



Energy Conservation and Demand Management Plan

2024 Update

Selwyn Township



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1.0 Introduction

Ontario Regulation 25/23 (formerly O. Reg. 507/18) mandates that all Broader Public Sector organizations, including municipalities, produce an Energy Conservation and Demand Management (CDM) Plan that is updated every 5 years. This plan was first developed in 2014 and updated in 2019. This report serves as the second 5-year update of the Township's CDM Plan and it is due on July 1st, 2024. The next update of this plan will occur in 2029.

This update will provide an overview of the progress made on energy conservation efforts in Township facilities, as well as outline actions to be taken over the next 5 years to further reduce energy use. This report will also provide an update on the Township's renewable energy projects.

2.0 Our Commitment

Declaration of Commitment and Council Resolution

The Township of Selwyn will continue to allocate the necessary resources to develop, implement and update a CDM Plan that will guide us in helping to reduce our energy consumption and the related environmental impact.

Policy Statement

The Township of Selwyn will continue to incorporate energy efficiency into all areas of municipal operations including our organizational procedures, procurement practices, financial management, investment decisions, and facility operations and maintenance.

Stakeholders

The Township of Selwyn has internal and external stakeholders to which it is accountable for in regards to energy conservation and management. The Township of Selwyn's internal stakeholders include Council, Management Team, and Staff. The Township's internal stakeholders need:

- A clear and concise CDM Plan that will help guide decision making and communicate our commitment to energy conservation
- Information and feedback that allow progress to be measured
- On-going training and support that continues to develop the in-house expertise required to implement the CDM Plan

The Township of Selwyn's external stakeholders include citizens, businesses, community groups, and provincial and federal governments and their respective agencies. The Townships external stakeholders need the municipality to:



- Be accountable for energy conservation and management
- Minimize the energy use and associated costs of municipal services
- Reduce greenhouse gas (GHG) emissions associated with the Township's energy use

3.0 Energy Management & Supply

The management of all forms of energy, including electricity, natural gas, and propane is based on tracking energy consumption and cost data, monitoring energy use at the facility/equipment level, and researching energy efficiency opportunities.

3.1 Energy Management

The Sustainability Coordinator currently monitors the Township's energy use. If abnormal energy consumption is detected, the Sustainability Coordinator alerts the Facilities Maintenance Coordinator and/or the appropriate Department Manager to investigate possible causes, such as weather, occupancy changes, or equipment or building maintenance. Department Managers and building occupants are responsible for ensuring that thermostats are programmed with unoccupied time setbacks and making sure no unnecessary electrical loads are left on during non-operational hours.

In 2022 the Township installed an energy monitoring system that automatically tracks energy consumption and the associated costs for all utility accounts. Prior to 2022 Township staff manually tracked this data in a spreadsheet. The energy monitoring system helps staff analyze trends in consumption data, identify and investigate anomalies in energy use, and generate reports.

On an annual basis the energy data for all facilities is compiled in an Annual Energy Consumption Summary, where trends are further analyzed, GHG emissions are calculated, and weather variables that could influence energy consumption are examined. The Township's energy consumption data is reported annually to the Province as mandated by O. Reg. 25/23.

3.2 Energy Supply

Current practice is to purchase energy through the following suppliers:

- Electricity is supplied by Hydro One for all Township facilities. Electricity is purchased on an as needed basis and is priced at the standard rates offered by the utility.
- Natural Gas is supplied by Enbridge. Natural Gas is purchased on an as needed basis and is priced at the standard rates offered by Enbridge.



- Propane is supplied by Superior Propane. The Township has a Fixed Price Contract with Superior Propane, which allows the Township to receive propane at a set price, protecting the Township from price volatility and leading to cost savings.

4.0 Completed Energy Conservation Initiatives

Since 2019, the Township has completed several energy conservation initiatives to help reduce energy use in Township facilities. The following outlines the main initiatives that have been completed over the last 5 years.

- Installed an energy monitoring system to improve energy tracking for Township facilities, which includes identifying and investigating anomalies in energy use
- Installed 7 new electric vehicle charging stations and purchased the Township's second plug-in hybrid vehicle
- Replaced three low-lift pumps with variable frequency drive (VFD) pumps at the Lakefield Water Treatment Plant
- Installed an on-demand water heater at the Lakefield Water Treatment Plant
- Installed VFD blowers at the Lakefield Lagoon
- Modified operations at the Lakefield Water Treatment Plant to allow for more downtime at the plant and increased production during off-peak time, resulting in on average a 13% reduction in annual energy use
- Upgraded standby power with newer, more energy efficient units at the Lakefield Water Treatment Plant, Water Street Sewage Pumping Station, and the Woodland Acres Booster Station
- Installed energy efficient water heaters at the Lakefield Fire Hall and Bridgenorth OPP Office
- Installed tankless hot water heaters at the Ennismore Arena and Ennismore Curling Club, which on average use 30% less energy than a tanked system
- Completed a renovation at 12 Queen Street (former Chamber/Police Office), which included the installation of high efficiency rooftop HVAC units and energy efficient lighting and appliances
- Installed new rooftop air conditioning units at the Lakefield Arena

