to gain access to tools, resources, a community of practice and an online tool that assists in the development of GHG emissions inventories.

In September 2019, City Council passed a resolution to join the Partners for Climate Protection (PCP) Program. In doing so, the City committed to joining over 400 municipalities across Canada in working to reduce community GHG emissions. The PCP is a five milestone framework which includes:

1. Creating a baseline emissions inventory and forecast
2. Setting emissions reduction targets
3. Developing a local action plan
4. Implementing the local action plan, and
5. Monitoring progress and reporting results

The City 2017 inventory baseline and 2022 update express GHG production as the number of tonnes of carbon dioxide equivalent (tCO₂e) produced by energy use (electricity and natural gas) and transportation (gasoline and diesel). tCO₂e is a commonly used measure that expresses all GHG as an equivalent amount of carbon dioxide. The following section of this report outlines the data collection and analysis process of the emission sources.

2. Methodology

The methodology for conducting the City's Corporate GHG emissions data update utilized the *Partners for Climate Protection (PCP) Protocol: Canadian Supplement to the International Emissions Analysis Protocol*. This same methodology was used for the baseline corporate inventory which was completed for 2017 data. To be considered in compliance with the PCP protocol, municipal corporate GHG inventories must include emissions from the following four activity sectors:

1. Buildings and facilities;
2. Fleet Vehicles;
3. Streetlights and Traffic Signals;
4. Water and Wastewater;
5. Waste¹

¹ Solid waste emissions are not included as they are part of the community emissions inventory and will be reported on every five years. The next community inventory update will occur in 2023 for 2022 data.

The following section of this report will document the data collection and analytics process, accounting methodology and analysis to facilitate the replication of the corporate inventory update in the future to measure results on corporate GHG reduction efforts. The data for this report was obtained through a variety of different channels including utility consumption metrics and the City's finance department. Data types include electricity, natural gas, and mileage, gasoline and diesel costs by each City department. It is important to note that due to challenges inherent in collecting department activity data, specifically for fleet vehicles it was necessary to estimate emissions based on the cost of fuel in that year. The following section of this report will outline and explain any carbon accounting adjustments undertaken as part of the corporate GHG inventory update for 2022.

2022 GHG Accounting Adjustments and Considerations

Buildings and Energy

From 2017 to 2021 six (6) City buildings, including: Jessie Irving Daycare, Maycourt Daycare, Senior Citizens Centre (Wellington), Library Churchill, Ontario Works and Social Housing, were either sold or closed, as well as one (1) asset: the landfill scale house, was removed from utility / consumption reporting. These assets were omitted from the 2017 inventory baseline and all of the annual inventory updates (2018 to 2022) to not take the reduced consumption, costs and tCO₂e into corporate emissions reduction consideration. In addition, since 2017, additional assets have been added to the City's building portfolio including two for the Plaza (both consume electricity and natural gas), an addition at the Northern Community Centre for the Twin Pad Arena, and an additional asset consuming electricity for the landfill gas methane blower.

Electricity

Electrical consumption data for all City assets (buildings, outdoor lighting and water and wastewater) was obtained by the author of this report from the PUC (the City's electric utility) for the years 2019, 2020, 2021 and 2022. 2018 electricity consumption data was tracked by the City's former Environmental Coordinator and was accessed from an internal excel file. For the 2019 to 2022 data, the PUC provided a spreadsheet that broke down energy consumption and cost by City account by year. The electrical consumption data for all buildings at the City was then input into the PCP online tool to identify associated GHG emissions by building from 2018 to 2022. See Appendix A for more details.

Natural Gas

Natural gas consumption data for all City assets (buildings, water and wastewater) was obtained by the author of this report from Enbridge, by exporting consumption and invoice data from the City's *myenbridge* login portal for 2019 to 2022. 2018 natural gas consumption data was tracked by the City's former Environmental Coordinator and was accessed from an internal excel file. Natural gas consumption and cost by asset building was then input into the PCP online tool to identify associated GHG emissions from 2018 to 2022. See Appendix A for all building emissions from 2017 to 2022.

Fleet and Equipment

Corporate fleet emissions were calculated by City departments based on their total costs associated to the use of gasoline and diesel fuel. The average cost per litre of gasoline and diesel was calculated from the Ontario Government *Fuel Price Survey* for the years 2018 and 2021 (Government of Ontario, 2022). See table below for a breakdown of fuel averages from 2018 to 2021.

Table 2: Average Fuel Prices (Cents / Litre) in Ontario from 2017 to 2021

Fuel Type	2017	2018	2019	2020	2021
Gasoline	1.15	1.30	1.20	1.06	1.37
Diesel	1.13	1.30	1.30	1.09	1.34
Auto Propane	0.95	N/A	N/A	N/A	99.5

The average cost of fuel (gasoline and/or diesel by year) was then divided by the total amount of money spent on fuel by department to determine estimate fuel consumption figures. The amount spent by department was obtained by the author of this report from the City's Finance Department. The fuel consumption figures, both diesel and gasoline were then input into the online PCP tool to determine the GHGs by fuel type for each department by year. See Appendix B for more details on all fleet and equipment emissions from 2017 to 2021.

It is important to note that in 2021, EMS SM and EMS GR were no longer the responsibility of the City. As such these assets were omitted from the 2017 baseline and all of the annual inventory updates (2018 – 2021) to not take the reduced consumption, costs and tCO₂e into consideration.

This report was finalized in early January 2023 and final year end details for 2022 are still being processed. As such, the author of this report averaged the total emissions and costs from City fleet and equipment from 2017 to 2021 to determine an estimate figure for 2022. Once final numbers are received from 2022, the fleet and equipment section of this report will be amended.

Outdoor lighting

Energy consumption, cost and emissions were calculated for all City streetlights and traffic signal lighting, as well as all other outdoor public lighting such as park and recreational area lighting. 2018 electricity consumption data was tracked by the City's former Environmental Coordinator and was accessed from an internal excel file. Consumption data in kilowatt hours (kWh) as well as costs were provided to the author of this report by the PUC for the years 2019, 2020, 2021 and 2022. Total consumption for each streetlight and traffic signal, and all other outdoor lighting was then input into the online PCP inventory tool with the appropriate emissions coefficient to determine the GHG emissions per asset by year. See Appendix C for more details on all outdoor lighting emissions from 2017 to 2022. From 2017 to 2021, the Ontario electrical grid has become more carbon intensive due to an increase in natural gas electricity generation². This is forecast to continue to increase and will impact future emission inventory updates.

Water and Wastewater

Emissions were calculated for all municipal water and wastewater infrastructure including lift, pumping stations, and treatment facilities from 2018 to 2022. 2018 natural gas and electricity consumption data was tracked by the City's former Environmental Coordinator and was accessed from an existing internal excel file. 2019 to 2022 electricity consumption data and costs were provided to the author of this report by the PUC. Natural gas consumption and invoice data was obtained by the author of this report from Enbridge, by exporting consumption data from the City's *myenbridge* login portal for 2019 to 2022. Consumption of each fuel type (electricity and natural

² A.Gross, ICLEI, personal communication, July 29, 2022. The electricity emission factor has increased in Ontario from 17 gCO₂e/kWh in 2017 to 25 gCO₂e/kWh in 2020 due to the increase in natural gas use since some of the nuclear reactors have been down for refurbishment. The IESO also projects a continued rise in the emission factor due to increased reliance on natural gas for electricity generation. Also the 2021 emission factors have not been published yet - so the PCP Tool is pulling from the closest year available which is 2020. There is a 2-year lag in the publishing of emission factors for the Canada National Inventory Report.

gas) by asset was input into the PCP inventory tool with the appropriate emissions coefficient to determine the GHG emissions for each year (2018 to 2022). See Appendix D for more details on all water and wastewater emissions from 2017 to 2022.

The following section of this report reviews the City's corporate emissions from 2017 to 2022.

3. 2022 Corporate GHG Emissions Inventory Update: Results

The City completed its first corporate GHG emissions inventory in 2007. It was updated in 2020 and established a new corporate baseline based on 2017 data. This section of the report contains high level overviews of the emissions, consumption and cost changes from 2017 to 2022. For a more thorough overview of the corporate emissions by sector, please refer to Appendices A to D of this report. The author of this report prepared five (5) corporate emission inventories for the years 2018, 2019, 2020, 2021 and 2022, and conducted a thorough analysis in comparison to the baseline inventory in 2017. All emissions information is included in the appendix section of this report. An average percentage change per year was determined by comparing 2022 and 2017 emissions and dividing the change by 6 as the update has occurred six years from the baseline. Corporate emission sources include municipal buildings, fleet and equipment, streetlights and energy used for water and wastewater. In 2022, the City produced approximately 11,363.55 tCO₂e and cost the City approximately \$7,960.092.30 in energy and fuel costs.

Figure 1: Sault Ste. Marie Corporate Emissions (tCO₂e) 2017 to 2022

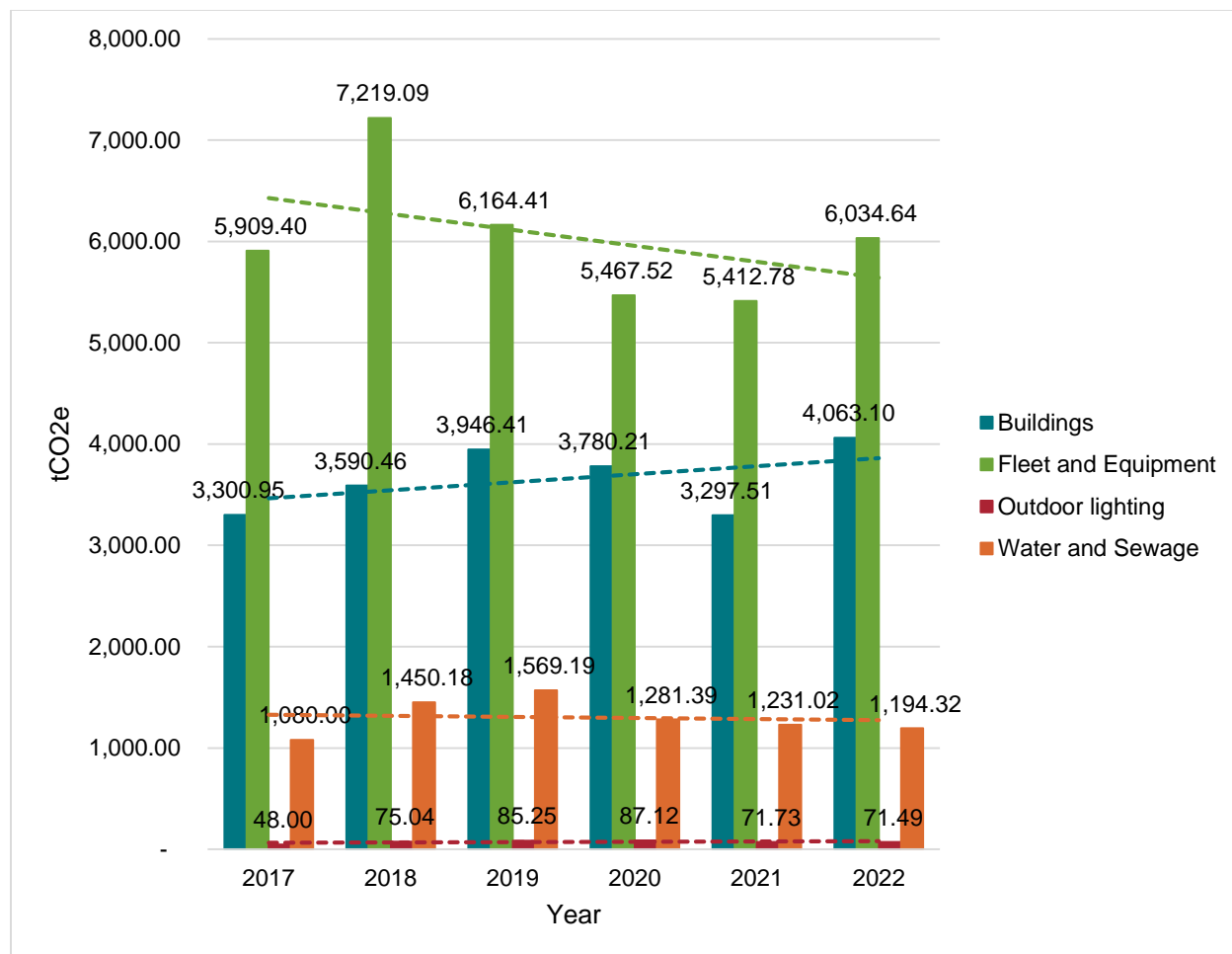


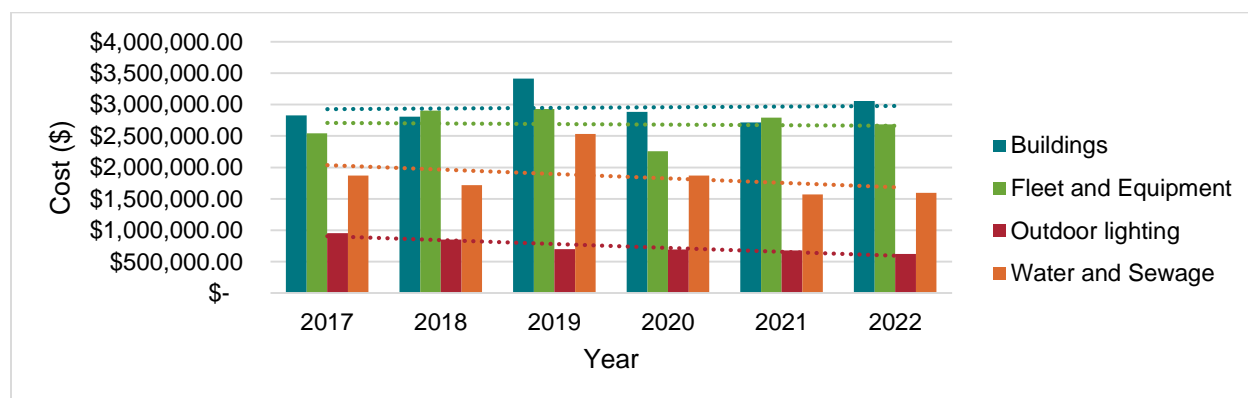
Table 3 Sault Ste. Marie Corporate Emissions (tCO₂e) 2017 to 2022

Sector	2017	2018	2019	2020	2021	2022	% Δ 2017 to 2022
Buildings	3,300.95	3,590.46	3,946.41	3,788.50	3,297.51	4,063.10	23%
Fleet and Equipment	5,909.40	7,219.09	6,164.41	5,467.52	5,412.78	6,034.64	2%
Outdoor lighting	48.00	75.04	85.25	87.12	71.73	71.49	49%
Water and Sewage	1,080.00	1,450.18	1,569.19	1,281.39	1,231.02	1,194.32	11%
TOTAL	10,338.35	12,334.77	11,765.26	10,624.53	10,078.13	11,363.55	10%

In 2022, emissions from fleet and equipment are the highest corporate emitter, followed by buildings, which is the same as the 2017 baseline. Based on the analysis of emissions from 6 years, 2017 to 2022, total corporate emissions, peaked in 2018 and started decreasing from 2019 to 2021. Specially we see this trend for fleet and equipment; however, estimates indicate an increase in 2022. With that said, building emissions, outdoor lighting and water and sewage peaked in 2019 and then decreased again in 2020 and 2021, and mostly back up again in 2022.

The 2022 corporate GHG inventory update indicates that emissions increased 10% from the 2017 (baseline) to 2022. Records show that even though nine (9) building energy efficiency retrofits were completed from 2019 to 2022, they are only estimated to have reduced emissions by 38.98 tCO₂e or 0.09% per year from 2019 to 2022, which falls short from the 1% reduction target per year for 10% corporate emissions reduction by 2020. This will be elaborated on in Section 4 of this report. It must also be noted that emissions factors in Canada are updated annually, and electricity emission factors have increased from 2017 to 2021 due to more natural gas generation in the Province of Ontario, and are expected to continue to grow. This can be observed specifically with the emissions associated to outdoor lighting where you see a jump from 48 tCO₂e in 2017 to 71.49 tCO₂e in 2022. Despite efforts to reduce consumption through LED lighting retrofits, consumption continues to grow and emissions are also increasing due to the greater use of natural gas to generate electricity in the Province of Ontario³. The next section of this report will look at corporate energy costs.

Figure 2: Corporate Energy Costs 2017 to 2022



³ Electricity emissions in ON have increased from 2017 to 2022 due to the use of more natural gas in generation

Table 4: Corporate Energy Costs 2017 to 2022

Sector	2017	2018	2019	2020	2021	2022	% Δ 2017 to 2022
Buildings	\$2,826,579.70	\$2,807,582.83	\$3,414,143.58	\$2,883,239.61	\$2,716,117.81	\$3,056,640.20	8%
Fleet and Equipment	\$2,544,530.24	\$2,902,004.09	\$2,928,459.57	\$2,255,731.35	\$2,793,615.69	\$2,684,868.19	-6%
Outdoor lighting	\$952,585.03	\$852,382.44	\$699,784.75	\$695,617.82	\$679,179.33	\$621,013.61	-35%
Water and Sewage	\$1,872,426.04	\$1,718,187.03	\$2,534,100.44	\$1,871,088.84	\$1,571,485.33	\$1,597,570.30	-15%
TOTAL	\$8,196,121.01	\$8,280,156.39	\$9,576,488.34	\$7,705,677.62	\$7,760,398.16	\$7,960,09.30	-3%

From 2017 to 2022, corporate energy costs decreased approximately 3% or an average per year by -0.5%. Costs peaked in 2019 at \$9,576,488.34 and dropped in 2020 and increased again slightly in 2022. The City has prioritized energy LED lighting upgrades which are discussed in more detail in Section 4 of this report. These provide excellent return on investment (ROI) and there are many incentives available from the Province of Ontario to help subsidize project costs. The City should continue to prioritize LED lighting conversation wherever possible. It aligns with the implementation of both the GHG Reduction Plan and the City's Energy Conservation and Demand Management Plan. The next section of this report reviews changes in electricity consumption for the City from 2017 to 2022.

Figure 3: Electricity (kWh) Consumption 2017 to 2022

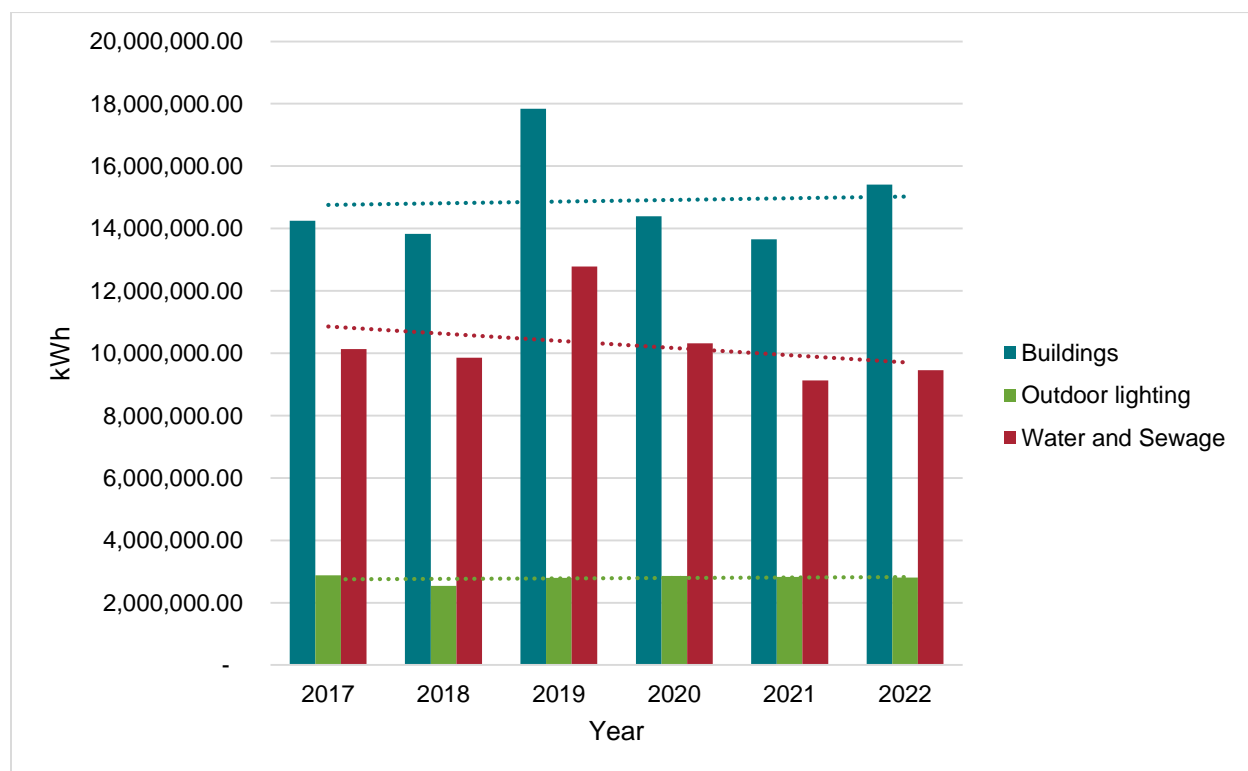


Table 5: Electricity (kWh) Consumption 2017 to 2022

Sector	2017	2018	2019	2020	2021	2022	% Δ 2017 to 2022
Buildings	14,244,841.84	13,823,996.00	17,836,026.59	14,389,791.53	13,650,020.67	15,404,215.06	8%
Outdoor lighting	2,882,048.26	2,540,033.06	2,797,276.43	2,860,169.05	2,826,766.66	2,803,118.27	-3%
Water and Sewage	10,135,280.06	9,853,926.42	12,785,304.24	10,314,567.26	9,123,702.81	9,459,279.76	-7%
TOTAL	27,262,170.16	26,217,955.48	33,418,607.26	27,564,527.84	25,600,490.14	27,666,613.09	1%