5.0 Energy Consumption and Greenhouse Gas Emissions

The Township has 43 corporate facilities, including streetlights and water and sewer infrastructure. Of these facilities, 34 are required to be reported under O. Reg. 25/23.



For the purposes of understanding the Township’s energy use and trends over time, all Township facilities are included in the data below.

5.1 Energy Use

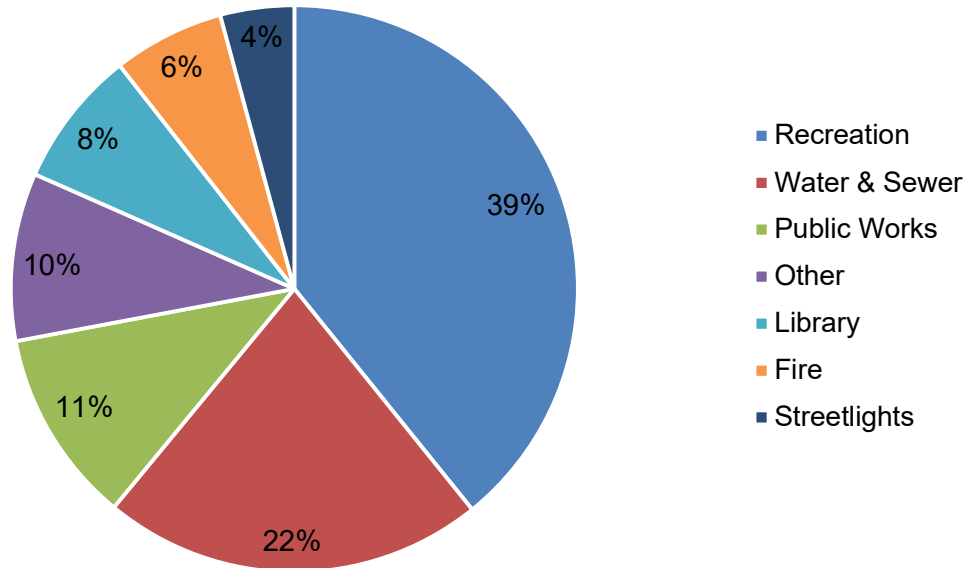
The following section provides an overview of the Township’s annual energy consumption and GHG emissions data for 2023. This data is summarized by facility type. 2023 energy data at the building level is provided in the Appendix (Table 1).

Table 1. 2023 energy consumption data for Selwyn Township facilities. *Energy intensity is expressed per fixture for streetlights and per m³ of flow for water and sewer.

Facility Type	Electricity (kWh)	Natural Gas (m ³)	Propane (L)	Total Energy (ekWh)	Energy Intensity (ekWh/m ²)	GHGs (tCO ₂ e)
Fire	47,067	14,718	6,989	254,512	137	40.59
Library	90,119	21,191	0	313,047	247	43.52
Recreation	1,108,420	43,856	0	1,569,785	215	116.31
Public Works	98,837	9,040	33,061	442,812	213	71.45
Other	174,098	12,838	9,872	383,471	135	42.32
Streetlights	168,680	0	0	168,680	274*	4.81
Water & Sewer	871,610	0	0	871,610	0.46*	24.81
Grand Total	2,558,829	101,643	49,922	4,003,917	265	344