From 2017 to 2022, corporate electricity consumption, which is measured in kilowatt hours (kWh) increased by 1% or an average of 0.2% year. Consumption peaked in 2019 at 33,418,607.26 kWh and decreased in 2020 and 2021. The decrease is likely due to lockdowns in 2021 from the COVID-19 pandemic which would have reduced corporate energy consumption due to many staff working from home. Current data indicates consumption went up slightly again in 2022. The City has been prioritizing energy efficiency retrofits and should continue to do so to further reduce their consumption. It is however important to note that electricity emissions in Ontario are rising due to an increase in use of natural gas in generation. However, electricity is still a less carbon intensive fuel than natural gas and electrification should continue to be a corporate priority. Electricity consumption reduction should continue to be prioritized per the City's GHG Reduction and Energy Conservation Demand Management Plan. The next section of this report will review changes in natural gas consumption for the City from 2017 to 2022

Figure 4: Natural Gas (m³) Consumption 2017 to 2022

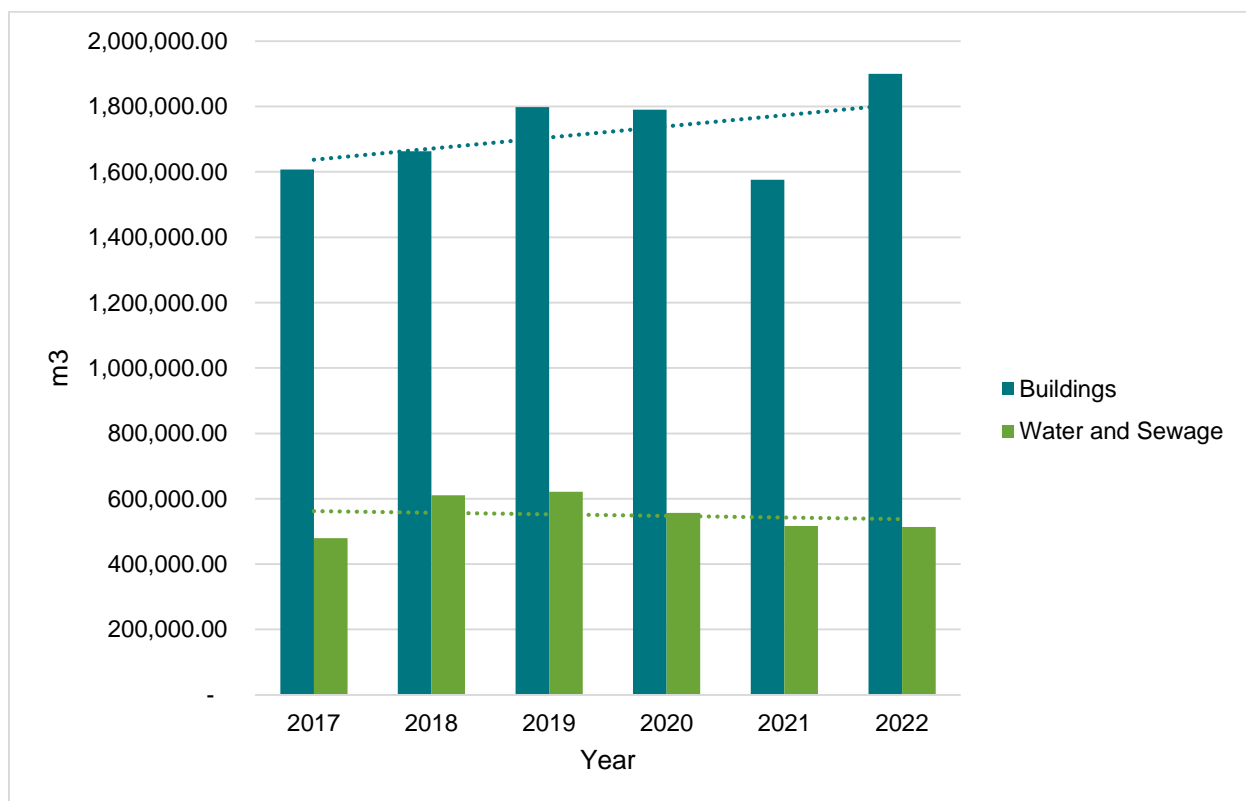


Table 6: Natural Gas (m3) Consumption 2017 to 2022

Sector	2017	2018	2019	2020	2021	2022	% Δ 2017 to 2022
Buildings	1,607,381.07	1,662,632.58	1,798,455.77	1,794,941.52	1,575,613.53	1,899,792.35	18%
Water and Sewage	479,415.69	610,091.16	621,115.46	556,581.74	516,914.00	514,039.50	7%
TOTAL	2,086,796.76	2,272,723.73	2,419,571.23	2,351,523.25	2,092,527.53	2,413,831.85	16%

From 2017 to 2022, natural gas consumption increased 16% or approximately 3% per year. Consumption peaked in 2019 and decreased in 2020 and again in 2021. Consumption increased again in 2022. No large scale natural gas reduction energy efficiency projects have occurred at the City since 2017 and there has also been an addition of assets consuming natural gas. If the City wishes to meet its emissions reduction target, a more concentrated effort and investment on energy efficiency projects that reduce natural gas consumption must occur.

The following section of this report outlines information regarding energy efficiency retrofits which have been prioritized as part of the City's GHG Reduction Plan implementation strategy.

4. Corporate Energy Efficiency Retrofits

In 2019, the City started tracking its energy efficiency retrofits to help monitor its progress on building emission reduction. Between 2019 and 2022, forty-one (41) energy efficiency retrofits were either completed or initiated. See Appendix E for a breakdown of all tracked projects. When all projects are complete, they will have resulted in approximately \$107,390.95 in energy rebates / incentives, and approximately \$143,333.55 in annual energy savings. As well, all retrofits will have reduced emissions by 98.98 tCO₂e which equates to a 1% reduction based on the 2017 corporate baseline.

Between 2019 and 2021, nine (9) energy efficiency retrofits have been completed and have reduced corporate emissions by 38.28 tCO₂e (or approximately 0.09% per year from 2019 to 2022). Despite the energy efficiency prioritization efforts, the City is not on track to meet its corporate GHG reduction target of 10% by 2030 (or 1% a year from 2020 to 2030), nor its net zero commitment by 2050. More aggressive corporate financial commitment and effort from all departments will be required to meet both the interim 10% emissions reduction target by 2030, as well as the net zero by 2050 target.

5. Weather Impacts on Energy Consumption

A key factor that can be considered for understanding changes in emissions relates to temperature. Two key metrics are used for this analysis including heating degree days (HDD) and cooling degree days (CDD). Heating Degree Days (HDD) are equal to the number of degrees Celsius a given day's mean temperature is below 18 °C. For example, if the daily mean temperature is 12 °C, the HDD value for that day is equal to 6 °C. If the daily mean temperature is above 18 °C, the HDD value for that day is set to zero. If a location shows a decrease in projected HDD values, this implies that it will experience shorter periods of cold weather, or that it will experience less severe cold (Government of Canada, 2022).

Cooling degree-days for a given day are the number of degrees Celsius that the mean temperature is above 18 °C. If the temperature is equal to or less than 18 °C, then the number

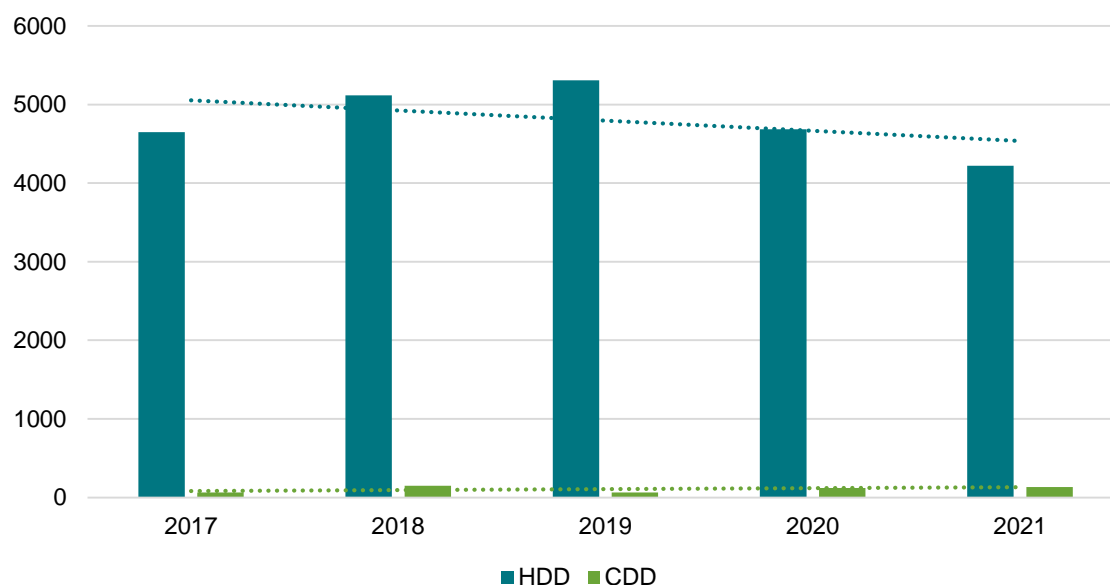
will be zero. For example, a day with a mean temperature of 20.5 °C has 2.5 cooling degree-days; a day with a mean temperature of 15.5 °C has zero cooling degree-days. Cooling degree-days are used primarily to estimate the air-conditioning requirements of buildings (Government of Canada, 2022).

HDD and CDD data was analyzed in Sault Ste. Marie from 2017 to 2021. Total HDD and CDD were totaled for each year (2017 to 2021), and are summarized in the table below. (Government of Canada, 2022a).

Table 7: Sault Ste. Marie Heating and Cooling Degree Days 2017 to 2021

Year	2017	2018	2019	2020	2021	Δ 2021 to 2017
Heating Degree Days	4,649.6	5,117.8	5,306.5	4,684	4,222.1	-9%
Cooling Degree Days	61.7	150.3	62.3	121.5	134.4	118%

Figure 5: Sault Ste. Marie Heating and Cooling Degree Days 2017 to 2021



Over the past five years from 2017 to 2021, HDD have decreased by approximately 9% while CDD have increased approximately 118%. This clearly indicates that the winters are getting milder and shorter and summers are getting longer and hotter, as a result of climate change. These trends should continue to be monitored by the City as part of their energy and emissions monitoring, as well as climate adaptation planning.

6. Conclusion / Next Steps

The 2022 corporate inventory indicates corporate emissions have increased 10% from 2017 to 2022. As it currently stands, the City is not on track to meeting its corporate GHG emissions reduction target of 10% by 2030 (approximately 1% reduction per year) based on energy use reduction projects for both buildings and fleet and equipment. As such, a more aggressive corporate financial commitment and effort from all departments will be required to meet net zero emissions by 2050. Though it is optimistic that the City is adding to its asset portfolio with investments in the Plaza and the Twin Pad for example, efforts should be made to make new

assets and/or additions as green and energy efficient as possible. The GHG Reduction Plan recommends establishing a green building policy that goes above and beyond the Ontario building code. The Environmental Sustainability Committee has also encouraged the City to establish a net zero building roadmap. The City has applied for funding to conduct a series of net zero audits and is awaiting to hear back from the funder on that.

Starting in 2023, the Sustainability Coordinator will be leading a bi-annual corporate energy and emissions meeting with Directors to help prioritize emissions reduction projects and ensure all projects and efforts are being tracked. In addition, effective of the January 30, 2023 Council meeting, the Council Report template has been amended to include a section to address climate impact for relevant reports. The report template section related to "STRATEGIC PLAN / POLICY IMPACT" has been revised to include Climate impact as "STRATEGIC PLAN / POLICY IMPACT / CLIMATE IMPACT". Any draft reports in the queue will not include the new wording, but new reports will. When addressing climate change, City staff should be aware that there are two key components to consider: mitigation and adaptation. Climate change mitigation relates to the reduction, removal or avoidance of GHG emissions. Climate change adaptation refers to adjustments in ecological, social or economic systems, in response to actual or expected climate effects and impacts.

A question sheet has been established (see Appendix F) to assist staff in how to address climate impacts on council reports, based on mitigation, adaptation as well as integrating climate change into municipal decisions. They are not required to be assessed for all reports but can provide guidance on determining the impact of the subject or provide consideration points for staff as they develop new projects/reports. The Sustainability Coordinator is also available to support staff if they have questions on the climate impact for any particular reports. In 2023, the City will be monitoring the use of this new process over the year to ensure it is being utilized as well as gathering feedback on how to improve its effectiveness.

Resources

A.Gross, ICLEI, personal communication, July 29, 2022.

Federation of Canadian Municipalities and ICLEI Local Governments for Sustainability. 2021). *PCP Protocol: Canadian Supplement to International Emissions Analysis Protocol*.

Retrieved from: https://assets-global.website-files.com/6022ab403a6b2126c03ebf95/60e7367b103b1954f90e9f62_PCP-Protocol-Canada-Supplement-2021.pdf

Government of Canada. (2022). Weather and Climate Glossary. Retrieved from: https://climate.weather.gc.ca/glossary_e.html

Government of Canada. (2022a). Historical Weather Data Sault Ste. Marie. Retrieved from: https://climate.weather.gc.ca/climate_data/daily_data_e.html?hlyRange=%7C&dlyRange=1949-10-01%7C1959-10-31&mlyRange=1949-01-01%7C1959-12-01&StationID=4091&Prov=ON&urlExtension=_e.html&searchType=stnName&optLimit=yearRange&StartYear=1840&EndYear=2022&selRowPerPage=25&Line=0&searchMethod=contains&Month=10&Day=15&txtStationName=sault+ste+marie&timeframe=2&Year=1959

Government of Ontario. (2022). Fuels price survey information. Retrieved from: <https://data.ontario.ca/dataset/fuels-price-survey-information>

Appendix A: City of Sault Ste. Marie Corporate Building Emissions Update

Rows in yellow indicate assets that have been omitted from the total as they were no longer owned or used by the City in 2021. See the buildings methodology section of this report for more details.

2017 Building Energy Consumption, Costs, and tCO₂e

Department and Building	Electricity			Natural Gas			TOTALS	
	Use (kWh)	Cost(\$)	tCO ₂ e	Use (m3)	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Arenas								
GFL Essar Centre	399,345.91	\$422,607.59	41.5	200,890.32	\$55,527.36	381.56	\$478,134.95	423.06
John Rhodes Community Centre	3,444,301.58	\$573,389.28	59.58	534,929.17	\$174,901.73	1,016.02	\$748,291.01	1,075.60
McMeeken	366,800.00	\$64,090.24	6.34	31,925.93	\$12,035.22	60.64	\$76,125.46	66.98
Northern Community Centre	558,240.00	\$96,099.55	9.66	43,123.66	\$15,380.76	81.91	\$111,480.31	91.57
Outdoor Pools								
Greco Pool	23,972.04	\$3,624.44	0.41	9,997.89	\$3,887.69	18.99	\$7,512.13	19.40
Manzo Pool	15,533.64	\$2,227.97	0.27	-	\$-	-	\$2,227.97	0.27
Marinas								
Bellevue Marina	81,965.28	\$11,710.28	1.42	-	\$-	-	\$11,710.28	1.42
Bondar Marina	64,658.04	\$9,131.87	1.12	-	\$-	-	\$9,131.87	1.12
Day Care								
Jessie Irving	61,530.83	\$9,708.53	1.06	15,776.60	\$6,090.56	29.97	\$15,799.09	31.03
Maycourt	12,891.86	\$2,041.31	0.22	6,458.66	\$3,208.14	12.27	\$5,249.45	12.49
Senior Facilities								
Senior Citizens Centre (Wellington)	38,551.68	\$5,646.29	1.79	123,493.39	\$43,233.95	234.56	\$48,880.24	236.35
Senior Drop-In (Bay)	176,720.00	\$28,971.86	3.06	10,169.14	\$4,072.13	19.31	\$33,043.99	22.37
Other								
Ermatinger	63,441.72	\$9,166.00	1.1	9,112.50	\$3,583.70	17.31	\$12,749.70	18.41
Bondar - Pavilion Feed	33,372.06	\$4,848.45	0.58	5,440.06	\$2,331.10	10.33	\$7,179.55	10.91
Bondar - Stage Building Electric	-	\$-	-	-	\$-	-	\$-	-

Department and Building	Electricity			Natural Gas			TOTALS	
	Use (kWh)	Cost(\$)	tCO ₂ e	Use (m3)	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Other								
Norgoma	16,765.07	\$2,228.28	0.29	-	\$-	-	\$2,228.28	0.29
402 Fifth Line E DEMO	29,926.03	\$4,892.32	0.52	-	\$-	-	\$4,892.32	0.52
Heritage Centre Bay	100,911.66	\$14,562.24	1.75	12,112.11	\$3,919.84	23.00	\$18,482.08	24.75
Plaza 1	-	\$-	-	-	\$-	-	\$-	-
Plaza 2	-	\$-	-	-	\$-	-	\$-	-
Cemetery								
Cemetery Garage	11,256.05	\$2,187.25	0.19	-	\$-	-	\$2,187.25	0.19
Cemetery Chapel	109,772.79	\$16,624.79	1.9	68,311.67	\$23,805.06	129.75	\$40,429.85	131.65
Landfill								
Landfill Administration	34,080.72	\$5,242.03	0.59	21,684.42	\$8,292.42	41.19	\$13,534.45	41.78
Landfill Scale House	15,615.75	\$2,421.90	0.27				\$2,421.90	0.27
Pipe Plant - 115 Industrial Par	-	\$-	-	-	\$-	-	\$-	-
Landfill methane gas blower	-	\$-	-	-	\$-	-	\$-	-
Landfill Garage	110,117.62	\$15,857.91	1.9	-	\$-	-	\$15,857.91	1.90
HSW	15,047.47	\$2,485.60	0.26	3,387.78	\$1,564.19	6.44	\$4,049.79	6.70
Outdoor Rinks								
Rink Central	3,754.20	\$776.32	0.06	-	\$-	-	\$776.32	0.06
Rink Mark	7,746.33	\$1,339.06	0.13	-	\$-	-	\$1,339.06	0.13
Rink Patrick St	1,539.72	\$369.52	0.03	-	\$-	-	\$369.52	0.03
Parks								
Bellevue GRHS	45,763.94	\$7,832.61	0.79	39,394.20	\$14,870.08	74.82	\$22,702.69	75.61
Bellevue Canteen	49,996.40	\$7,116.88	0.86	-	\$-	-	\$7,116.88	0.86

Department and Building	Electricity			Natural Gas			TOTALS	
	Use (kWh)	Cost(\$)	tCO ₂ e	Use (m3)	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Parks								
Pointe Des Chenes Park	67,260.00	\$9,699.71	1.16	-	\$-	-	\$9,699.71	1.16
James Elliott	5,851.92	\$1,266.38	0.1	-	\$-	-	\$1,266.38	0.10
North Stand CSB	7,610.48	\$1,135.64	0.13	-	\$-	-	\$1,135.64	0.13
Strathclair	5,628.23	\$1,066.68	0.1	-	\$-	-	\$1,066.68	0.10
Bay Street Fountain	27,767.91	\$3,729.79	0.48	-	\$-	-	\$3,729.79	0.48
Foster Sprinkler	8,712.98	\$1,243.18	0.15	-	\$-	-	\$1,243.18	0.15
Esposito Park	-	\$-	-	2,341.80	\$1,095.09	4.45	\$1,095.09	4.45
Splash Pad	-	\$-	-	-	\$-	-	\$-	-
Public Works and Transit								
PWT Sackville Road	889,660.08	\$132,758.78	15.39	206,941.22	\$69,474.59	393.05	\$202,233.37	408.44
PWT A - 128 Sacville Rd Unit B Shop	-	\$	-	6,382.94	\$2,675.54	12.33	\$2,675.54	12.33
Transit Terminal	68,754.75	\$9,846.81	1.19	2,939.81	\$1,392.99	5.58	\$11,239.80	6.77
Transit Administration	334,440.00	\$57,135.11	5.79	72,859.77	\$24,670.71	138.39	\$81,805.82	144.18
Engineering and Planning								
Civic Centre	2,372,140.88	\$389,078.30	41.03	-	\$-	-	\$389,078.30	41.03
Fire and Police Services								
Fire 1	149,198.90	\$22,281.35	2.58	43,800.00	\$16,465.74	83.19	\$38,747.09	85.77
Fire 2	54,757.80	\$8,072.23	0.95	5,014.37	\$2,141.46	9.52	\$10,213.69	10.47
Fire 3	50,621.40	\$7,836.94	0.88	5,768.77	\$2,422.98	10.96	\$10,259.92	11.84
Number 4 Fire Hall – RESCUE Center	565,650.00	\$10,791.09	9.78	113,568.41	\$40,592.31	215.71	\$51,383.40	225.49
RESC B - 65 Old GR Rd Unit B	-	\$-	-	40,813.25	\$15,338.03	78.87	\$15,338.03	78.87

Department and Building	Electricity			Natural Gas			TOTALS	
	Use (kWh)	Cost(\$)	tCO ₂ e	Use (m3)	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Fire and Police Services								
River Road - 2 Murphy St	-	\$-	-	14,566.35	\$8,085.75	27.67	\$8,085.75	27.67
Police Administration	1,141,760.00	\$190,446.17	19.75	30,350.59	\$9,907.63	57.65	\$200,353.80	77.40
City Police - 311 Queen	2,639.02	\$491.23	0.05	-	\$-	-	\$491.23	0.05
Police Airport Tower	3,999.22	\$686.79	0.07	-	\$-	-	\$686.79	0.07
Library and Museum								
SSM Public Library – Centennial	478,560.00	\$85,361.54	8.28	52,838.00	\$18,365.54	100.36	\$103,727.08	108.64
Library Churchill	-	\$-	-	787.88	\$389.38	1.50	\$389.38	1.50
Sault Ste. Marie Museum	244,800.00	\$42,570.52	4.23	18,716.94	\$6,899.48	35.55	\$49,470.00	39.78
Social Housing / Ontario Works								
Ontario Works	44,289.80	\$87,905.28	8.77	74,719.13	\$25,956.70	141.92	\$113,861.98	150.69
Social Housing	88,899.12	\$13,095.02	2.3	4,173.03	\$1,843.67	7.93	\$14,938.69	10.23
Total	Use(kWh)	Cost(\$)	tCO ₂ e	Use(m3)	Cost(\$)	tCO ₂ e	Total Cost	Total tCo ₂ e
	14,506,620.88	\$2,403,698.91	260.81	1,832,789.76	\$624,421.52	3,482.70	\$3,028,120.43	3,743.51
Revised Totals without 7 sold and/or closed assets as of 2021								
Total	Use(kWh)	Cost(\$)	tCO ₂ e	Use(m3)	Cost(\$)	tCO ₂ e	Total Cost	Total tCo ₂ e
	14,244,841.84	2,282,880.58	246.40	1,607,381.07	543,699.12	3,054.55	\$2,826,579.70	3,300.95

2018 Building Energy Consumption, Costs and tCO₂e

Department and Building	Electricity			Natural Gas			Total	
	Use (kWh)	Cost(\$)	tCO ₂ e	m ³	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Arenas								
GFL Essar Centre	2,751,485.64	\$441,720.97	81.30	275,357.18	\$76,238.29	523.00	\$517,959.26	604.30
John Rhodes Community Centre	3,470,550.91	\$536,080.12	102.55	534,851.00	\$351,707.97	1,015.87	\$887,788.09	1,118.42
McMeeken	369,515.30	\$60,307.06	10.92	39,352.13	\$16,382.39	74.74	\$76,689.45	85.66
Northern Community Centre	724,338.25	\$114,664.38	21.40	78,639.45	\$27,995.27	149.36	\$142,659.65	170.76
Outdoor Pools								
Greco Pool	26,678.45	\$3,650.78	0.79 t	3,696.27	\$1,516.16	7.02	\$5,166.94	7.81
Manzo Pool	19,580.08	\$2,549.97	0.58 t	-	\$-	-	\$2,549.97	0.58
Marinas								
Bellevue Marina	84,718.18	\$10,110.41	2.50	-	\$-	-	\$10,110.41	2.50
Bondar Marina	58,210.71	\$7,056.03	1.72	-	\$-	-	\$7,056.03	1.72
Day Care								
Jessie Irving	20,583.40	\$2,619.44	0.61	9,608.32	\$(346.51)	18.25	\$2,272.93	18.86
Maycourt	13,522.26	\$2,041.31	0.40	5,603.30	\$1,405.77	10.64	\$3,447.08	11.04
Senior Facilities								
Senior Citizens Centre(Wellington)	64,380.25	\$8,193.79	1.90	18,153.25	\$6,386.11	34.48	\$14,579.90	36.38
Senior Drop-In (Bay)	189,010.11	\$25,399.62	5.58	110,490.29	\$35,373.31	209.86	\$60,772.93	215.44
Other								
Ermatinger	70,430.17	\$8,543.56	2.08	9,697.81	\$3,539.94	18.42	\$12,083.50	20.50
Bondar - Pavillion Feed	23,379.61	\$2,926.73	0.69	6,321.24	\$2,468.30	12.01t	\$5,395.03	12.70
Bondar - Stage Building Electric	8,331.61	\$1,219.71	0.25	-	\$-	-	\$1,219.71	0.25
Norgoma	19,138.66	\$2,271.47	0.57	-	\$-	-	\$2,271.47	0.57
402 Fifth Line E DEMO	38,128.75 kWh	\$4,808.56	1.13 t	0.00 m ³	\$-	-	\$4,808.56	1.13

Department and Building	Electricity			Natural Gas			TOTALS	
	Use (kWh)	Cost(\$)	tCO ₂ e	m ³	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Other								
Heritage Centre Bay	114,257.75	\$14,081.01	3.38	17,583.94	\$6,264.48	33.40	\$20,345.49	36.78
Plaza 1	-	\$-	-	-	\$-	-	\$-	-
Plaza 2	-	\$-	- t	-	\$-	-	\$-	-
Cemetery								
Cemetery Garage	16,149.40	\$2,475.29	0.48	-	\$-	-	\$2,475.29	0.48
Cemetery Chapel	118,961.3	\$14,763.40	3.52	82,540.90	\$25,588.12	156.77	\$40,351.52	160.29
Landfill								
Landfill Administration	35,059.85	\$4,539.81	1.04	4,105.72	\$1,692.58	7.80	\$6,232.39	8.84
Landfill Scale House	18,138.41	\$2,356.19	0.54	-	\$-	-	\$2,356.19	0.54
Pipe Plant - 115 Industrial Par	-	\$-	-	-	\$-	-	\$-	-
Landfill methane gas blower	-	\$-	-	-	\$-	-	\$-	-
Landfill Garage	133,668.26	\$16,180.14	3.95	26,112.29	\$9,134.24	49.60	\$25,314.38	53.55
HSW	34,560.64	\$4,416.01	1.02	-	\$-	-	\$4,416.01	1.02
Outdoor Rinks								
Rink Central	4,433.36	\$757.75	0.13	-	\$-	-	\$757.75	0.13
Rink Mark	8,517.08	\$1,235.88	0.25	-	\$-	-	\$1,235.88	0.25
Rink Patrick St	11,331.02	\$1,370.96	0.33	-	\$-	-	\$1,370.96	0.33
Parks								
Bellevue GRHS	46,918.27	\$6,861.30	1.39	34,522.86	11,818.35	65.57	\$18,679.65	66.96
Bellevue Canteen	41,657.80	\$5,010.88	1.23	-	\$-	-	\$5,010.88	1.23
Pointe Des Chenes Park	81,368.77	\$10,370.43	2.40	-	\$-	-	\$10,370.43	2.40
James Elliott	8,621.27	\$1,482.31	0.25	-	\$-	-	\$1,482.31	0.25
North Stand CSB	8,571.13	\$1,155.36	0.25 t	-	\$-	-	\$1,155.36	0.25
Strathclair	4,585.94	\$834.70	0.14 t	-	\$-	-	\$834.70	0.14

Department and Building	Electricity			Natural Gas			TOTALS	
	Use (kWh)	Cost(\$)	tCO ₂ e	m ³	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Parks								
Bay Street Fountain	29,877.88	\$3,494.52	0.88	-	\$-	-	\$3,494.52	0.88
Foster Sprinkler	9,037.90	\$1,187.92	0.27	-	\$-	-	\$1,187.92	0.27
Esposito Park	0.00	\$-	-	1,679.9	\$694.90	3.19	\$694.90	3.19
Splash Pad	0.00	\$-	-	-	-	-	\$-	-
Public Works and Transit								
PWT Sackville Road	970,705.12	\$136,471.00	28.68	226,282.79	66,432.71	429.79	\$202,903.71	458.47
PWT A - 128 Sacville Rd Unit B Shop	-	\$-	-	8,090.85	\$3,009.97	15.37	\$3,009.97	15.37
Transit Terminal	68,753.05	\$8,274.92	2.03	5,034.00	\$2,004.07	9.56	\$10,278.99	11.59
Transit Administration	363,930.16	\$58,273.31	10.75	75,588.51	\$23,260.76	143.57	\$81,534.07	154.32
Engineering and Planning								
Civic – Civic Centre	2,690,984.91	\$418,877.47	79.51	-	\$-	-	\$418,877.47	79.51
Fire & Police Services								
Fire 1	154,935.24	\$19,115.55	4.58	12,494.59	\$4,489.53	23.73	\$23,605.08	28.31
Fire 2	114,257.75	\$14,081.01	3.38	6,166.97	\$2,469.79	11.71	\$16,550.80	15.09
Fire 3	63,108.39	\$8,002.97	1.86	5,322.86	\$2,130.49	10.11	\$10,133.46	11.97
Number 4 Fire Hall – RESCUE Center	544,115.40	\$84,377.79	16.08	67,717.73	\$20,985.97	128.62	\$105,363.76	144.70
RESC B - 65 Old GR Rd Unit B	-	\$-	-	44,128.09	\$14,488.83	83.81	\$14,488.83	83.81
River Road - 2 Murphy St	-	\$-	-	13,677.33	\$4,945.96	25.98	\$4,945.96	25.98
Police Administration	326,240.00	\$16,406.92	9.64	36,081.54	\$12,803.95	68.53	\$29,210.87	78.17
City Police - 311 Queen	-	\$-	0-	-	\$-	0-	\$-	-
Police Airport Tower	-	\$-	0-	-	\$-	0-	\$-	-

Department and Building	Electricity			Natural Gas			TOTALS	
	Use (kWh)	Cost(\$)	tCO ₂ e	m ³	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Museum & Library								
SSM Public Library – Centennial	483,413.56	\$79,683.33	14.28	50,364.85	\$27,749.94	95.66	\$107,433.27	109.94
Library Churchill	-	\$-	0-	-	\$-	0-	\$-	-
Sault Ste. Marie Museum	262,886.49	\$42,010.14	7.77	15,186.13	\$5,918.05	28.84	\$47,928.19	36.61
Ontario Works / Social Housing								
Ontario Works	528,551.75	\$84,897.75	15.62	78,779.98	\$24,252.74	149.63	\$109,150.49	165.25
Social Housing	153,370.46	\$19,630.23	4.53	16,309.84	\$1,542.31	6.90	\$21,172.54	11.43
Total	Use(kWh)	Cost(\$)	tCO ₂ e	m ³	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
	14,622,542.53	\$2,199,457.64	432.07	1,791,087.26	\$761,104.32	3,401.89	\$2,960,561.96	3,833.96
Revised Totals without 7 sold and/or closed assets as of 2021								
Total	Use(kWh)	Cost(\$)	tCO ₂ e	Use(m ³)	Cost(\$)	tCO ₂ e	Total Cost	Total tCO ₂ e
	13,823,996.00	\$2,079,718.93	408.47	1,662,632.58	\$727,863.90	3,181.99	\$2,807,582.83	3,590.46

2019 Building Energy Consumption, Costs and tCO₂e

Department and Building	Electricity			Natural Gas			TOTALS	
	Use(kWh)	Cost(\$)	tCO ₂ e	m ³	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Arenas								
GFL Essar Centre	2,537,980.35	\$434,579.85	77.34	275,357.18	\$76,238.29	523	\$510,818.14	600.34
John Rhodes Community Centre	3,522,173.14	\$580,832.61	107.33	542,198.32	\$146,354.91	1,029.83	\$727,187.52	1,137.16
McMeeken	412,112.92	\$73,159.89	12.56	43,177.41	\$13,650	82.01	\$86,809.89	94.57
Northern Community Centre	752,116.55	\$125,007.74	22.92	54,721.57	\$17,251.42	103.94	\$142,259.16	126.86
Outdoor Pools								
Greco Pool	27,110.11	\$3,433.31	0.83	2,358.55	\$1,017.19	4.48	\$4,450.50	5.31
Manzo Pool	18,227.48	\$2,394.78	0.56	-	\$-	-	\$2,394.78	0.56
Marinas								
Bellevue Marina	88,748.62	\$10,596.76	2.70	-	\$-	-	\$10,596.76	2.70
Bondar Marina	86,447.92	\$10,619.00	2.63	-	\$-	-	\$10,619.00	2.63
Day Care								
Jessie Irving	-	\$-	-	155,271.82	\$48,404.51	294.92	\$48,404.51	294.92
Maycourt	-	\$-	-	-	\$-	-	\$-	-
Senior Facilities								
Senior Citizens Centre (Wellington)	73,798.15	\$9,219.39	2.25	15,768.46	\$5,321.23	29.95	\$14,540.62	32.20
Senior Drop-In (Bay)	190,083.41	\$25,259.93	5.79			16.52	\$28,100.91	22.31
Other								
Ermatinger	74,034.29	\$9,030.18	2.26	8,912.57	\$2,952.55	16.93	\$11,982.73	19.19
Bondar - Pavilion Feed	31,020.76	\$3,860.40	0.95	6,113.71	\$2,235.50	11.61	\$6,095.90	12.56
Bondar - Stage Building Electric	9,324.39	\$1,354.20	0.28	-	\$-	-	\$1,354.20	0.28
Norgoma	17,343.51	\$2,306.03	0.53	-	\$-	-	\$2,306.03	0.53
402 Fifth Line E DEMO	36,761.50	\$4,643.08	1.12	-	\$-	-	\$4,643.08	1.12

Department and Building	Electricity			Natural Gas			TOTALS	
	Use(kWh)	Cost(\$)	tCO ₂ e	m ³	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Other								
Heritage Centre Bay	81,764.75	\$10,267.89	2.49	17,841.95	5,858.87	33.89	\$16,126.76	36.38
Plaza 1	-	\$-	-	-	\$-	-	\$-	-
Plaza 2	-	\$-	-	-	\$-	-	\$-	-
Cemetery								
Cem Garage	12,048.98	\$2,018.41	0.37	-	\$-	-	\$2,018.41	0.37
Cem Chapel	129,482.24	\$16,010.26	3.95	81,302.76	23,368.82	154.42	\$39,379.08	158.37
Landfill								
Landfill Administration	40,482.92	\$5,203.53	1.23	28,165.56	\$13,337.80	54.43	\$18,541.33	55.66
Landfill Scale House	17,913.60	\$2,354.94	0.55	28,151.13	\$9,098.27	53.47	\$11,453.21	54.02
Pipe Plant - 115 Industrial Par	-	\$-	-	-	\$-	-	\$-	-
Landfill methane gas blower (NEW)	44,085.05	\$5,452.16	1.34	-	\$-	-	\$5,452.16	1.34
Landfill Garage	160,850.06	\$19,421.32	4.90	9,092.05	\$9,098.27	17.27	\$28,519.59	22.17
HSW	39,091.52	\$4,974.70	1.19	3,433.16	\$1,529.19	6.63	\$6,503.89	7.82
Outdoor Rinks								
Rink Central	8,697.47	\$1,284.18	0.27	-	\$-	-	\$1,284.18	0.27
Rink Mark	8,937.66	\$1,275.54	0.27	-	\$-	-	\$1,275.54	0.27
Rink Patrick St	14,289.59	\$1,916.16	0.44	-	\$-	-	\$1,916.16	0.44
Parks								
Bellevue GRHS	45,003.47	\$6,090.60	1.37	39,066.07	\$12,396.22	74.20	\$18,486.82	75.57
Bellevue Canteen	34,664.97	\$4,233.76	1.06	-	\$-	-	\$4,233.76	1.06
Pointe Des Chenes Park	77,102.97	\$9,804.86	2.35	-	\$-	-	\$9,804.86	2.35
James Elliott	7,884.32	\$1,345.41	0.24	-	\$-	-	\$1,345.41	0.24
North Stand CSB	7,789.11	\$1,100.52	0.24	-	\$-	-	\$1,100.52	0.24
Strathclair	3,941.05	\$721.50	0.12	-	\$-	-	\$721.50	0.12
Bay Street Fountain	31,236.59	\$3,728.32	0.95	-	\$-	-	\$3,728.32	0.95
Foster Sprinkler	9,216.84	\$1,231.10	0.28	-	\$-	-	\$1,231.10	0.28
Esposito Park	-	\$-	-	2,495.60	1,126.04	4.74	\$1,126.04	4.74

Department and Building	Electricity			Natural Gas			TOTALS	
	Use(kWh)	Cost(\$)	tCO ₂ e	m ³	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Parks								
Splash Pad	8,006.11	\$1,070.81	0.24	-	\$-	-	\$1,070.81	0.24
Public Works and Transit								
PWT Sackville Road	966,213.82	\$157,105.00	29.44	268,491.26	\$74,454.62	509.96	\$231,559.62	539.40
PWT A - 128 Sacville Rd Unit B Shop	-	\$-	-	9,092.05	2,767.84	17.27	\$2,767.84	17.27
Transit Terminal	66,380.66	\$8,056.18	2.02	6,110.91	\$2,242.53	11.61	\$10,298.71	13.63
Transit Administration	393,540.60	\$65,032.66	11.99	117,644.13	\$33,418.31	223.45	\$98,450.97	235.44
Engineering and Planning								
Civic – Civic Centre	2,800,341.20	\$452,375.90	71.26	-	\$-	-	\$452,375.90	71.26
Fire & Police Services								
Fire 1	163,939.73	\$20,261.15	5.00	49,136.88	15,527.73	93.33	\$35,788.88	98.33
Fire 2	67,117.00	\$8,681.32	2.05	6,837.26	\$2,447.17	12.99	\$11,128.49	15.04
Fire 3	65,539.78	\$8,463.05	2.00	5,325.66	\$1,987.44	10.12	\$10,450.49	12.12
Number 4 Fire Hall – RESCUE Center	2,800,341.20	\$452,375.90	85.33	69,483.82	\$20,468.85	131.97	\$472,844.75	217.30
RESC B - 65 Old GR Rd Unit B	-	\$-	-	36,304.40	11,519.73	68.95	\$11,519.73	68.95
River Road - 2 Murphy St	-	\$-	-	14,381.25	4,784.22	27.32	\$4,784.22	27.32
Police Administration	1,202,380.33	\$194,953.25	36.64	33,371.89	\$10,666.47	63.39	\$205,619.72	100.03
City Police - 311 Queen	5,734.67	\$936.65	0.17	-	\$-	-	\$936.65	0.17
Police Airport Tower	-	\$-	-	-	\$-	-	\$-	-
Museum & Library								
SSM Public Library – Centennial	430,811.04	\$75,859.60	13.13	53,230.80	\$22,980.50	101.10	\$98,840.10	114.23

Department and Building	Electricity			Natural Gas			TOTALS	
	Use(kWh)	Cost(\$)	tCO ₂ e	m ³	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Museum & Library								
Sault Ste. Marie Museum	305,625.94	\$51,057.17	9.31	6,113.71	\$2,235.50	11.61	\$53,292.67	20.92
Ontario Works / Social Housing								
Ontario Works	513,778.62	\$85,942.58	15.66	77,481.52	\$74,454.62	147.16	\$160,397.20	162.82
Social Housing	103,608.69	\$12,668.94	3.16	106,477.32	\$20,732.80	202.24	\$33,401.74	205.40
Total	Use(kWh)	Cost(\$)	tCO ₂ e	Use(m ³)	Cost(\$)	tCO ₂ e	Total Cost	Total tco ₂ e
	18,545,125.65	\$2,989,572.47	\$551.06	\$2,181,606.01	\$692,768.39	\$4,144.71	\$3,682,340.86	\$4,695.77
Revised Totals without 6 sold and/or closed assets as of 2021								
Total	Use(kWh)	Cost(\$)	tCO ₂ e	Use(m ³)	Cost(\$)	tCO ₂ e	Total Cost	Total tCo ₂ e
	17,836,026.59	\$2,879,386.62	529.44	1,798,455.77	\$534,756.96	3,416.97	3,414,143.58	3,946.41

2020 Building Energy Consumption, Costs and tCO₂e

Department and Building	Electricity			Natural Gas			TOTALS	
	Use(kWh)	Cost(\$)	tCO ₂ e	Use(m ³)	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Arenas								
GFL Essar Centre	2,117,664.94	\$365,047.53	53.89	321,187.11	\$95,133.06	610.05	\$460,180.59	663.94
John Rhodes Community Centre	3,250,344.81	\$537,551.84	82.71	489,206.00	\$139,206.00	945.32	\$676,757.84	1,028.03
McMeeken	428,882.52	\$78,135.52	10.91	33,723.00	\$11,494.00	65.16	\$89,629.52	76.07
Northern Community Centre	854,243.43	\$140,393.94	21.74	50,046.71	\$16,867.52	95.06	\$157,261.46	116.80
Outdoor Pools								
Greco Pool	21,356.22	\$2,943.16	0.54	3,861.00	\$1,352.17	6.36	\$4,295.33	6.90
Manzo Pool	16,268.37	\$2,328.27	0.41	-	\$-	-	\$2,328.27	0.41
Marinas								
Bellevue Marina	75,577.77	\$9,648.88	1.92	-	\$-	-	\$9,648.88	1.92
Bondar Marina	75,687.11	\$9,739.75	1.93	-	\$-	-	\$9,739.75	1.93
Senior Facilities								
Senior Citizens Centre(Wellington)	18,462.90	\$2,512.10	0.47	7,538.38	\$2,557.29	14.32	\$5,069.39	14.79
Senior Drop-In (Bay)	172,944.32	\$24,578.45	4.4	14,622.83	\$5,337.07	27.77	\$29,915.52	32.17
Other								
Ermatinger	66,013.61	\$8,452.50	1.68	8,629.83	\$3,079.90	16.39	\$11,532.40	18.07
Bondar - Pavilion Feed	26,515.80	\$3,480.45	0.67	6,810.14	\$2,610.37	12.93	\$6,090.82	13.60
Bondar - Stage Building Electric	7,938.63	\$1,216.58	0.2	-	\$-	-	\$1,216.58	0.20
Norgoma	14,859.47	\$2,062.15	0.38	-	\$-	-	\$2,062.15	0.38
402 Fifth Line E DEMO	34,344.37	\$4,474.75	0.87	-	\$-	-	\$4,474.75	0.87
Heritage Centre Bay	75,771.33	\$9,797.71	1.93	19,706.44	\$6,589.04	37.43	\$16,386.75	39.36
Plaza 1	-	\$46.53	-	-	\$-	-	\$46.53	-