(A) Energy Consumption (ekWh) by Facility Type



(B) GHGs (tCO₂e) by Facility Type

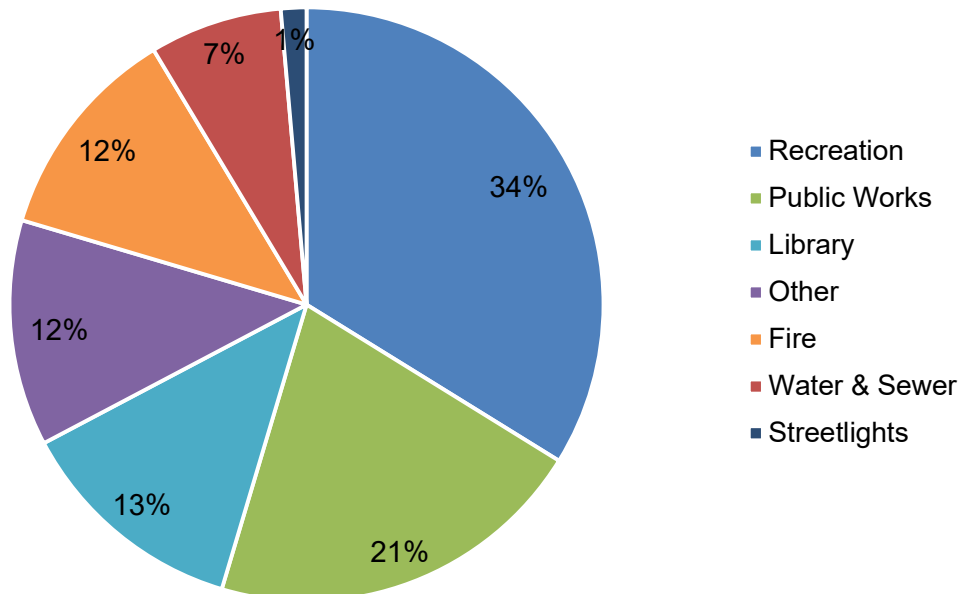


Figure 1. 2023 energy consumption (A) and GHG emissions (B) by facility type.



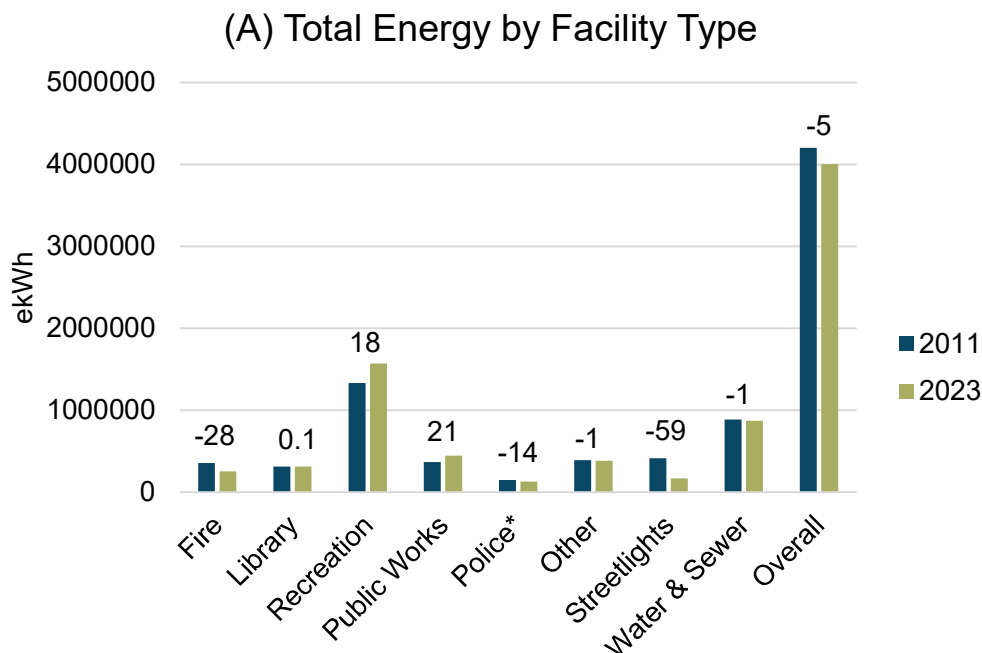
When examining the Township’s 2023 energy consumption data, the Recreation Department uses the most amount of energy, followed by Water and Sewer. Combined, these departments account for over 60% of the Township’s annual energy use. Individual facilities within these departments are amongst the facilities with the highest energy use across the Township, including the Lakefield Arena, Ennismore Arena, Water Treatment Plant, and Lakefield Sewage Lagoon.

When looking at the GHG emissions associated with the Township’s energy use, the Recreation Department contributes most significantly, followed by Public Works. Although Water and Sewer consumes more energy overall than Public Works, most of this energy use is electricity which has lower GHG emissions. GHG emissions are higher for Public Works facilities as they use natural gas and propane for heating.

5.2 Annual Comparisons

The Township began tracking energy use in corporate facilities in 2011. The following section examines trends in energy consumption and GHG emissions from 2011 to 2023. This data allows us to understand areas that the Township has made progress in, as well as identify areas to prioritize energy conservation efforts in the coming years.

The data below is summarized by facility type. A detailed breakdown of the energy use for each facility type is provided in the Appendix (Table 2).