Department and Building	Electricity			Natural Gas			TOTALS	
	Use(kWh)	Cost(\$)	tCO ₂ e	Use(m ³)	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Others								
Plaza 2	2,714.59	\$441.26	0.07	-	\$-	-	\$441.26	0.07
Cemetery								
Cemetery Garage	18,270.95	\$2,793.14	0.46	3,995.00	\$1,965.98	4.83	\$4,759.12	5.29
Cemetery Chapel	118,972.74	\$15,188.50	3.03	103,192.34	\$30,826.62	196.00	\$46,015.12	199.03
Landfill								
Landfill Administration	43,367.25	\$5,678.07	1.1	32,627.13	\$11,081.52	61.97	\$16,759.59	63.07
Landfill Scale House	15,973.38	\$2,160.14	0.41	-	\$-	-	\$2,160.14	0.41
Pipe Plant - 115 Industrial Par	-	\$-	-	4,398.00	\$6,589.04	6.87	\$6,589.04	6.87
Landfill methane gas blower	42,412.88	\$5,521.56	1.08	-	\$-	-	\$5,521.56	1.08
Landfill Garage	150,528.73	\$19,092.73	3.83	-	\$-	-	\$19,092.73	3.83
HSW	37,923.43	\$4,976.20	0.97	3,478.53	\$1,494.19	6.61	\$6,470.39	7.58
Outdoor Rinks								
Rink Central	10,402.91	\$1,496.25	0.26	-	\$-	-	\$1,496.25	0.26
Rink Mark	7,232.43	\$1,116.60	0.18	-	\$-	-	\$1,116.60	0.18
Rink Patrick St	10,851.35	\$1,565.06	0.28	-	\$-	-	\$1,565.06	0.28
Parks								
Bellevue GRHS	72,115.38	\$9,723.20	1.84	39,290.44	\$1,940.84	74.63	\$11,664.04	76.47
Bellevue Canteen	37,554.99	\$4,849.05	0.96	-	\$-	-	\$4,849.05	0.96
Pointe Des Chenes Park	50,874.77	\$7,151.55	1.29	-	\$-	-	\$7,151.55	1.29
James Elliott	7,369.91	\$1,343.89	0.19	-	\$-	-	\$1,343.89	0.19
North Stand CSB	2,948.43	\$577.87	0.08	-	\$-	-	\$577.87	0.08
Strathclair	1,684.75	\$418.11	0.04	-	\$-	-	\$418.11	0.04
Bay Street Fountain	26,617.73	\$3,430.33	0.68	-	\$-	-	\$3,430.33	0.68
Foster Sprinkler	8,969.58	\$1,292.14	0.23	-	\$-	-	\$1,292.14	0.23
Esposito Park	-	\$-	-	2,758.91	\$2,886.09	5.24	\$2,886.09	5.24
Splash Pad	758.29	\$135.31	0.02	-	\$-	-	\$135.31	0.02

Department and Building	Electricity			Natural Gas			TOTALS	
	Use(kWh)	Cost(\$)	tCO ₂ e	Use(m ³)	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Public work & Transit								
PWT Sackville Road	957,866.47	\$157,316.96	24.38	253,306.94	\$77,392.76	481.12	\$234,709.72	505.50
PWT A - 128 Sacville Rd Unit B Shop	-	\$-	-	10,494.45	\$3,833.83	19.93	\$3,833.83	19.93
Transit Terminal	59,979.75	\$7,677.24	1.53	7,587.43	\$2,886.09	14.41	\$10,563.33	15.94
Transit Administration	267,517.03	\$45,082.87	6.81	116,816.97	\$36,438.41	221.88	\$81,521.28	228.69
Engineering and Planning								
Civic – Civic Centre	2,517,043.49	\$405,878.88	64.05	-	\$-	-	\$405,878.88	64.05
Fire & Police Services								
Fire 1	158,235.47	\$20,319.08	4.03	43,068.00	\$13,820.00	81.80	\$34,139.08	85.83
Fire 2	58,282.72	\$7,655.29	1.48	7,194.27	\$2,793.57	3.66	\$10,448.86	15.14
Fire 3	71,095.77	\$9,220.94	1.81	7,312.12	\$318.76	13.89	\$9,539.70	15.70
Number 4 Fire Hall – RESCUE Center	568,175.03	92,289.84	14.46	55,757.00	\$17,646.00	107.70	\$109,935.84	122.16
RESC B - 65 Old GR Rd Unit B	-	\$-	-	29,939.00	\$9,710.00	57.85	\$9,710.00	57.85
River Road - 2 Murphy St	-	\$-	-	11,629.00	\$4,071.03	22.47	\$4,071.03	22.47
Police Administration	1,127,587.90	\$181,395.54	28.69	40,450.30	\$16,488.74	78.16	\$197,884.28	106.85
City Police - 311 Queen	5,634.29	\$916.01	0.14	-	\$-	-	\$916.01	0.14
Police Airport Tower	-	\$-	-	-	\$-	-	\$-	-
Museum & Library								
SSM Public Library – Centennial	433,326.46	\$75,907.53	11.03	53,755.20	\$15,861.32	103.87	91,768.85	114.90
Sault Ste. Marie Museum	275,063.36	\$46,243.76	7	20,097.43	\$6,932.92	32.96	53,176.68	39.96

Department and Building	Electricity			Natural Gas			TOTALS	
	Use(kWh)	Cost(\$)	tCO ₂ e	Use(m ³)	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Ontario Works / Social Housing								
Ontario Works	69,803.46	\$9,208.73	1.78	-	\$-	-	9,208.73	1.78
Social Housing	124,654.05	\$16,185.26	3.17	-	\$-	-	16,185.26	3.17
Total	Use(kWh)	Cost(\$)	tCO₂e	Use(m³)	Cost(\$)	tCO₂e	Total Cost	Total tCO₂e
	14,618,685.32	\$2,366,659.00	372.01	1,802,479.90	\$549,204.13	3,436.64	\$2,915,863.13	3,808.65
Revised Totals without 4 sold and/or closed assets as of 2021								
Total	Use(kWh)	Cost(\$)	tCO₂e	Use(m³)	Cost(\$)	tCO₂e	Total Cost	Total tCO₂e
	14,389,791.53	\$2,336,592.77	366.18	1,794,941.52	546,646.84	3,422.32	\$2,883,239.61	3,788.50

2021 Building Energy Consumption, Costs and tCO₂e

Department and Building	Electricity			Natural Gas			Total	
	Use(kWh)	Cost(\$)	tCO ₂ e	m ³	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Arenas								
GFL Essar Centre	2,458,542.43	\$400,614.74	62.56	279,205.00 m ³	\$107,289.96	539.52 t	\$507,904.70	602.08 t
John Rhodes Community Centre	3,187,983.22	\$494,308.93	81.13	450,368.00 m ³	\$151,094.85	870.27 t	\$645,403.78	951.40 t
McMeeken	349,320.00	\$58,620.26	8.89	26,921.00 m ³	\$10,769.22	42.20 t	\$69,389.48	51.09 t
Northern Community Centre	670,342.12	\$105,802.64	17.06	36,425.00 m ³	\$21,550.53	52.02 t	\$127,353.17	69.08 t
Outdoor Pools								
Greco Pool	27,510.67	\$3,836.95	0.70	1,601.00 m ³	\$170.19	3.09 t	\$4,007.14	3.79 t
Manzo Pool	17,954.08	\$2,618.12	0.46	-	\$-	-	\$2,618.12	0.46
Marinas								
Bellevue Marina	86,006.69	\$11,039.07	2.19	-	\$-	-	\$11,039.07	2.19
Bondar Marina	76,142.21	\$10,044.29	1.94	-	\$-	-	\$10,044.29	1.94
Senior Facilities								
Senior Drop-In (Bay)	84,653.57	\$11,942.85	2.15	14,497.00 m ³	\$5,732.50	28.01 t	\$17,675.35	30.16 t
Other								
Ermatinger	56,169.50	\$7,312.61	1.43	6,236.00 m ³	\$3,323.00	12.05 t	\$10,635.61	13.48 t
Bondar - Pavilion Feed	23,018.40	\$3,093.27	0.59	6,496.00 m ³	\$2,774.88	12.55 t	\$5,868.15	13.14 t
Bondar - Stage Building Electric	7,989.73	\$1,283.29	0.20	0.00 m ³	\$-	0.00 t	\$1,283.29	0.20 t
Norgoma	11,364.86	\$1,673.27	0.29	0.00 m ³	\$-	0.00 t	\$1,673.27	0.29 t
402 Fifth Line E DEMO	30,835.98	\$4,172.60	0.78	0.00 m ³	\$-	0.00 t	\$4,172.60	0.78 t
Heritage Centre Bay	96,884.69	\$12,991.94	2.47	15,918.00 m ³	\$6,216.16	30.76	\$19,208.10	33.23 t
Plaza 1	13,955.25	\$2,015.86	0.36	19,423.90 m ³	\$7,363.93	37.53 t	\$9,379.79	37.89 t
Plaza 2	1,789.27	\$520.28	0.05	10,037.63 m ³	\$3,571.19	19.40 t	\$4,091.47	19.45 t
Cemetery								
Cemetery Garage	27,620.99	\$4,182.69	0.70	3,091.00 m ³	\$1,709.49	5.97 t	\$5,892.18	6.67 t
Cemetery Chapel	108,250.70	\$14,284.88	2.75	103,641.00 m ³	\$45,291.31	138.94 t	\$59,576.19	141.69 t

Department and Building	Electricity			Natural Gas			Total	
	Use(kWh)	Cost(\$)	tCO ₂ e	m ³	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Landfill								
Landfill Administration	51,260.84	\$6,863.10	1.30	28,659.00 m ³	\$11,839.17	55.38 t	\$18,702.27	56.68 t
Pipe Plant - 115 Industrial Par	-	\$-	-	4,059 m ³	\$1,679.25	7.84 t	\$1,679.25	7.84 t
Landfill methane gas blower	44,305.98	\$5,803.10	1.13	-	\$-	-	\$5,803.10	1.13
Landfill Garage	145,657.76	\$20,373.72	3.71	-	\$-	-	\$20,373.72	3.71
HSW	34,059.57	\$4,614.44	0.87	2,802.00 m ³	\$1,443.45	5.41 t	\$6,057.89	6.28 t
Outdoor Rinks								
Rink Central	7,266.72	\$1,134.82	0.18	-	\$-	-	\$1,134.82	0.18
Rink Mark	9,079.07	\$1,324.40	0.23	-	\$-	-	\$1,324.40	0.23
Rink Patrick St	10,190.40	\$1,443.80	0.26	-	\$-	-	\$1,443.80	0.26
Parks								
Bellevue GRHS	65,350.47	\$9,242.75	1.66	33,532.00 m ³	\$13,657.07	64.80 t	\$22,899.82	66.46 t
Bellevue Canteen	32,704.43	\$4,342.98	0.83	-	\$-	-	\$4,342.98	0.83
Pointe Des Chenes Park	10,061.77	\$1,495.84	0.26	-	\$-	-	\$1,495.84	0.26
James Elliott	10,545.56	\$1,818.99	0.27	-	\$-	-	\$1,818.99	0.27
North Stand CSB	2,494.45	\$567.18	0.06	-	\$-	-	\$567.18	0.06
Strathclair	1,931.16	\$500.78	0.05	-	\$-	-	\$500.78	0.05
Bay Street Fountain	25,298.07	\$3,207.09	0.64	-	\$-	-	\$3,207.09	0.64
Foster Sprinkler	9,377.61	\$1,320.87	0.24	-	\$-	-	\$1,320.87	0.24
Esposito Park	-	\$-	-	2,352.00 m ³	\$1,413.22	4.54 t	\$1,413.22	4.54 t
Splash Pad	5,032.60	\$860.84	0.13	-	\$-	-	\$860.84	0.13
Public work & Transit								
PWT Sackville Road	924,461.17	\$143,939.25	23.53	171,520.00 m ³	\$59,327.84	331.44 t	\$203,267.09	354.97 t
PWT A - 128 Sacville Rd Unit B Shop	-	\$-	-	8,467.00 m ³	\$3,539.99	16.36 t	\$3,539.99	16.36 t
Transit Terminal	68,220.23	\$8,973.67	1.74	6,043.00 m ³	\$2,611.79	11.68 t	\$11,585.46	13.42 t
Transit Administration	210,209.59	\$35,520.54	5.35	99,554.00 m ³	\$39,453.91	192.37 t	\$74,974.45	197.72 t

Department and Building	Electricity			Natural Gas			Total	
	Use(kWh)	Cost(\$)	tCO ₂ e	m ³	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Engineering and Planning								
Civic – Civic Centre	2,178,624.73	\$335,882.17	55.44	-	\$-	-	\$335,882.17	55.44
Fire & Police Services								
Fire 1	138,790.81	\$18,525.73	3.53	46,613.00 m ³	\$17,643.04	90.07 t	\$36,168.77	93.60 t
Fire 2	35,174.66	\$4,769.15	0.90	6,939.00 m ³	\$2,877.11	13.41 t	\$7,646.26	14.31 t
Fire 3	62,247.71	\$8,288.33	1.58	6,596.00 m ³	\$678.05	12.75 t	\$8,966.38	14.33 t
Number 4 Fire Hall – RESCUE Center	523,116.98	\$81,273.58	13.31	60,057.00 m ³	\$21,617.96	116.05 t	\$102,891.54	129.36 t
RESC B - 65 Old GR Rd Unit B	-	\$-	-	29,643.00 m ³	\$11,108.12	57.28 t	\$11,108.12	57.28 t
River Road - 2 Murphy St	-	\$-	-	12,411.00 m ³	\$4,910.12	23.98 t	\$4,910.12	23.98 t
Police Administration	1,040,553.68	\$164,336.08	26.48	24,482.00 m ³	\$4,910.12	23.98 t	\$169,246.20	50.46 t
City Police - 311 Queen	5,206.42	\$905.27	0.13	0.00 m ³	\$-	0.00 t	\$905.27	0.13 t
Police Airport Tower	-	\$-	-	0.00 m ³	\$-	0.00 t	\$-	0.00 t
Museum & Library								
SSM Public Library – Centennial	408,691.39	\$71,912.44	10.40	37,917.00 m ³	\$22,713.94	73.27 t	\$94,626.38	83.67 t
Sault Ste. Marie Museum	253,772.48	\$37,638.79	6.46	16,568.00 m ³	\$7,132.84	32.02 t	\$44,771.63	38.48 t
Total	Use(kWh)	Cost(\$)	tCO₂e	m³	Cost(\$)	tCO₂e	Cost	tCO₂e
	13,650,020.67	\$2,127,238.24	347.37	1,575,613.53	\$588,879.57	2,950.14	\$2,716,117.81	3,297.51

2022 Building Energy Consumption, Costs and tCO₂e

Year 2022								
Department and Building	Electricity			Natural Gas			Total	
	Use(kWh)	Cost(\$)	tCO ₂ e	m ³	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Arenas								
GFL Essar Centre	2,674,767.99	\$398,728.32	68.07	346,361.00	\$202,261.71	669.29	\$600,990.03	737.36
John Rhodes Community Centre	3,419,910.86	\$490,689.71	87.03	504,643.00	\$169,033.25	975.15	\$659,722.96	1,062.18
McMeeken	395,594.67	\$55,933.17	10.07	29,293.00	\$13,751.39	56.60	\$69,684.56	66.67
Northern Community Centre	822,575.07	\$78,912.04	20.93	98,565.00	\$74,772.57	190.46	\$153,684.61	211.39
Outdoor Pools								
Greco	23,856.38	\$3,458.01	0.61	1,321.00	\$945.90	2.55	\$4,403.91	3.16
Manzo	16,456.14	\$2,504.97	0.42	-	\$-	-	\$2,504.97	0.42
Marinas								
Bellevue Marina	91,472.49	\$12,224.34	2.33	-	\$-	-	\$12,224.34	2.33
Bondar Marina	89,582.91	\$12,335.34	2.28	-	\$-	-	\$12,335.34	2.28
Senior Facilities								
Senior Drop-In (Bay)	144,356.89	\$20,004.40	3.67	12,359.00	\$7,202.51	23.88	\$27,206.91	27.55
Other								
Ermatinger	55,500.98	\$7,490.83	1.41	13,136.00	\$3,661.62	25.38	\$11,152.45	26.79
Bondar - Pavilion Feed	28,310.55	\$3,977.47	0.72	5,662.00	\$2,867.22	10.94	\$6,844.69	11.66
Bondar - Stage Building Electric	5,205.27	\$968.05	0.13	-	\$ -	-	\$968.05	0.13

Department and Building	Electricity			Natural Gas			Total	
	Use(kWh)	Cost(\$)	tCO ₂ e	m ³	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Other								
Norgoma	7,512.03	\$1,238.96	0.19	-	\$ -	-	\$1,238.96	0.19
402 Fifth Line E DEMO	33,513.43	\$4,717.62	0.85	-	\$ -	-	\$4,717.62	0.85
Heritage Centre Bay	86,089.99	\$11,990.65	2.19	17,864.00	\$9,651.42	34.52	\$21,642.07	36.71
Plaza 1	13,278.62	\$2,067.43	0.34	18,021.00	\$10,210.39	34.82	\$12,277.82	35.16
Plaza 2	790.86	\$384.40	0.02	7,235.00	\$79.54	13.98	\$463.94	14.00
Cemetery								
Cem Garage	30,667.11	\$4,745.69	0.78	3,599.00	\$2,324.79	6.95	\$7,070.48	7.73
Cem Chapel	106,956.52	\$14,781.35	2.72	115,794.00	\$71,668.52	223.76	\$86,449.87	226.48
Landfill								
Landfill Administration	51,573.83	\$7,165.63	1.31	2,514.00	\$(1,573.98)	4.86	\$5,591.65	6.17
Pipe Plant - 115 Industrial Par	-	\$-	-	4,511.00	\$2,606.23	8.72	\$2,606.23	8.72
Landfill methane gas blower	42,096.14	\$5,803.20	1.07	-	\$-	-	\$5,803.20	1.07
Landfill Garage	142,163.38	\$20,816.05	3.62	-	\$ -	-	\$20,816.05	3.62
HSW	35,800.09	\$5,044.06	0.91	29,019.00	\$13,785.71	56.08	\$18,829.77	56.99
Outdoor Rinks								
Rink Central	10,590.96	\$1,642.97	0.27	-	\$-	-	\$1,642.97	0.27
Rink Mark	8,632.81	\$1,363.63	0.22	-	\$-	-	\$1,363.63	0.22
Rink Patrick St	12,906.07	\$1,908.50	0.33	-	\$-	-	\$1,908.50	0.33
Parks								
Bellevue GRHS	67,835.53	\$10,005.76	1.73	40,247.00	\$15,115.45	77.77	\$25,121.21	79.50

Department and Building	Electricity			Natural Gas			Total	
	Use(kWh)	Cost(\$)	tCO ₂ e	m ³	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Parks								
Bellevue Canteen	38,544.26	\$5,290.79	0.98	-	\$-	-	\$5,290.79	0.98
Pointe Des Chenes Park	10,061.75	\$1,601.22	0.26	-	\$-	-	\$1,601.22	0.26
James Elliott	14,846.48	\$2,469.72	0.38	-	\$-	-	\$2,469.72	0.38
North Stand CSB	7,735.27	\$1,228.01	0.20	-	\$-	-	\$1,228.01	0.20
Strathclair	3,423.21	\$737.05	0.09	-	\$-	-	\$737.05	0.09
Bay Street Fountain	23,733.06	\$3,163.13	0.60	-	\$-	-	\$3,163.13	0.60
Foster Sprinkler	8,548.79	\$1,277.64	0.22	-	\$-	-	\$1,277.64	0.22
Esposito Park	-	\$-	-	2,599.00	\$2,238.54	5.02	\$2,238.54	5.02
Splash Pad	3,682.90	\$778.08	0.09	-	\$-	-	\$778.08	0.09
Public work & Transit								
PWT Sackville Road	884,367.93	\$124,538.65	22.51	242,982.50	\$88,931.06	469.53	\$213,469.71	492.04
PWT A - 128 Sackville Rd Unit B Shop	-	\$-	-	8,071.50	\$4,019.61	15.60	\$4,019.61	15.60
Transit Terminal	70,953.71	\$9,655.48	1.81	5,432.00	\$1,725.37	10.50	\$11,380.85	12.31
Transit Administration	745,735.76	\$123,917.94	18.98	112,186.00	\$43,617.86	216.78	\$167,535.80	235.76
Engineering and Planning								
Civic – Civic Centre	2,559,945.63	\$350,703.12	65.15	-	-	-	\$350,703.12	65.15
Fire & Police Services								
Fire 1	146,954.68	\$20,385.32	3.74	47,192.50	\$23,053.61	91.19	\$43,438.93	94.93
Fire 2	34,189.22	\$4,897.56	0.87	8,933.00	\$4,589.12	17.26	\$9,486.68	18.13

Department and Building	Electricity			Natural Gas			Total	
	Use(kWh)	Cost(\$)	tCO ₂ e	m ³	Cost(\$)	tCO ₂ e	Cost	tCO ₂ e
Fire & Police Services								
Fire 3	61,788.63	\$8,495.54	1.57	13,640.00	\$1,111.82	26.36	\$9,607.36	27.93
Number 4 Fire Hall – RESCUE Center	509,095.93	\$73,237.25	12.96	81,860.00	\$42,971.58	158.18	\$116,208.83	171.14
RESC B - 65 Old GR Rd Unit B	-	\$-	-	26,582.50	\$14,169.00	51.37	\$14,169.00	51.37
River Road - 2 Murphy St	-	\$-	-	11,296.00	\$7,070.27	21.83	\$7,070.27	21.83
Police Administration	1,178,578.38	\$167,760.13	29.99	22,676.35	\$9,666.08	43.82	\$177,426.21	73.81
City Police - 311 Queen	5,768.66	\$1,030.08	0.15	-	\$-	-	\$1,030.08	0.15
Police 132 Industrial Cres	19,975.37	\$3,087.42	0.51	4,113	\$2,677.88	7.95	\$5,765.30	8.46
Museum & Library								
SSM Public Library – Centennial	402,883.83	\$69,334.86	10.25	52,582.00	\$21,096.07	101.61	\$90,430.93	111.86
Sault Ste. Marie Museum	275,379.41	\$36,913.85	7.01	13,615.00	\$5,698.03	26.31	\$42,611.88	33.32
Total	Use(kWh)	Cost(\$)	tCO₂e	m³	Cost(\$)	tCO₂e	Cost	tCO₂e
	15,404,215.06	\$2,188,317.97	392.03	1,899,792.35	\$868,322.23	3,671.07	\$3,056,640.20	4,063.10

Appendix B: City of Sault Ste. Marie Corporate Fleet and Equipment Emissions Update

2017 Vehicle Fleet and Equipment Fuel Usage, Costs and tCO₂e

Department / Division	Gasoline Consumption Litres (L)	Gasoline Cost (\$)	Total t CO ₂ e (t)	Diesel Consumption Litres (L)	Diesel Cost (\$)	Total t CO ₂ e (t)	Total t CO ₂ e (t)	Total Cost	Total t CO ₂ e (t)
Fire - Support	15,090.53	\$17,354.11	34.97	37,325.19	\$42,177.46	102.58	137.55	\$59,531.57	137.55
EMS - SSM	13,863.58	\$15,943.12	32.12	41,284.29	\$46,651.25	113.46	145.58	\$62,594.37	145.58
EMS - GR	730.60	\$840.19	1.69	7,210.37	\$8,147.72	19.81	21.50	\$8,987.91	21.50
PW - Bldgs & Equipment	200,032.15	\$230,036.97	463.49	801,904.83	\$906,152.46	2203.84	2667.33	\$1,136,189.43	2667.33
Transit - Fleet	35,296.81	\$40,591.33	83.59	838,745.62	\$947,782.55	2288.73	2372.32	\$988,373.88	2372.32
Transit - Parabus	69,002.18	\$79,352.51	159.88	14,914.09	\$16,852.92	40.99	200.87	\$96,205.43	200.87
Transit - Operations	7,145.52	\$8,217.35	16.56				16.56	\$8,217.35	16.56
CD&ES - Cemetery	12,229.30	\$14,063.70	28.34	13,619.07	\$15,389.55	37.43	65.77	\$29,453.25	65.77
CD&ES - Rec & Culture	157.31	\$180.91	0.36				0.36	\$180.91	0.36
CD&ES - McMeeken	1,777.67	\$2,044.32	4.12				4.12	\$2,044.32	4.12
CD&ES - JRCC	8,010.07	\$ 9,211.58	18.56				18.56	\$9,211.58	18.56
CD&ES - GFL	3,640.21	\$4,186.24	8.43				8.43	\$4,186.24	8.43
Police - Executive	1,288.50	\$1,481.78	2.99				2.99	\$1,481.78	2.99
Police - Support	9,674.51	\$11,125.69	22.42				22.42	\$11,125.69	22.42
Police - Patrol	129,128.10	148,497.31	299.20				299.20	\$148,497.31	299.20
Police - Investigation	22,631.81	\$26,026.58	52.44				52.44	\$26,026.58	52.44
Police - Community Services	3,993.43	\$4,592.44	9.25				9.25	\$4,592.44	9.25
Engineering - Technical	4,844.03	\$5,570.64	11.22	1,566.75	\$1,770.43	4.31	15.53	\$7,341.07	15.53
Engineering - Building Inspection	5,002.73	\$ 5,753.14	11.59				11.59	\$5,753.14	11.59

Department / Division	Gasoline Consumption Litres (L)	Gasoline Cost (\$)	Total t CO ₂ e (t)	Diesel Consumption Litres (L)	Diesel Cost (\$)	Total t CO ₂ e (t)	Total t CO ₂ e (t)	Total Cost	Total t CO ₂ e (t)
Engineering - By-Law Enforcement	791.37	\$910.07	1.83				1.83	\$910.07	1.83
2017 Staff Mileage	982.68	\$5,208.20	2.28				2.28	\$5,208.20	
Total	544,330.42	\$631,188.18	1,265	1,756,570.21	\$1,984,924.34		4,811.15	\$2,616,112.52	6,076
Total less EMS	\$530,718.91	\$614,404.87	\$1,231.52	\$1,708,075.55	\$1,930,125.37	\$4,677.88	\$803.47	\$763.30	\$5,907.12

2018 Vehicle Fleet and Equipment Fuel Usage, Costs and tCO₂e

Department / Division	2018 Gasoline Consumption (l)	2018 Gasoline Cost (\$)	2018 Gasoline tCO ₂ e	2018 Diesel Consumption (l)	2018 Diesel Cost (\$)	2018 Diesel tCO ₂ e	2018 Total Cost	2018 Total tCO ₂ e (t)
Fire - Support Services	18,066.10	\$22,943.95	41.86	37,069.77	\$48,932.09	101.86	71,876.04	143.72
EMS - SSM	18,010.56	\$22,873.41	41.73	36,488.32	\$48,164.58	100.26	71,037.99	141.99
EMS - GR	4,226.39	\$5,367.52	9.79	4,567.01	\$6,028.45	12.55	11,395.97	22.34
PWT - Building & Equipment	213,235.14	\$270,808.63	494.08	714,147.54	\$942,674.75	2,590.31	1,213,483.38	3084.39
Transit - Fleet	40,857.72	\$51,889.30	96.76	845,758.07	\$1,116,400.65	3,067.68	1,168,289.95	3164.44
Transit - Para Bus	94,087.41	\$119,491.01	218.01	3,431.95	\$4,530.18	12.45	124,021.19	230.46
Transit - Operations	8,989.95	\$11,417.24	20.83	-	\$0.00	-	\$11,417.24	20.83
Cemetery	12,737.49	\$16,176.61	29.51	11,514.40	\$15,199.01	31.64	\$31,375.62	61.15
Rec & Culture - Admin	30.49	\$38.72	0.07	-	\$0.00	-	\$16,176.61	0.07
CDES - McMeeken	1,277.72	\$1,622.71	2.96	-	\$0.00	-	\$1,622.71	2.96
CDES - John Rhodes Arena	8,409.76	\$10,680.39	19.49	-	\$0.00	-	\$10,680.39	19.49
CDES - GFL Memorial Gardens	3,792.35	\$4,816.29	8.79	-	\$0.00	-	\$4,816.29	8.79
CDES - NCC	-	\$0.00	-	-	\$0.00	-	\$0.00	-
Police - Executive	2,117.67	\$2,689.44	4.91	-	\$0.00	-	\$2,689.44	4.91
Police - Support Services	13,893.80	\$17,645.12	32.19	-	\$0.00	-	\$17,645.12	32.19
Police - Patrol	140,451.02	\$178,372.80	325.43	-	\$0.00	-	\$178,372.80	325.43
Police - Investigation	28,111.30	\$35,701.35	65.14	-	\$0.00	-	\$35,701.35	65.14
Police - Community Services	6,385.38	\$8,109.43	14.80	-	\$0.00	-	\$8,109.43	14.8
Police Admin	-	\$0.00	-	-	\$0.00	-	\$0.00	0

Department / Division	2018 Gasoline Consumption (l)	2018 Gasoline Cost (\$)	2018 Gasoline tCO2e	2018 Diesel Consumption (l)	2018 Diesel Cost (\$)	2018 Diesel tCO2e	2018 Total Cost	2018 Total tCO2e (t)
Engineering - Technical	7,727.52	\$9,813.95	17.91	1,245.11	\$1,643.54	3.42	\$11,457.49	21.33
Engineering - Bldg Inspection	4,211.54	\$5,348.65	9.76	-	\$0.00	-	\$5,348.65	9.76
Eng. & Planning - Bylaw Enforce	907.60	\$1,152.65	2.10	-	\$0.00	-	\$1,152.65	2.1
Parking	-	\$0.00	-	-	\$0.00	-	\$0.00	-
Mileage	3,075.30	\$3,905.63	7.13	-	\$0.00	-	\$3,905.63	7.13
TOTAL	630,602.20	\$800,864.80	1,463.25	1,654,222.16	\$2,183,573.25	5,920.17	\$2,984,438.05	7,383.42
Total less EMS	608,365.25	\$772,623.87	1,411.73	1,613,166.83	2,129,380.22	5,807.36	2,902,004.09	7,219.09

2019 Vehicle Fleet and Equipment Fuel Usage, Costs and tCO₂e

Department / Division	2019 Gasoline Consumption (l)	2019 Gasoline Cost (\$)	2019 Gasoline tCO ₂ e	2019 Diesel Consumption (l)	2019 Diesel Cost (\$)	2019 Diesel tCO ₂ e	2019 Total Cost	2019 Total tCO ₂ e (t)
Fire - Support Services	16,423.24	\$19,543.65	38.06	45,047.14	\$57,209.87	123.82	\$76,753.52	161.88
EMS - SSM	2,135.59	\$2,541.35	4.95	2,064.40	\$2,621.79	5.67	\$5,163.14	10.62
EMS - GR	606.30	\$721.50	1.41	199.52	\$253.39	0.55	\$974.89	1.96
PWT - Building & Equipment	214,596.45	\$255,369.77	497.30	808,876.45	\$1,027,273.09	2,223.41	\$1,282,642.86	2720.71
Transit - Fleet	49,986.94	\$59,484.46	118.40	856,300.73	\$1,087,501.93	2,337.06	\$1,146,986.39	2455.46
Transit - Para Bus	103,671.97	\$123,369.65	240.24	2,864.91	\$3,638.43	7.87	\$127,008.08	248.11
Transit - Operations	3,016.04	\$3,589.09	6.99	-	\$0.00	-	\$3,589.09	6.99
Cemetery	15,552.34	\$18,507.29	36.04	12,721.02	\$16,155.70	34.97	\$34,662.99	71.01
Rec & Culture - Admin	201.65	\$239.96	0.47	-	\$0.00	-	\$239.96	0.47
CDES - McMeeken	414.14	\$492.83	0.96	-	\$0.00	-	\$492.83	0.96
CDES - John Rhodes Arena	8,167.82	\$9,719.70	18.93	-	\$0.00	-	\$9,719.70	18.93
CDES - GFL Memorial Gardens	4,380.30	\$5,212.56	10.15	-	\$0.00	-	\$5,212.56	10.15
CDES - NCC	-	\$0.00	-	-	\$0.00	-	\$0.00	0
Police - Executive	3,629.53	\$4,319.14	8.41	-	\$0.00	-	\$4,319.14	8.41
Police - Support Services	17,695.66	\$21,057.83	41.01	-	\$0.00	-	\$21,057.83	41.01
Police - Patrol	135,725.18	\$161,512.97	314.52	-	\$0.00	-	\$161,512.97	314.52
Police - Investigation	23,212.61	\$27,623.00	53.79	-	\$0.00	-	\$27,623.00	53.79
Police - Community Services	3,869.24	\$4,604.40	8.97	-	\$0.00	-	\$4,604.40	8.97
Police Admin	-	\$0.00	-	-	\$0.00	-	\$0.00	0

Department / Division	2019 Gasoline Consumption (l)	2019 Gasoline Cost (\$)	2019 Gasoline tCO ₂ e	2019 Diesel Consumption (l)	2019 Diesel Cost (\$)	2019 Diesel tCO ₂ e	2019 Total Cost	2019 Total tCO ₂ e (t)
Engineering - Technical	8,158.03	\$9,708.05	18.91	420.35	\$533.84	1.16	\$10,241.89	20.07
Engineering - Bldg Inspection	5,541.03	\$6,593.82	12.84	-	\$0.00	-	\$6,593.82	12.84
Eng. & Planning - Bylaw Enforce	958.26	\$1,140.33	2.22	-	\$0.00	-	\$1,140.33	2.22
Parking	45.77	\$54.47	0.11	-	\$0.00	-	54.47	0.11
Mileage	3,364.49	\$4,003.74	7.80	-	\$0.00	-	\$4,003.74	7.8
TOTAL	621,352.57	\$739,409.56	1,442.48	1,728,494.52	\$2,195,188.04	4,734.51	\$2,934,597.60	6,176.99
Total less EMS	618,610.68	\$736,146.71	1,436.12	1,726,230.60	\$2,192,312.86	4,728.29	\$2,928,459.57	6,164.41

2020 Vehicle Fleet and Equipment Fuel Usage, Costs and tCO₂e

Department / Division	2020 Gasoline Consumption (l)	2020 Gasoline Cost (\$)	2020 Gasoline tCO ₂ e	2020 Diesel Consumption (l)	2020 Diesel Cost (\$)	2020 Diesel tCO ₂ e	2020 Total Cost	2020 Total tCO ₂ e (t)
Fire - Support Services	10,343.70	\$10,964.32	24.50	25,354.51	\$27,636.42	69.67	\$38,600.74	94.17
PWT - Building & Equipment	209,556.11	\$222,129.48	485.62	712,307.44	\$776,415.11	1,957.25	\$1,000,252.22	2,442.90
Transit - Fleet	35,848.30	\$37,999.20	83.07	719,302.31	\$784,039.52	1,976.47	\$822,038.72	2,059.54
Transit - Para Bus	83,686.65	\$88,707.85	193.93	861.46	\$938.99	2.37	\$89,646.84	196.30
Transit - Operations	1,204.53	\$1,276.80	2.79	-	\$0.00	-	\$1,276.80	2.79
Cemetery	14,437.12	\$15,303.35	33.46	8,914.93	9,717.27	24.50	\$25,020.62	57.96
Rec & Culture - Admin	33.98	\$36.02	0.08	-	\$0.00	-	\$36.02	0.08
CDES - McMeeken	107.46	\$113.91	0.25	-	\$0.00	-	\$113.91	0.25
CDES - John Rhodes Arena	7,441.82	\$7,888.33	17.25	-	\$0.00	-	\$7,888.33	17.25
CDES - GFL Memorial Gardens	4,465.70	\$4,733.64	10.35	-	\$0.00	-	\$4,733.64	10.35
CDES - NCC	-	\$0.00	-	-	\$0.00	-	\$0.00	-
Police - Executive	7,103.89	\$7,530.12	16.46	-	\$0.00	-	\$7,530.12	16.46
Police - Support Services	22,356.06	\$23,697.42	51.81	-	\$0.00	-	\$23,697.42	51.81
Police - Patrol	173,890.25	\$184,323.66	402.97	-	\$0.00	-	\$184,323.66	402.97
Police - Investigation	27,877.74	\$29,550.40	64.60	-	\$0.00	-	\$29,550.40	64.60
Police - Community Services	6,237.38	\$6,611.62	14.45	-	\$0.00	-	\$6,611.62	14.45
Police Admin	-	\$0.00	-	-	\$0.00	-	\$0.00	-
Engineering - Technical	7,224.81	\$7,658.30	16.74	108.61	\$118.39	0.30	\$7,776.69	17.04
Engineering - Bldg Inspection	4,320.04	\$4,579.24	10.23	-	\$0.00	-	\$4,579.24	10.23

Department / Division	2020 Gasoline Consumption (l)	2020 Gasoline Cost (\$)	2020 Gasoline tCO ₂ e	2020 Diesel Consumption (l)	2020 Diesel Cost (\$)	2020 Diesel tCO ₂ e	2020 Total Cost	2020 Total tCO ₂ e (t)
Eng. & Planning - Bylaw Enforce	1,132.62	\$1,200.58	2.68	-	\$0.00	-	\$1,200.58	2.68
Mileage	2,416.42	\$2,561.41	5.72	-	\$0.00	-	\$2,561.41	5.72
TOTAL	619,684.58	\$656,865.65	1,436.96	1,466,849.27	\$1,598,865.70	4,030.56	\$2,255,731.35	5,467.52

2021 Vehicle Fleet and Equipment Fuel Usage, Costs and tCO₂e

Department / Division	2021 Gasoline Consumption (l)	2021 Gasoline Cost (\$)	2021 Gasoline tCO ₂ e	2021 Diesel Consumption (l)	2021 Diesel Cost (\$)	2021 Diesel tCO ₂ e	2021 Auto Propane Consumption (l)	2021 Auto Propane Cost	2021 Auto Propane tCO ₂ e	2021 Total Cost	2021 Total tCO ₂ e (t)
Fire - Support Services	11,350.28	\$15,549.88	26.30	36,906.54	\$49,454.77	101.41	-	\$0.00	-	\$65,004.65	127.71
EMS - SSM	-	\$0.00	-	-	\$0.00	-	-	\$0.00	-	\$0.00	-
EMS - GR	-	\$0.00	-	-	\$0.00	-	-	\$0.00	-	\$0.00	-
PWT - Building & Equipment	222,953.33	\$305,446.06	516.66	667,441.54	\$894,371.66	1,833.97	17.16	\$1,707.63	0.03	\$1,201,525.35	2,350.66
Transit - Fleet	51,853.45	\$71,039.22	122.82	732,907.95	\$982,096.65	1,999.55	-	\$0.00	-	\$1,053,135.87	2,122.37
Transit - Para Bus	76,894.18	\$105,345.03	178.19	16,402.99	\$21,980.00	45.07	-	\$0.00	-	\$127,325.03	223.26
Transit - Operations	820.61	\$1,124.24	1.90	-	\$0.00	-	-	\$0.00	-	\$1,124.24	1.90
Cemetery	12,576.63	\$17,229.98	29.15	11,244.16	\$15,067.18	30.90	-	\$0.00	-	\$32,297.16	60.05
Rec & Culture - Admin	204.64	\$280.35	0.48	-	\$0.00	-	-	\$0.00	-	\$280.35	0.48
CDES - McMeeken	-	\$0.00	-	-	\$0.00	-	-	\$0.00	-	\$0.00	-
CDES - John Rhodes Arena	6,859.09	\$9,396.95	15.89	-	\$0.00	-	-	\$0.00	-	\$9,396.95	15.89
CDES - GFL Memorial Gardens	4,283.09	\$5,867.84	9.93	-	\$0.00	-	-	\$0.00	-	\$5,867.84	9.93
CDES - NCC	-	\$0.00	-	-	\$0.00	-	-	\$0.00	-	\$0.00	-
Police - Executive	11,380.24	\$15,590.93	26.37	-	\$0.00	-	-	\$0.00	-	\$15,590.93	26.37
Police - Support Services	22,495.64	\$30,819.03	52.13	-	\$0.00	-	-	\$0.00	-	\$30,819.03	52.13
Police - Patrol	137,356.75	\$188,178.75	318.31	-	\$0.00	-	-	\$0.00	-	\$188,178.75	318.31
Police - Investigation	25,737.54	\$35,260.43	59.64	-	\$0.00	-	-	\$0.00	-	\$35,260.43	59.64

Department / Division	2021 Gasoline Consumption (l)	2021 Gasoline Cost (\$)	2021 Gasoline tCO ₂ e	2021 Diesel Consumption (l)	2021 Diesel Cost (\$)	2021 Diesel tCO ₂ e	2021 Auto Propane Consumption (l)	2021 Auto Propane Cost	2021 Auto Propane tCO ₂ e	2021 Total Cost	2021 Total tCO ₂ e (t)
Police - Community Services	5,525.12	\$7,569.41	12.80	-	\$0.00	-	-	\$0.00	-	\$7,569.41	12.80
Police Admin	-	\$0.00	-	-	\$0.00	-	-	\$0.00	-	\$0.00	-
Engineering - Technical	7,425.44	\$10,172.85	17.21	-	\$0.00	-	-	\$0.00	-	\$10,172.85	17.21
Engineering - Bldg Inspection	4,474.70	\$6,130.34	10.37	-	\$0.00	-	-	\$0.00	-	\$6,130.34	10.37
Eng. & Planning - Bylaw Enforce	1,150.66	\$1,576.40	2.67	-	\$0.00	-	-	\$0.00	-	\$1,576.40	2.67
Mileage	1,761.28	\$2,360.11	4.08	-	\$0.00	-	-	\$0.00	-	\$2,360.11	4.08
TOTAL	605,102.66	\$828,937.80	1,404.90	1,464,903.18	\$1,962,970.26	4,010.90	17.16211055	1707.63	0.03	\$2,793,615.69	5,415.83

2022 Vehicle Fleet and Equipment Fuel Usage, Costs and tCO₂e

The author of this report estimated 2022 fleet and equipment fuel usage and costs by averaging costs and emissions over the last five years of data.

tCO ₂ e						
	2017	2018	2019	2020	2021	2022
Fleet and Equipment	5,909.40	7,219.09	6,164.41	5,467.52	5,412.78	6,034.64

Costs						
	2017	2018	2019	2020	2021	2022
Fleet and Equipment	\$ 2,544,530.24	\$2,902,004.09	\$ 2,928,459.57	\$2,255,731.35	\$ 2,793,615.69	\$ 2,684,868.19

Final numbers will be reconciled once 2022-year end is received from the City's finance department.

Appendix C: City of Sault Ste. Marie Corporate Outdoor Lighting Emissions Update

2017 Outdoor Lighting Consumption, Cost and tCO₂e

Outdoor Lighting Group Name	Total Electricity (kWh)	Total Costs	Total tCO ₂ e
Traffic Lights			
Main	325,628	\$51,675.76	5.63
Bruce Street	2,073	\$517.04	0.04
Carmen's Ways	2,742	\$608.66	0.05
Great Northern Road	3,011	650.38	0.05
Second Line W (312)	3,088	\$656.24	0.05
Lyons	2,066	\$500.68	0.04
Traffic- 818 Wellington St. East	3,836	\$755.50	0.07
Total	342,443	55,364	6
Street Lights			
Main	2,277,577	\$853,805.66	39.4
St. Mary's River Park	26,547	\$3,494.96	0.46
Foster Drive	3,115.79	\$617.25	0.05
Total	2,307,240	857,918	40
Parking Lots			
King Street	15,753.81	\$2,220.13	0.27
Spring Street	3280.94	\$684.31	0.06
Brock Street	13,605.42	\$2,119.88	0.24
Bruce Street KIOSK	1,513.05	\$450.85	0
Bruce Street Lot	122.54	\$242.49	0
Queen Street KIOSK	2,624.20	\$607.18	0.05
Bingham	4,235.01	\$799.41	0.07
Sackville	1,337.64	\$396.72	0.02
Civic Lot	17,704.98	\$2,411.86	0.31
West Korah Cemetery	9.37	\$229.08	0
Mausoleum	21,894.46	\$3,320.90	0.38
Pointe Des Chenes	5,594.43	\$864.64	0.1
Bay Street Lights	65.30	\$217.95	0
Total	87,741.15	14,565.40	1.50
Hub Trail Lights			
Hub Trail Texas Lights	1,149.36	\$828.14	0.02
Hub Trail Northwood Lights	533.54	\$294.85	0.01
Hub Trail Bay Lights	4,713.70	\$816.64	0.08
Hub Trail Church Lights	20,329.12	\$2,752.38	0.35
Hub Trail Queen Street E Lights	1,715.71	394.04	0.03
Total	28,441.43	5,086.05	0.49
Total (All Outdoor)	2,765,865.68	\$932,933.58	47.83

2018 Outdoor Lighting Consumption, Cost and tCO₂e

Outdoor Lighting Group Name	Total Electricity(kWh)	Total Costs	tCO ₂ e
Traffic Lights			
Traffic Lights Main	-	\$33,649.75	-
Traffic Lights Bruce Street	2,157.46	\$491.36	0.06
Traffic Lights Carmen's Way	3,191.91	\$612.36	0.09
Traffic Lights Great Northern Road	-	\$-	-
Traffic Lights 312 Second Line West	-	\$49.92	-
Traffic Lights Lyons	-	\$205.41	-
Traffic- 818 Wellington St. East	4,736.99	\$793.42	0.14
Traffic - 742 Great Northern Rd	-	\$-	-
Traffic - 543 Trunk Rd	-	\$- -	
Traffic - John St.	-	\$-	
Traffic - Black Rd	-	\$-	
Traffic - Pine St.	-	\$-	
T-Lts Pine St	-	\$- -	
Traffic - Queen St. E	-	\$- -	
Traffic Queen St. E	-	\$-	-
Traffic Second Line E	-	\$-	-
Traffic - St George's Ave	-	\$-	-
Traffic Second Line E	-	\$-	-
Traffic - Bay St.	-	\$-	-
Traffic light - 180 BAY ST	-	\$-	-
Traffic light - 384 BAY ST	-	\$-	-
Traffic light - 70 EAST ST	-	\$-	-
Traffic light - 542 BAY ST	-	\$-	-
Traffic Light - 439 GRT NORTHERN RD	-	\$-	-
Black Rd - Traffic	-	\$-	-
Total	10,086.36	\$35,802.22	0.29
Street Lights			
Street Lights Main	2,388,478.03	\$794,035.31	70.57
Street Lights St. Mary's Drive	27,675.61	\$3,157.99	0.82
Street Lights Foster Drive	9,600.48	\$1,396.35	0.28
639 Black Rd - Streetlights	-	\$-	-
42 Queen St E - streetlights	-	\$-	-
Slts - Mary	-	\$-	-
SLTS - 57 DES CHENES DR	5,327.68	\$809.35	0.16
Total	2,431,081.80	\$799,399.00	71.83
Parking Lots			
PkLts King	12,190.92	\$1,557.07	0.36
PkLts Spring	3,727.36	\$668.41	0.11
PkLts Brock	13,138.25	\$1,831.39	0.39
Bruce Street KIOSK	1,485.00	\$415.93	0.04
Bruce Street Lot	248.01	\$262.07	0.01
Queen Street KIOSK	2,425.19	\$523.65	0.07
PkLts Bingham	4,384.47	\$739.46	0.13

Outdoor Lighting Group Name	Total Electricity(kWh)	Total Costs	tCO₂e
<i>Traffic Lights</i>			
Sackville Parking Lot	1,425.69	\$389.58	0.04
Civic Centre East Parking Lot	17,964.31	\$2,127.11	0.53
West Korah Cemetery Parking Lot	13.92	\$237.87	-
Mausoleum	18,859.00	\$2,418.09	0.56
Pointe Des Chenes	-	\$650.88	-
Bay Street Lights	51.96	\$239.25	-
Total	75,914.08	\$12,060.76	2.24
<i>Hub Traill Lights</i>			
Hub Trail Texas	1,378.29	\$381.54	0.04
Hub Trail Northwood	525.13	\$290.32	0.02
Hub - 542 Bay St	-	\$680.97	-
Hub - 32 Bay St	20,714.67	\$2,415.55	0.61
Hub - 440 Bay St	332.73	\$267.28	0.01
Hub - 269 Bay St	-	\$-	-
Hub - 648 Bay St	-	\$-	-
Hub Trail Church	-	\$-	-
Hub Trail Queen St	-	\$-	-
Hub Trail	-	\$-	-
Total	22,950.82	\$4,035.66	0.68
<i>Sentinel Light</i>			
Sentinel Bocci	-	\$867.84	-
Sentinel Greenwood	-	\$216.96	-
972 Second Line 2 Sentinel	-	\$- -	
Total(All Outdoor)	2,540,033.06	\$852,382.44	75.04

2019 Outdoor Lighting Consumption, Cost and tCO₂e

Outdoor Lighting Group Name	Total Electricity(kWh)	Total Costs	tCO₂e
<i>Traffic Lights</i>			
Traffic Lights Main	178,659.11	\$22,668.39	5.44
Traffic Lights Bruce Street	2,108.83	\$506.14	0.06
Traffic Lights Carmen's Way	3,234.89	\$619.15	0.10
Traffic Lights Great Northern Road	1,540.77	\$438.39	0.05
Traffic Lights 312 Second Line West	3,899.50	\$719.94	0.12
Traffic Lights Lyons	3,036.87	\$618.03	0.09
Traffic- 818 Wellington St. East	4,678.30	\$809.97	0.14
Traffic - 742 Great Northern Rd	2,289.00	\$435.38	0.07
Traffic - 543 Trunk Rd	3,440.46	\$665.62	0.10
Traffic - John St.	3,123.17	\$605.71	0.10
Traffic - Black Rd	1,843.16	\$477.47	0.06
Traffic - Pine St.	3,278.54	\$645.22	0.10
T-Lts Pine St	4,474.95	\$179.80	0.14
Traffic - Queen St. E	3,031.47	\$613.48	0.09
Traffic Queen St. E	2,777.37	\$584.72	0.08
Traffic Second Line E	3,434.28	\$661.94	0.10
Traffic - St George's Ave	4,200.09	\$754.53	0.13
Traffic Second Line E	3,434.28	\$661.94	0.10
Traffic - Bay St.	1,283.36	\$448.93	0.04
Traffic light - 180 BAY ST	-	\$-	-
Traffic light - 384 BAY ST	-	\$-	-
Traffic light - 70 EAST ST	-	\$-	-
Traffic light - 542 BAY ST	-	\$-	-
Traffic Light - 439 GRT NORTHERN RD	-	\$-	-
Black Rd - Traffic	1,843.16	\$477.47	0.06
Total	235,611.56	\$33,592.22	7.17
<i>Street Lights</i>			
Street Lights Main	2,398,418.33	\$635,219.19	73.09
Street Lights St. Mary's Drive	26,950.75	\$3,106.40	0.82
Street Lights Foster Drive	21,338.83	\$2,814.60	0.65
639 Black Rd - Streetlights	3,473.96	\$605.09	0.11
42 Queen St E - streetlights	1,034.42	\$416.38	0.03
SLts - Mary	-	\$216.96	-
SLTS - 57 DES CHENES DR	-	\$596.64	-
Total	2,451,216.29	\$642,975.26	74.70
<i>Parking Lots</i>			
PkLts King	19,151.96	2,299.05	0.58
PkLts Spring	4,149.59	740.25	0.13
PkLts Brock	8,003.67	6,507.16	0.24

Outdoor Lighting Group Name	Total Electricity(kWh)	Total Costs	tCO ₂ e
Parking Lots			
Bruce Street KIOSK	2,021.81	503.91	0.06
Bruce Street Lot	553.92	314.27	0.02
Queen Street KIOSK	2,448.72	554.29	0.07
PkLts Bingham	4,304.55	757.39	0.13
Sackville Parking Lot	1,305.53	404.69	0.04
Civic Centre East Parking Lot	15,590.68	\$1,898.70	0.48
West Korah Cemetery Parking Lot	13.05	\$257.67	-
Mausoleum	25,711.56	\$3,222.79	0.78
Pointe Des Chenes	-	\$-	-
Bay Street Lights	50.56	\$262.08	-
Total	83,305.60	\$17,722.25	2.53
Hub Trail Lights			
Hub Trail Texas	1,319.84	\$398.13	0.04
Hub Trail Northwood	542.89	\$315.19	0.10
Hub - 542 Bay St	-	\$-	-
Hub - 32 Bay St	-	\$256.71	-
Hub - 440 Bay St	-	\$	-
Hub - 269 Bay St	-	\$-	-
Hub - 648 Bay St	-	\$-	-
Hub Trail Church	18,549.35	\$2,236.19	
Hub Trail Queen St	2,275.32	\$477.48	0.57
Hub Trail	4,455.58	\$726.52	0.14
Total	27,142.98	\$4,410.22	0.85
Sentinel Light			
Sentinel Bocci	-	\$867.84	-
Sentinel Greenwood	-	\$216.96	-
972 Second Line 2 Sentinel	-	\$-	-
Outdoor Lighting Group Name	Total Electricity(kWh)	Total Costs	tCO₂e
Total(All Outdoor)	2,797,276.43	\$699,784.75	85.25

2020 Outdoor Lighting Consumption, Cost and tCO₂e

Outdoor Lighting Group Name	Total Electricity(kWh)	Total Costs	tCO ₂ e
Traffic Lights			
Traffic Lights Main	165,425.78	\$23,052.32	5.04
Traffic Lights Bruce Street	2,008.28	\$461.14	0.06
Traffic Lights Carmen's Way	3,794.88	\$681.08	0.12
Traffic Lights Great Northern Road	-	\$208.96	-
Traffic Lights 312 Second Line West	3,814.83	\$684.81	0.12
Traffic Lights Lyons	2,932.27	\$574.62	0.09
Traffic- 818 Wellington St. East	4,168.65	\$732.39	0.13
Traffic - 742 Great Northern Rd	2,289.00	\$426.65	0.07
Traffic - 543 Trunk Rd	3,436.55	\$636.82	0.10
Traffic - John St.	3,316.24	\$622.02	0.10
Traffic - Black Rd	832.25	\$210.51	0.03
Traffic - Pine St.	3,103.30	\$597.11	0.09
T-Lts Pine St	4,014.23	\$711.25	0.12
Traffic - Queen St. E	2,878.96	\$569.51	0.09
Traffic Queen St. E	-	\$--	-
Traffic Second Line E	3,594.30	\$658.49	0.11
Traffic - St George's Ave	4,196.84	\$732.15	0.13
Traffic Second Line E	3,594.30	\$658.49	0.11
Traffic - Bay St.	31.56	\$48.98	-
Traffic light - 180 BAY ST	-	\$--	-
Traffic light - 384 BAY ST	-	\$--	-
Traffic light - 70 EAST ST	-	\$--	-
Traffic light - 542 BAY ST	-	\$--	-
Traffic Light - 439 GRT NORTHERN RD	-	\$--	-
Black Rd - Traffic	832.25	\$210.51	
Total	214,264.47	\$32,477.81	6.51
Street Lights			
Street Lights Main	2,447,483.31	\$631,182.96	74.58
Street Lights St. Mary's Drive	23,233.33	\$2,955.52	0.71
Street Lights Foster Drive	19,789.20	\$2,705.84	0.60
639 Black Rd - Streetlights	450.72	\$268.00	0.01
42 Queen St E - streetlights	866.76	\$376.16	0.03
SLts - Mary	-	\$216.96	-
SLTS - 57 DES CHENES DR	-	\$650.88	-
Total	2,491,823.32	\$638,356.32	75.93
Parking Lots			
PkLts King	18,722.23	\$2,469.25	0.57
PkLts Spring	3,927.89	\$701.72	0.12
PkLts Brock	8,284.27	\$1,243.94	0.25
Bruce Street KIOSK	1,934.95	\$455.76	0.06
Bruce Street Lot	562.63	\$276.76	0.02
Queen Street KIOSK	2,123.81	\$478.84	0.06

Outdoor Lighting Group Name	Total Electricity(kWh)	Total Costs	tCO₂e
<i>Parking Lots</i>			
PkLts Bingham	4,718.53	\$805.96	0.14
Sackville Parking Lot	1,468.30	\$392.46	0.04
Civic Centre East Parking Lot	12,263.67	\$1,695.03	0.37
West Korah Cemetery Parking Lot	9.79	\$192.53	-
Mausoleum	24,468.29	\$3,220.55	0.75
Pointe Des Chenes	50,874.77	\$7,151.55	1.55
Bay Street Lights	150.19	\$226.60	-
Total	129,509.32	\$19,310.95	3.93
<i>Hub Trail Lights</i>			
Outdoor Lighting Group Name	950.17	\$321.92	0.03
<i>Traffic Lights</i>	927.94	\$323.85	0.03
Outdoor Lighting Group Name	36.12	\$88.43	-
<i>Traffic Lights</i>	0.21	\$107.87	-
Outdoor Lighting Group Name	16.81	\$64.23	-
<i>Traffic Lights</i>	0.11	\$62.00	-
Outdoor Lighting Group Name	5.17	\$62.65	-
<i>Traffic Lights</i>	20,105.00	\$2,635.01	0.61
Outdoor Lighting Group Name	2,530.41	\$512.82	0.08
<i>Traffic Lights</i>	-	\$209.16	-
Total	24,571.94	\$4,387.94	0.75
<i>Sentinel Light</i>			
Sentinel Bocci	-	\$867.84	-
Sentinel Greenwood	-	\$216.96	-
972 Second Line 2 Sentinel	-	\$433.92	-
Outdoor Lighting Group Name	Total Electricity(kWh)	Total Costs	tCO₂e
Total(All Outdoor)	2,860,169.05	\$695,617.82	87.12

2021 Outdoor Lighting Consumption, Cost and tCO₂e

Outdoor Lighting Group Name	Total Electricity(kWh)	Total Costs	tCO ₂ e (2021)
Traffic Lights			
Traffic Lights Main	158,482.12	\$21,876.66	4.03
Traffic Lights Bruce Street	1,995.40	\$507.32	0.05
Traffic Lights Carmen's Way	3,635.67	\$710.64	0.09
Traffic Lights Great Northern Road	-	\$255.30	0.00
Traffic Lights 312 Second Line West	3,702.76	\$720.96	0.09
Traffic Lights Lyons	2,824.87	\$609.23	0.07
Traffic- 818 Wellington St. East	3,469.07	\$695.28	0.07
Traffic - 742 Great Northern Rd	2,289.00	\$465.85	0.06
Traffic - 543 Trunk Rd	3,362.98	\$678.27	0.09
Traffic - John St.	3,228.97	\$659.40	0.08
Traffic - Black Rd	2,134.64	\$525.47	0.05
Traffic - Pine St.	3,082.00	\$643.08	0.08
T-Lts Pine St	4,094.62	\$771.51	0.10
Traffic - Queen St. E	2,879.04	\$615.51	0.07
Traffic Queen St. E	2,648.48	\$586.31	0.07
Traffic Second Line E	3,528.25	\$701.88	0.09
Traffic - St George's Ave	4,150.14	\$774.82	0.11
Traffic Second Line E	3,540.48	\$703.18	0.09
Traffic - Bay St.	4,575.87	\$826.12	0.12
Traffic light - 180 BAY ST	4,168.61	\$776.80	0.11
Traffic light - 384 BAY ST	3,197.45	\$657.00	0.08
Traffic light - 70 EAST ST	4,300.88	\$833.58	0.08
Traffic light - 542 BAY ST	5,582.35	\$952.29	0.14
Traffic Light - 439 GRT NORTHERN RD	5,198.98	\$877.61	0.13
Black Rd - Traffic	4,852.73	\$867.60	0.12
Total	240,925.36	\$38,291.67	6.07
Street Lights			
Street Lights Main	2,442,368.04	614,160.06	62.15 t
Street Lights St. Mary's Drive	28,645.98	3,629.81	0.73 t
Street Lights Foster Drive	11,512.72	1,655.60	0.29 t
639 Black Rd - Streetlights	1,123.07	377.27	0.03 t
42 Queen St E - Streetlights	622.29	452.53	0.02 t
SLts - Mary	-	216.96	-
SLTS - 57 DES CHENES DR	-	650.88	-
Total	2,484,272.10 kWh	621,143.11	63.22
Outdoor Lighting Group Name	Total Electricity(kWh)	Total Costs	tCO ₂ e (2021)
Parking Lots			
PkLts King	17,995.84	\$2,314.17	0.46
PkLts Spring	3,110.49	\$630.90	0.08

Outdoor Lighting Group Name	Total Electricity(kWh)	Total Costs	tCO ₂ e (2021)
Parking Lots			
PkLts Brock	7,889.35	\$1,205.90	0.20
Bruce Street KIOSK	1,421.01	\$434.08	0.04
Bruce Street Lot	557.35	\$315.75	0.01
Queen Street KIOSK	2,007.28	\$499.74	0.05
PkLts Bingham	4,776.36	\$846.25	0.12
Sackville Parking Lot	1,266.05	\$401.32	0.03
Civic Centre East Parking Lot	14,251.18	\$1,882.93	0.36
West Korah Cemetery Parking Lot	12.36	\$254.26	-
Mausoleum	19,233.56	\$2,603.34	0.49
Pointe Des Chenes	111.25	\$1,173.68	-
Bay Street Lights	230.72	\$279.47	0.01
Total	72,862.80	\$12,841.79	1.85
Hub Trail Lights			
Hub Trail Texas	785.61	344.80	0.02
Hub Trail Northwood	1,284.46	401.90	0.03
Hub - 542 Bay St	703.78	333.49	0.02
Hub - 32 Bay St	1,198.19	388.67	0.03
Hub - 440 Bay St	1,294.57	399.20	0.03
Hub - 269 Bay St	1,090.70	376.50	0.03
Hub - 648 Bay St	813.86	345.04	0.02
Hub Trail Church	18,953.13	2,428.46	0.36
Hub Trail Queen St	2,582.10	547.80	0.05
Hub Trail	-	252.10	-
Total	28,706.40 kWh	5,817.96	0.59
Sentinel Light			
Sentinel Bocci	-	\$867.84	-
Sentinel Greenwood	-	\$216.96	-
972 Second Line 2 Sentinel	-		-
Outdoor Lighting Group Name	Total Electricity(kWh)	Total Costs	tCO₂e (2021)
Total(All Outdoor)	2,826,766.66	\$679,179.33	71.73

2022 Outdoor Lighting Consumption, Cost and tCO₂e

Outdoor Lighting Group Name	Total Electricity(kWh)	Total Costs	tCO ₂ e
Traffic Lights			
Traffic Lights Main	158,057.64	\$22,899.14	4.20
Traffic Lights Bruce Street	1,907.97	\$528.84	0.05
Traffic Lights Carmen's Way	3,767.11	\$768.17	0.10
Traffic Lights Great Northern Road	0.00	\$274.32	0.00
Traffic Lights 312 Second Line West	3,788.31	\$772.60	0.10
Traffic Lights Lyons	2,908.44	\$655.83	0.07
Traffic- 818 Wellington St. East	2,808.57	\$648.72	0.07
Traffic - 742 Great Northern Rd	2,289.00	\$492.45	0.06
Traffic - 543 Trunk Rd	3,538.23	\$739.15	0.09
Traffic - John St.	3,410.59	\$720.48	0.09
Traffic - Black Rd	2,142.96	\$557.96	0.05
Traffic - Pine St.	3,303.78	\$708.04	0.08
T-Lts Pine St	4,302.60	\$837.71	0.11
Traffic - Queen St. E	3,683.81	\$756.53	0.09
Traffic Queen St. E	3,483.79	\$731.80	0.09
Traffic Second Line E	3,806.17	\$776.79	0.10
Traffic - St George's Ave	4,570.66	\$872.74	0.12
Traffic Second Line E	3,436.71	\$726.44	0.09
Traffic - Bay St.	4,915.73	\$914.66	0.13
Traffic light - 180 BAY ST	5,820.93	\$1,028.77	0.15
Traffic light - 384 BAY ST	3,583.52	\$743.28	0.09
Traffic light - 70 EAST ST	5,141.35	\$948.17	0.13
Traffic light - 542 BAY ST	6,719.06	\$1,150.04	0.17
Traffic Light - 439 GRT NORTHERN RD	7,135.95	\$1,176.62	0.18
Black Rd - Traffic	7,915.06	\$1,308.49	0.20
Total	252,437.94	\$41,737.74	6.61
Street Lights			
Street Lights Main	2,402,240.74	\$551,672.28	61.13
Street Lights St. Mary's Drive	28,635.90	\$3,738.45	0.73
Street Lights Foster Drive	3,802.67	\$737.00	0.10
639 Black Rd - Streetlights	3,540.56	\$692.21	0.09
42 Queen St E - streetlights	1,381.19	\$559.46	0.04
SLts - Mary	0.00	\$216.96	0.00
SLTS - 57 DES CHENES DR	0.00	\$650.88	0.00
Total	2,439,601.06	\$558,267.24	62.09

Outdoor Lighting Group Name	Total Electricity(kWh)	Total Costs	tCO₂e
<i>Parking Lots</i>			
PkLts King	17,577.88 kWh	2,372.64	0.45
PkLts Spring	3,816.84 kWh	762.32	0.10
PkLts Brock	6,873.18 kWh	1,120.83	0.17
Bruce Street KIOSK	2,056.61 kWh	545.86	0.01
Bruce Street Lot	561.29 kWh	341.21	0.01
Queen Street KIOSK	2,446.95 kWh	595.04	0.06
PkLts Bingham	591.25 kWh	218.95	0.02
Sackville Parking Lot	1,213.20 kWh	417.22	0.03
Civic Centre East Parking Lot	13,309.40 kWh	1,863.55	0.34
West Korah Cemetery Parking Lot	8.95 kWh	276.39	0.00
Mausoleum	22,788.02 kWh	3,225.61	0.58
Pointe Des Chenes	10,061.75 kWh	1,601.22	0.26
Bay Street Lights	801.70 kWh	376.77	0.02
Total	82,107.02 kWh	13,717.61	2.05
<i>Hub Trail Lights</i>			
Hub Trail Texas	1,392.63 kWh	439.10	0.04
Hub Trail Northwood	1,356.37 kWh	436.20	0.03
Hub - 542 Bay St	709.35 kWh	360.17	0.02
Hub - 32 Bay St	1,207.63 kWh	418.23	0.03
Hub - 440 Bay St	0.00 kWh	275.09	0.00
Hub - 269 Bay St	1,106.64 kWh	406.33	0.03
Hub - 648 Bay St	825.96 kWh	373.05	0.02
Hub Trail Church	20,583.65 kWh	2,736.88	0.52
Hub Trail Queen St	1,790.02 kWh	486.17	0.05
Hub Trail	0.00 kWh	275.00	0.00
Total	28,972.25 kWh	6,206.22	0.74
<i>Sentinel Light</i>			
Sentinel Bocci	0.00 kWh	867.84	0.00
Sentinel Greenwood	0.00 kWh	216.96	0.00
972 Second Line 2 Sentinel	0.00 kWh	433.92	
Outdoor Lighting Group Name	Total Electricity(kWh)	Total Costs	tCO₂e
Total(All Outdoor)	2,803,118.27 kWh	621,013.61	71.49

Appendix D: City of Sault Ste. Marie Corporate Water / Wastewater Emissions Update

2017 Wastewater Consumption, Cost and tCO₂e

Facility Group	Electricity Total (kWh)	Total Cost (\$)	Total tCO ₂ e	Natural Gas (m3)	Total Costs (\$)	Total tCO ₂ e	Total Costs (\$)	Total tCO ₂ e
<i>Pump Stations (At Grade)</i>								
Gore Street	6,882.94	\$1,214.18	0.12				\$1,214.18	0.12
Bonney Street	22,224.55	\$3,366.17	0.38				\$3,366.17	0.38
Muriel	19,974.95	\$2,990.16	0.35				\$2,990.16	0.35
Huron	5,103.36	\$943.15	0.09				\$943.15	0.09
Lower Lake	2,310.76	\$492.84	0.04				\$492.84	0.04
Pine Street	13,786.24	\$2,203.14	0.24				\$2,203.14	0.24
McGregor	2,889.11	\$646.38	0.05				\$646.38	0.05
Foster Drive	27,102.77	\$3,565.99	0.47				\$3,565.99	0.47
Landfill	153,345.00	\$25,678.57	2.65				\$25,678.57	2.65
Varsity	6,652.02	\$1,171.90	0.12				\$1,171.90	0.12
Fort Creek	8,866.58	\$1,511.27	0.15				\$1,511.27	0.15
Tallack	3,291.39	\$748.48	0.06				\$748.48	0.06
Mary	5,492.77	\$1,012.82	0.1				\$1,012.82	0.1
Industrial Court B	7,429.52	\$1,422.10	0.13				\$1,422.10	0.13
Upper Lake	18,897.63	\$2,891.56	0.33				\$2,891.56	0.33
Glasgow	7,101.84	\$1,233.94	0.12				\$1,233.94	0.12
Millwood	11,132.05	\$1,787.35	0.19				\$1,787.35	0.19
Frontenac	2,304.63	\$547.99	0.04				\$547.99	0.04
Atlas	864.00	\$283.19	0.01				\$283.19	0.01
Dell	864	\$306.20	0.01				\$306.20	0.01
Total	325,652.11	\$54,017.38	5.65				\$54,017.38	5.65
<i>Pumping Stations (Above Ground)</i>								
West End Plant Main	703,500.00	\$117,548.24	12.17				\$117,548.24	12.17
Clark Street A	864.00	\$1,210.54	0.01				\$1,210.54	0.01
Clark Street Main	753,600.00	\$144,390.53	13.04				\$144,390.53	13.04
Pim/Bay Street Pump Station	486,720.00	\$103,752.54	8.42				\$103,752.54	8.42
River Road	191,700.00	\$35,924.28	3.32				\$35,924.28	3.32
Bellevue SSO	112,860.00	\$21,761.31	1.95				\$21,761.31	1.95

Facility Group	Electricity Total (kWh)	Total Cost (\$)	Total tCO2e	Natural Gas (m3)	Total Costs (\$)	Total tCO2e	Total Costs (\$)	Total tCO2e
Lyons Sensor	348.00	\$211.55	0.01				\$211.55	0.01
Young Street	380,400.00	\$70,375.99	6.58				\$70,375.99	6.58
John Street	181,440.00	\$37,147.53	3.14				\$37,147.53	3.14
Total	2,811,432	\$532,323	48.64				\$532,323	48.64
Treatment Plants								
West End Plant	1,503,600	\$252,735.84	26.01	116,137.21	\$25,254	221	\$277,990.12	246.6
East End Plant	5,145,380	\$831,675.24	89	363,278	\$118,981	690	\$950,655.80	778.99
Pointe Des Chenes Water Treatment Facility	23,563.68	\$3,422.85	0.41				\$3,422.85	0.41
Total	6,672,544	\$1,087,834	115.42	479,416	\$144,235	911	1,232,069	1,026
Final Total	9,809,628	\$1,674,174		479,416	\$144,235		\$1,818,409	1080

2018 Wastewater Consumption, Cost and tCO₂e

Facility Group	2018 Electricity Total (kWh)	2018 Total kWh Cost (\$)	2018 kWh tCO ₂ e	2018 Natural Gas (m ³)	2018 Natural Gas Cost (\$)	2018 Natural Gas tCO ₂ e	Total Costs (\$)	Total tCO ₂ e
Pump Stations								
Gore Pump Station	6,746.35	\$1,031.80	0.20	-	\$-	-	1,031.80	0.20
Bonney Pump Station	22,260.35	\$2,868.23	0.66	-	\$-	-	2,868.23	0.66
Muriel PMP	16,188.92	\$2,153.36	0.48	-	\$-	-	2,153.36	0.48
Huron PMP	5,221.16	\$854.36	0.15	-	\$-	-	854.36	0.15
Lower Lake Pump Station	-	\$-	-	-	\$-	-	\$-	-
Pine PMP	432,894.65	\$79,587.31	12.79	-	\$-	-	79,587.31	12.79
McGregor Pump Station	-	\$-	-	-	\$-	-	-	-
Foster Drive Pump Station	23,765.00	\$2,725.01	0.70	-	\$-	-	2,725.01	0.70
Landfill Pump Station	142,430.51	\$19,722.14	4.21	-	\$-	-	19,722.14	4.21
Varsity Pump Station	5,888.05	\$934.98	0.17	-	\$-	-	934.98	0.17
Fort Creek PMP	6,517.63	\$1,013.37	0.19	-	\$-	-	1,013.37	0.19
Tallack PMP	3,019.02	\$1,264.52	0.09	-	\$-	-	1,264.52	0.09
Mary PMP	5,555.88	\$895.37	0.16	-	\$-	-	895.37	0.16
Ind Crt B PMP	7,966.22	\$1,264.52	0.48	-	\$-	-	1,264.52	0.48
Upper Lake Pump Station	19,726.22	\$2,591.98	0.58	-	\$-	-	2,591.98	0.58
Glasgow PMP	6,099.56	\$952.58	0.18	-	\$-	-	952.58	0.18
Millwood Pump Station	10,362.86	\$1,461.77	0.31	-	\$-	-	1,461.77	0.31
Frontenac Pump Station	1,925.38	\$465.64	0.06	-	\$-	-	465.64	0.06
Atlas Pump Station	-	\$271.14	-	-	\$-	-	271.14	-
Dell Pump Station	-	\$291.99	-	-	\$-	-	291.99	-
WEWWTP Main Pump Station	757,892.35	\$122,406.61	22.39	-	\$-	-	\$122,406.61	22.39
Clark A	-	\$1,481.13	-	-	\$-	-	\$1,481.13	-
Clark SPS	658,411.82	\$114,746.76	19.45	-	\$-	-	\$114,746.76	19.45
816 Bay Street/Pim Street SPS	-	\$-	-	-	\$-	-	\$-	-
River Road Pump Station	177,626.51	\$26,169.93	5.25	-	\$-	-	\$26,169.93	5.25
Bellevue SSO	137,981.48	\$21,033.36	4.08	-	\$-	-	\$21,033.36	4.08
Lyons Pump Sensor	-	\$-	-	-	\$-	-	\$	-
Young Pump Station	352,844.59	\$63,548.10	10.43	-	\$-	-	63,548.10	10.43
John St Pump Station	140,811.55	\$23,464.08	4.16	-	\$-	-	23,464.08	4.16
Total	2,942,136.06	493,200.04	87.17	-	\$-	-	\$493,200.04	87.17
Treatment Plants								
West End Waste Water Treatment Plant	1,487,138.91	\$233,622.09	43.94	148,509.59	\$42,444.17	282.07	\$276,066.26	326.01

Facility Group	2018 Electricity Total (kWh)	2018 Total kWh Cost (\$)	2018 kWh tCO ₂ e	2018 Natural Gas (m ³)	2018 Natural Gas Cost (\$)	2018 Natural Gas tCO ₂ e	Total Costs (\$)	Total tCO ₂ e
East End Wastewater Treatment Plant	5,399,281.55	\$818,911.40	159.54	461,581.57	\$126,749.81	876.71	945,661.21	1,036.25
Pointe Des Chenes Water Treatment Facility	25,369.90	3,259.52	0.75	-	-	-	3,259.52	0.75
Total	6,911,790.36	1,055,793.01	204.23	610,091.16	169,193.98	1,158.78	1,224,986.99	1,363.01
Final Total	9,853,926.42	1,548,993.05	291.40	610,091.16	169,193.98	1,158.78	1,718,187.03	1,450.18

2019 Wastewater Consumption, Cost and tCO₂e

Facility Group	Electricity			Natural Gas			Total	
	Total Electricity(kWh)	Total Costs(\$)	Total tCO ₂ e	Natural Gas(m3)	Total Costs(\$)	Total tCO ₂ e	Total Costs(\$)	tCO ₂ e (2019)
Pump Stations								
Gore Pump Station	8,758.07	\$1,300.21	0.27	-	\$-	-	\$1,300.21	0.27
Bonney Pump Station	29,726.95	\$3,784.68	0.91	-	\$-	-	\$3,784.68	0.91
Muriel PMP	19,951.63	\$2,621.93	0.61	-	\$-	-	\$2,621.93	0.61
Huron PMP	5,393.09	\$897.46	0.61	-	\$-	-	\$-	
Lower Lake Pump Station	2,577.91	\$543.53	0.08	-	\$-	-	\$543.53	0.08
Pine PMP	19,694.05	\$2,668.37	0.60	-	\$-	-	\$2,668.37	0.60
McGregor Pump Station	3,062.07	\$600.33	0.09	-	\$-	-	\$600.33	0.09
Foster Drive Pump Station	22,515.90	\$2,611.37	0.69	-	\$-	-	\$2,611.37	0.69
Landfill Pump Station	162,309.82	\$21,669.02	4.95	-	\$-	-	\$21,669.02	4.95
Varsity Pump Station	7,385.22	\$1,133.11	0.23	-	\$-	-	\$1,133.11	0.23
Fort Creek PMP	8,388.61	\$1,260.64	0.26	-	\$-	-	\$1,260.64	0.26
Tallack PMP	3,389.03	\$658.05	0.10	-	\$-	-	\$658.05	0.10
Mary PMP	5,854.92	\$957.05	0.18	-	\$-	-	\$957.05	0.18
Ind Crt B PMP	9,611.70	\$1,394.02	0.29	-	\$-	-	\$1,394.02	0.29
Upper Lake Pump Station	20,919.27	\$2,760.39	0.64	-	\$-	-	\$2,760.39	0.64
Glasgow PMP	5,310.70	\$886.67	0.16	-	\$-	-	\$886.67	0.16
Millwood Pump Station	10,018.62	\$1,439.97	0.31	-	\$-	-	\$1,439.97	0.31
Frontenac Pump Station	2,107.66	\$510.95	0.06	-	\$-	-	\$510.95	0.06
Atlas Pump Station	905.52	\$265.94	0.03	-	\$-	-	\$265.94	0.03
Dell Pump Station	905.52	\$266.64	0.03	-	\$-	-	\$266.64	0.03
WEWWTP Main Pump Station	707,781.93	\$116,437.39	21.57	-	\$-	-	\$116,437.39	21.57
Clark A	905.52	\$265.94	0.03	-	\$-	-	\$265.94	0.03
Clark SPS	866,820.62	\$157,910.42	26.41	-	\$-	-	\$157,910.42	26.41
816 Bay Street/Pim Street SPS	665,585.42	\$129,566.40	20.28	-	\$-	-	\$129,566.40	20.28
River Road Pump Station	222,050.47	\$32,425.23	6.77	-	\$-	-	\$32,425.23	6.77
Bellevue SSO	128,476.08	\$18,901.19	3.92	-	\$-	-	\$18,901.19	3.92
Lyons Pump Sensor	364.68	\$200.21	0.01	-	\$-	-	\$200.21	0.01
Young Pump Station	385,868.50	\$71,906.08	11.76	-	\$-	-	\$71,906.08	11.76
John St Pump Station	171,678.76	\$29,610.85	5.23	-	\$-	-	\$29,610.85	5.23
Canal Dr Sewage Pump Station	-	\$-	-	-	\$-	-	\$-	-
Total	3,498,318.24	\$605,454.04	107.08	-	\$-	-	\$604,556.58	106.47
Treatment Plants								
West End Waste Water Treatment Plant	1,508,635.14	\$247,800.03	45.97	461,581.57	126,749.81	876.71	\$374,549.84	922.68
East End Wastewater Treatment Plant	5,379,932.53	\$866,274.72	163.94	159,533.90	53,500.11	303.01	\$919,774.83	466.95

Facility Group	Electricity			Natural Gas			Total	
	Total Electricity(kWh)	Total Costs(\$)	Total tCO ₂ e	Natural Gas(m ³)	Total Costs(\$)	Total tCO ₂ e	Total Costs(\$)	tCO ₂ e
Pointe Des Chenes Water Treatment Facility	2,398,418.33	\$635,219.19	73.09	-	\$-	-	635,219.19	73.09
Total	9,286,986.00	\$1,749,293.94	283.00	621,115.46	180,249.92	1,179.72	1,929,543.86	1,462.72
	Total Electricity(kWh)	Total Costs(\$)	Total tCO₂e	Natural Gas(m3)	Total Costs(\$)	Total tCO₂e	Total Costs(\$)	tCO₂e
Final Total	12,785,304.24	\$2,354,747.98	390.08	621,115.46	180,249.92	1,179.72	\$2,534,100.44	1,569.19

2020 Wastewater Consumption, Cost and tCO₂e

Facility Group	Electricity			Natural Gas			Total	
	Total Electricity(kWh)	Total Costs(\$)	Total tCO ₂ e	Natural Gas(m ³)	Total Costs(\$)	Total tCO ₂ e	Total Costs(\$)	tCO ₂ e (2020)
Pump Stations								
Gore Pump Station	7,523.16	\$1,139.23	0.19	-	\$-	-	\$1,139.23	0.19
Bonney Pump Station	31,322.14	\$4,118.64	0.80	-	\$-	-	\$4,118.64	0.80
Muriel PMP	19,361.65	\$2,623.06	0.49	-	\$-	-	\$2,623.06	0.49
Huron PMP	4,088.27	\$638.31	0.10	-	\$-	-	\$-	
Lower Lake Pump Station	2,893.83	\$566.59	0.07	-	\$-	-	\$566.59	0.07
Pine PMP	11,887.70	\$1,694.61	0.30	-	\$-	-	\$1,694.61	0.30
McGregor Pump Station	3,202.09	\$604.75	0.08	-	\$-	-	\$604.75	0.08
Foster Drive Pump Station	26,466.75	\$3,422.85	0.67	-	\$-	-	\$3,422.85	0.67
Landfill Pump Station	170,640.10	\$24,568.22	4.34	-	\$-	-	\$24,568.22	4.34
Varsity Pump Station	7,677.50	\$1,158.91	0.20	-	\$-	-	\$1,158.91	0.20
Fort Creek PMP	8,275.14	\$1,233.79	0.21	-	\$-	-	\$1,233.79	0.21
Tallack PMP	3,400.65	\$632.17	0.09	-	\$-	-	\$632.17	0.09
Mary PMP	6,436.45	\$1,012.33	0.16	-	\$-	-	\$1,012.33	0.16
Ind Crt B PMP	8,099.34	\$1,216.58	0.21	-	\$-	-	\$1,216.58	0.21
Upper Lake Pump Station	20,625.23	\$2,793.58	0.52	-	\$-	-	\$2,793.58	0.52
Glasgow PMP	6,348.87	\$1,003.56	0.16	-	\$-	-	\$1,003.56	0.16
Millwood Pump Station	8,994.42	\$1,328.46	0.23	-	\$-	-	\$1,328.46	0.23
Frontenac Pump Station	1,728.37	\$423.06	0.00	-	\$-	-	\$423.06	0.00
Atlas Pump Station	905.52	\$244.33	0.02	-	\$-	-	\$244.33	0.02
Dell Pump Station	905.52	\$244.02	0.02	-	\$-	-	\$244.02	0.02
WEWWTP Main Pump Station	901,156.38	\$149,085.19	22.93	-	\$-	-	\$149,085.19	22.93
Clark A	905.52	\$244.33	0.02	-	\$-	-	\$244.33	0.02
Clark SPS	909,583.12	\$161,412.37	23.15	-	\$-	-	\$161,412.37	23.15
816 Bay Street/Pim Street SPS	547,359.73	\$100,202.88	13.93	-	\$-	-	\$100,202.88	13.93
River Road Pump Station	261,857.30	\$39,349.46	6.66	-	\$-	-	\$39,349.46	6.66
Bellevue SSO	126,966.82	\$19,690.49	3.23	-	\$-	-	\$19,690.49	3.23
Lyons Pump Sensor	364.68	\$173.14	0.01	-	\$-	-	\$173.14	0.01
Young Pump Station	419,826.94	\$76,179.31	10.68	-	\$-	-	\$76,179.31	10.68
John St Pump Station	221,107.17	\$37,309.65	5.63	-	\$-	-	\$37,309.65	5.63
Canal Dr Sewage Pump Station	1,111	\$323.13	0.04	-	\$-	-	\$323.13	0.04
Total	3,741,400.47	\$634,637.00	95.14	-	\$-	-	\$633,998.69	95.04
Treatment Plants								
West End Waste Water Treatment Plant	1,498,258.95	247,334.61	38.13	149,990.61	\$46,306.58	246.81	\$293,641.19	284.94
East End Wastewater Treatment Plant	5,054,229.30	819,526.93	128.62	406,591.13	\$121,120.74	772.26	\$940,647.67	900.88
Pointe Des Chenes Water Treatment Facility	20,678.54	2,801.29	0.53	-	\$-	-	2,801.29	0.53
Total	6,573,166.79	1,069,662.83	167.28	556,581.74	167,427.32	1,019.07	1,237,090.15	1,186.35
	Total Electricity(kWh)	Total Costs(\$)	Total tCO₂e	Natural Gas(m³)	Total Costs(\$)	Total tCO₂e	Total Costs(\$)	tCO₂e
Final Total	10,314,567.26	\$1,704,299.83	262.42	556,581.74	\$167,427.32	1,019.07	\$1,871,088.84	1,281.39

2021 Wastewater Consumption, Cost and tCO₂e

Facility Group	Electricity			Natural Gas			Total	
	Total Electricity(kWh)	Total Costs(\$)	Total tCO ₂ e	Natural Gas(m ³)	Total Costs(\$)	Total tCO ₂ e	Total Costs(\$)	tCO ₂ e
Gore Pump Station	5,848.78	\$989.55	0.15	-	\$-	-	\$989.55	0.15
Bonney Pump Station	26,550.99	\$3,609.23	0.68	-	\$-	-	\$3,609.23	0.68
Muriel PMP	14,243.64	\$2,068.32	0.36	-	\$-	-	\$2,068.32	0.36
Lower Lake Pump Station	2,082.79	\$519.03	0.05	-	\$-	-	\$519.03	0.05
Pine PMP	11,156.70	\$1,679.17	0.28	-	\$-	-	\$1,679.17	0.28
McGregor Pump Station	2,563.47	\$581.23	0.07	-	\$-	-	\$581.23	0.07
Foster Drive Pump Station	23,417.05	\$2,925.98	0.60	-	\$-	-	\$2,925.98	0.60
Landfill Pump Station	115,250.12	\$19,426.08	2.93	-	\$-	-	\$19,426.08	2.93
Varsity Pump Station	6,168.49	\$1,043.57	0.13	-	\$-	-	\$1,043.57	0.13
Fort Creek PMP	7,257.68	\$1,200.97	0.18	-	\$-	-	\$1,200.97	0.18
Tallack PMP	2,982.50	\$636.80	0.08	-	\$-	-	\$636.80	0.08
Mary PMP	4,669.94	\$854.32	0.12	-	\$-	-	\$854.32	0.12
Ind Crt B PMP	9,271.26	\$1,418.89	0.24	-	\$-	-	\$1,418.89	0.24
Upper Lake Pump Station	17,274.85	\$2,484.86	0.44	-	\$-	-	\$2,484.86	0.44
Glasgow PMP	3,690.83	\$720.54	0.09	-	\$-	-	\$720.54	0.09
Millwood Pump Station	7,274.04	\$1,179.61	0.19	-	\$-	-	\$1,179.61	0.19
Frontenac Pump Station	1,490.90	\$438.13	0.04	-	\$-	-	\$438.13	0.04
Atlas Pump Station	905.52	\$276.70	0.02	-	\$-	-	\$276.70	0.02
Dell Pump Station	905.52	\$275.88	0.02	-	\$-	-	\$275.88	0.02 t
WEWWTP Main Pump Station	606,036.08	\$91,606.35	15.42	-	\$-	-	\$91,606.35	15.42
Clark A	905.52	\$276.70	0.02	-	\$-	-	\$276.70	0.02
Clark SPS	727,112.79	\$130,988.58	18.50	-	\$-	-	\$130,988.58	18.50
816 Bay Street/Pim Street SPS	375,942.08	\$73,221.68	9.57	-	\$-	-	\$73,221.68	9.57
River Road Pump Station	161,464.41	\$26,520.29	4.11	-	\$-	-	\$26,520.29	4.11
Bellevue SSO	93,784.93	\$12,855.09	2.39	-	\$-	-	\$12,855.09	2.39
Lyons Pump Sensor	364.68	\$202.34	0.01	-	\$-	-	\$202.34	0.01
Young Pump Station	354,753.20	\$62,668.73	9.03	-	\$-	-	\$62,668.73	9.03
John St Pump Station	307,781.57	\$52,947.48	7.83	-	\$-	-	\$52,947.48	7.83
Canal Dr Sewage Pump Station	2,997.52	\$626.94	0.08	-	\$-	-	\$626.94	0.08
Total	2,894,147.85	\$494,243.04	73.63	-	\$-	-	\$494,243.04	73.63
West End Waste Water Treatment Plant	1,418,047.79	\$208,286.79	36.09	153,318.00 m ³	\$55,068.59	296.26 t	\$263,355.38	332.35 t
East End Wastewater Treatment Plant	4,797,583.00	\$728,877.57	122.09	363,596.00 m ³	\$83,006.33	702.60 t	\$811,883.90	824.69 t
Pointe Des Chenes Water Treatment Facility	13,924.17	\$2,003.01	0.35				\$2,003.01	0.35 t
Total	6,229,554.96	\$939,167.37	158.53	516,914.00	\$138,074.92	998.86	\$1,077,242.29	1,157.39
	Total Electricity(kWh)	Total Costs(\$)	Total tCO₂e	Natural Gas(m³)	Total Costs(\$)	Total tCO₂e	Total Costs(\$)	tCO₂e
Final Total	9,123,702.81	\$1,433,410.41	232.16	516,914.00	\$138,074.92	998.86	\$1,571,485.33	1,231.02

2022 Wastewater Consumption, Cost and tCO₂e

Facility Group	2022 Electricity			Natural Gas			Total
	Total Electricity(kWh)	Total Costs(\$)	Total tCO ₂ e	Natural Gas(m3)	Total Costs(\$)	Total tCO ₂ e	Total Costs(\$)
Pump Stations							
Gore Pump Station	5,328.88	983.58	0.14				983.58
Bonney Pump Station	24,534.92	3,512.49	0.62				3,512.49
Muriel PMP	13,284.27	2,043.73	0.34				2,043.73
Lower Lake Pump Station	2,432.07	597.06	0.06				597.06
Pine PMP	11,272.59	1,772.64	0.29				1,772.64
McGregor Pump Station	2,857.59	652.81	0.07				652.81
Foster Drive Pump Station	25,290.29	3,268.05	0.64				3,268.05
Landfill Pump Station	133,967.09	22,362.22	3.41				22,362.22
Varsity Pump Station	8,721.65	1,438.60	0.22				1,438.60
Fort Creek PMP	7,495.73	1,284.30	0.19				1,284.30
Tallack PMP	3,207.51	702.95	0.08				702.95
Mary PMP	4,505.19	874.12	0.11				874.12
Ind Crt B PMP	9,632.51	1,532.36	0.25				1,532.36
Upper Lake Pump Station	15,707.34	2,396.28	0.40				2,396.28
Glasgow PMP	5,655.92	1,034.83	0.14				1,034.83
Millwood Pump Station	7,748.31	1,300.50	0.20				1,300.50
Frontenac Pump Station	4,502.06	864.44	0.11				864.44
Atlas Pump Station	905.52	294.85	0.02				294.85
Dell Pump Station	905.52	294.19	0.02				294.19
WEWWTP Main Pump Station	431,674.94	78,901.86	10.99				78,901.86
Clark A	905.52	294.85	0.02				294.85
Clark SPS	745,735.76	123,917.94	18.98				123,917.94
816 Bay Street/PimStreet SPS	401,755.17	78,351.94	10.22				78,351.94
River Road Pump Station	188,209.01	29,998.90	4.79				29,998.90
Bellevue SSO	115,829.40	15,495.68	2.95				15,495.68
Lyons Pump Sensor	364.68	217.22	0.01				217.22
Young Pump Station	375,942.79	60,221.47	9.57				60,221.47
John St Pump Station	363,830.30	61,284.02	9.26				61,284.02
Canal Dr Sewage Pump Station	2,625.33	622.92	0.07				622.92
Total	2,914,827.86	496,516.80	74.17		496,516.80	74.17 t	496,516.80
Treatment Plants							
West End Waste Water Treatment Plant	1,733,090.20	239,807.51	4.41	141,306.50	61,175.99	273.05	300,983.50
East End Wastewater Treatment Plant	4,792,946.74	662,701.02	121.97	372,733.00	134,643.03	720.25	797,344.05
Pointe Des Chenes Water Treatment Facility	18,414.96	2,725.95	0.47			0.47	2,725.95
Total	6,544,451.90	905,234.48	126.85	514,039.50	195,819.02	993.77	1,101,053.50
	Total Electricity(kWh)	Total Costs(\$)	Total tCO₂e	Natural Gas(m3)	Total Costs(\$)	Total tCO₂e	Total Costs(\$)
Final Total	9,459,279.76	1,401,751.28	201.02	514,039.50	692,335.82	,268.96 t	1,597,570.30

Appendix E: Corporate Energy Retrofits Summary 2019 to 2022

The following table lists tracked corporate energy efficiency retrofits as of December 16, 2022.

Line No.	Year	Project	Status	Fuel Type	Energy Reduction (kWh or m3)	Annual Savings	Incentive / Grant	Funder	Emissions Reduction (tCO2e)
1	2020	James L. McIntyre Public Library DCV c/w CO2 sensor	Complete	Natural Gas (m3)	4,788.00	Unknown	\$ 500.00	Enbridge	Unknown
2	2020	Seniors Drop-In LED Retrofit Incentive	Complete	Electricity (kWh)	21,068.29	\$2,738.88	\$ 1,972.00	IESO	0.54
3	2020	Transit Garage LED Retrofit	Complete	Electricity (kWh)	125,809.71	\$16,355.26	\$ 14,691.00	IESO	3.2
4	2020	Fire Hall 4 - 4 Boilers Replaced	Complete	Natural Gas (m3)	13,454.00	\$2,014.06	\$ 8,000.00		26
5	2021	Enbridge Municipal Energy Plan Incentive Offer	Complete	N/A	N/A	N/A	N/A	Enbridge	N/A
6	2021	GFL Arena and Seating LED Retrofit	Complete	Electricity (kWh)	136,713.75	\$ 17,772.79	\$ 11,200.00	IESO	3.48
7	2022	Northern Community Centre	Complete	Electricity (kWh)	38,809.49	\$ 5,045.23	\$ 4,320.00	IESO	1.18
8	2022	John Rhodes LED Lighting	Complete	Electricity (kWh)	150,692.00	\$ 22,362.00	\$ 13,200.00	IESO	3.82
9	2022	Small Business Lighting (SBL) Projects (known to date)*	Work in Progress	Electricity (kWh)	91,218.47	\$ 10,949.44	\$ 31,506.55	IESO	2.40
10	2022	Ice Plant Recommissioning (GFL)	Work in Progress	Electricity (kWh)	81,290.00	\$10,371.13	\$ 46,100.00	FCM	2.48
11	2022	PW Garage	Work in Progress	Electricity (kWh)	106,243.26	\$ 13,811.62	\$ 10,650.00	IESO	2.7
12	2022	SSM Fire Services - RESC 65 Old Garden Road	Complete	Electricity (kWh)	2,006.66	\$ 260.87	\$ 700.00	IESO	0.06
13	2022	Seniors Drop in HVAC	Work in Progress	Natural Gas (m3)	27,490.00	\$ 5,709.67	\$ 500.00	Enbridge	53.12
14	2022	North Street Sportsplex	Lead - Pending Funding	Electricity (kWh)				IESO	
15	2022	Pointe Des Chenes	Lead - Pending City Approval	Electricity (kWh)				IESO	
16	2022	Greenhouse Grow Lights	Lead - Pending City Approval	Electricity (kWh)				IESO	TBD
TOTAL						\$107,390.95	\$143,339.55		98.98**
Total estimated combined annual savings and incentives.						\$250,730.50			

*Final energy savings, incentive, still pending for Small Business Lighting projects + 8 other projects that we are waiting on final numbers from

** ~1% reduction in corporate emissions (based on 2017 baseline)

Corporate Small Business Lighting Project Tracker

The following tables summarize all Small Business Lighting retrofit projects underway at the City. All of these projects summarized in line item 9 in Appendix E.

Legend
Complete
In progress
Not started

Line No.	Assessment Date	Building Name	Address	Assessment Confirmed (Y/N)	STATUS	Incentive (include HST)	Reduction (kWh)	Annual Savings\$	Paid by City
1	Sep 28/21	Landfill Amin Office & Scale House	402 Fifth Line E	Y	COMPLETE	\$1,813.50	2,597.20	\$311.66	\$-
2	Sep 28/21	Landfill Garage	402 Fifth Line E Garage	Y	COMPLETE	\$2,431.76	5,130.98	\$615.72	\$928.30
3	Mar 28/22	Household Special Waste Depot	402 Fifth Line E Garage	Y	COMPLETE	\$1,120.40	1,029.82	\$123.58	\$-
4	Sep 28/21	Cemetery Garage	1504 People's Rd	Y	COMPLETE	\$1,941.00	2,855.00	\$342.60	\$-
5	Sep 28/21	Cemetery Office	27 4th Line East	Y	COMPLETE	\$1,898.50	3,236.16	\$388.34	\$-
6	Sep 28/21	James Elliot Park Building	108 Rossmore Road	Y	COMPLETE	\$1,259.00	2,708.16	\$324.98	\$-
7	Sep 28/21	Strathclair Sports Complex Soccer and Slow-pitch Building	639 Black Rd.	Y	COMPLETE	\$2,708.04	9,498.60	\$1,139.83	\$1,982.02

8	Sep 28/21	Merrifield Skating Rink Building	331 Patrick Street	Y	COMPLETE	\$1,648.67	4,090.64	\$490.88	\$-
9	Sep 28/21	Esposito Skating Rink Building	36 Queen Street West	Y	COMPLETE	\$335.61	2,836.11	\$340.33	\$-
10	Sep 28/21	Bellevue Park Greenhouse	41 Lake Street	Y	COMPLETE	\$2,051.50	6,006.67	\$720.80	\$449.50
11	Sep 28/21	Bellevue Park Concessions & Washrooms	41 Lake Street	Y	COMPLETE	\$1,496.12	4,736.84	\$568.42	\$-
12	Sep 28/21	Anna McCrea Skating Rink Building	250 Mark Street	Y	Waiting to hear from Guzzo	\$787.04	513.86	\$61.66	\$-
13	Sep 28/21	Pointe Des Chenes park building	327 Des Chenes Dr.	Y	COMPLETE	\$1,608.56	2,901.36	\$348.16	\$-
14	Sep 28/21	Pointe Des Chenes WTP	57 Des Chenes Dr	Y	COMPLETE	\$2,208.02	9,050.50	\$1,086.06	- \$
15	Aug 18/21	Old Stone House	831 Queen E	Y	COMPLETE	\$1,069.66	6,469.70	\$776.36	- \$
16	April 1/22	Greco Pool	269 Albert St	Y	Waiting on equipment (Nov.9/22)	\$3,315.42	4,042.37	\$485.08	\$4,800.24
17	Nov 8/22	Northern Community Centre (main lobby)	556 Goulais Avenue	Y	Waiting on work order			\$	
18	Nov 8/22	Northern Community Centre (West End Seniors Centre)	556 Goulais Avenue	Y	Waiting on work order			\$-	
19	Nov 8/22	John Rhodes Community Centre (lobby)	260 Elizabeth Street	Y	Waiting on work order				
20	Nov 8/22	John Rhodes Community Centre - Pro Shop	260 Elizabeth Street	Y	Waiting on work order				

21	Nov 8/22	John Rhodes Community Centre - Restaurant	260 Elizabeth Street	Y	Waiting on work order				
22	Nov 8/22	John Rhodes Community Centre - Restaurant Kitchen	260 Elizabeth Street	Y	Waiting on work order				
23	Nov 8/22	John Rhodes Community Centre - Superior Sports Training	260 Elizabeth Street	Y	Waiting on work order				
24	Nov 8/22	John Rhodes Community Centre - Gym Club	260 Elizabeth Street	Y	Waiting on work order				
TOTAL						\$27,692.80	67,703.97	\$8,124.46	\$8,160.06

Line No.	Assessment Date	Building Name	Address	Assessment Confirmed (Y/N)	Notes	STATUS	Incentive (include HST)	Reduction (kWh)	Annual Savings\$	Paid by City
1	18-Aug-21	Museum	690 Queen Street East	Y	Y (March, 22)	COMPLETE	\$3,813.75	23,514.50	\$2,824.98	\$7,895.31
TOTAL							\$3,813.75	23,514.50	\$2,824.98	\$7,895.31

Project Summary					
Incentive (include HST)	Reduction (kWh)	Annual \$	Paid by City	tCO ₂ e reduction	
\$31,506.55	91,218.47	\$10,949.44	\$16,055.37	2.4*	

*Based on the PCP Tool 2021 emission factor for kWh

Appendix F: Council Report Guidance on Climate Change

A. Climate Change Mitigation

1. Will the subject of the report result in the production of operational greenhouse gases (GHGs)?

Operational greenhouse gas emissions will occur from the use of fossil fuels, including natural gas, gasoline, diesel, propane, fuel oil, and to a lesser extent grid-supplied electricity.

- ☐ Yes
- ☐ No

2. Does the subject of the report lead to direct reduction or increase in the amount of energy and emissions used by the City or in the Community?

- ☐ Decrease (provide a description of how the project is expected to reduce emissions, and provide an estimate of the GHG emission reduction potential if possible)
- ☐ Increase (provide an overview of the measures that will be taken to reduce the overall impact on GHG emissions and energy. Where possible, provide an estimate of the increase in GHG emissions expected (tonnes of carbon dioxide equivalent (tCO₂e))

Examples of decreasing emissions

- Switch over of vehicles to hybrids, electric or hydrogen;
- Greater efficiency in vehicle use;
- New buildings, additions or retrofits that will reduce energy use;
- New motors, pumps, chillers, heaters or lights that use less electricity;

Examples of increasing emissions

- Fuel switching to fossil fuels (e.g. electricity to natural gas)
- Construction of new buildings

Measures to reduce impacts on energy and GHG emissions

- Enhanced building design standards (e.g. LEED)
- Renewable energy inclusion
- High efficiency equipment (e.g. Energy Star)
- Using low carbon building materials (e.g. substituting wooden studs for steel in home framing, or using cedar shingles on roof as oppose to asphalt)
- Increase green space (e.g. tree planting)

3. Does the subject of the report involve indirect reduction of fossil fuel or electricity use?

- ☐ Yes
- ☐ No

Examples

- Revised operations or procedures that result in reduced energy use;
- New infrastructure that has the potential to reduce community energy and emissions use, such as additions to the active transportation network;

- Policies and operations that encourage less solid waste;
- Policies and operations that encourage less water use;
- Policies and operations that encourage greater use of transit or active transportation.

4. Does the subject of the report involve the direct or indirect generation of renewable energy, such as adding rooftop solar panels to a new or existing building?

- ☐ Yes
☐ No

5. Does the subject of the report involve planting trees or shrubs? Trees and shrubs store carbon over their lifetime, which helps to offset GHG emissions.

- ☐ Yes
☐ No

B. Climate Change Adaptation

1. Can the subject of the report be affected by temperature?

- ☐ Yes
☐ No

Note: Natural surfaces, like water bodies and vegetation, absorb solar energy. In contrast, built surfaces (buildings, roads, sidewalks, parking lots) are largely made up of materials that absorb solar radiation, which is released as heat. This leads to the creation of urban heat islands, with higher air temperatures than surrounding areas.

2. Can the subject of this report be affected by precipitation?

- ☐ Yes
☐ No

Note: Natural surfaces, like water bodies and vegetation, absorb precipitation. In contrast, built surfaces (buildings, roads, sidewalks, parking lots) are largely made up of waterproof materials that do not absorb rain and snowfall. Excessive precipitation can lead to urban flooding, sometimes resulting in damage to property and natural environments.

3. Does the subject of this report lead to a reduction in temperature-related exposure?

- ☐ Yes
☐ No

Examples: Outdoor shade (e.g. tree canopy, built structures), Indoor climate control (e.g. air conditioning, geothermal), Heat island abatement (e.g. white roof, green roof), Human health and vulnerable populations (e.g. programs), Agriculture and economy (e.g. experimental crops), Infrastructure/green infrastructure.

4. Does the project lead to a reduction in precipitation-related exposure?

- ☐ Yes
☐ No

Examples: Natural features and processes (e.g. wetlands, naturalized structures), Urban storm/flood management, Rural storm/flood management, Infrastructure/green infrastructure, Human health and vulnerable populations, Agriculture and economy.

C. Municipal Leadership / Strategic Plan Alignment

1. Does the subject of the report align with other of the Sault Ste. Marie Community GHG Reduction Plan: 2020 - 2030 objectives or topics?

☐ Yes

☐ No

2. Does the subject of the report align with the goals and objectives of the Environmental Sustainability Committee (a committee of Council)?

☐ Yes

☐ No

3. Does the subject of the report align with the value of Environmental Stewardship within the Corporate Strategic plan of using resources wisely to maintain and create a sustainable city for future generations?

☐ Yes

☐ No