(B) GHG Emissions by Facility Type

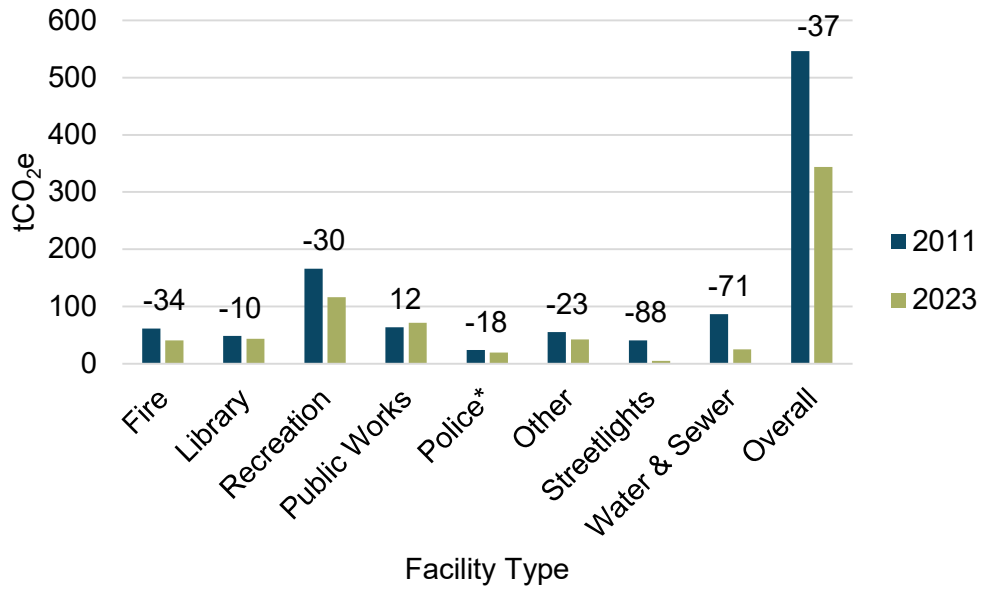


Figure 2. Percentage change in total energy (A) and GHG emissions (B) by facility type between 2011 and 2023. *Police buildings show the change between 2011 and 2022.

Trends in Energy Use by Source

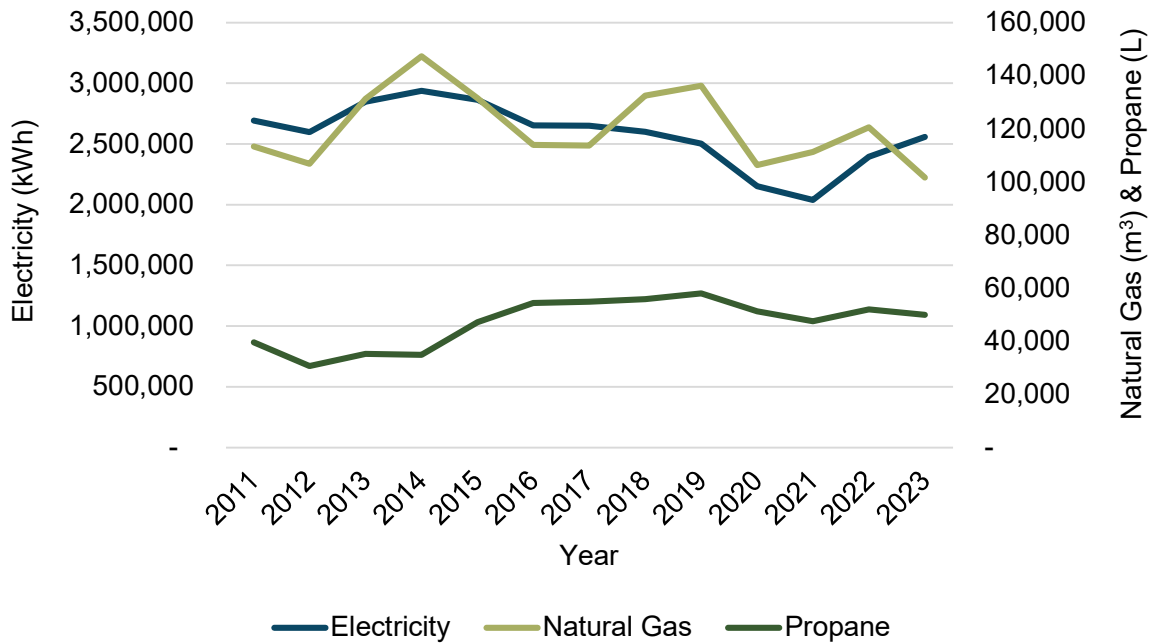


Figure 3. Trends in electricity, natural gas, and propane from 2011 to 2023. Furnace oil is not shown, as it was phased out in 2014.

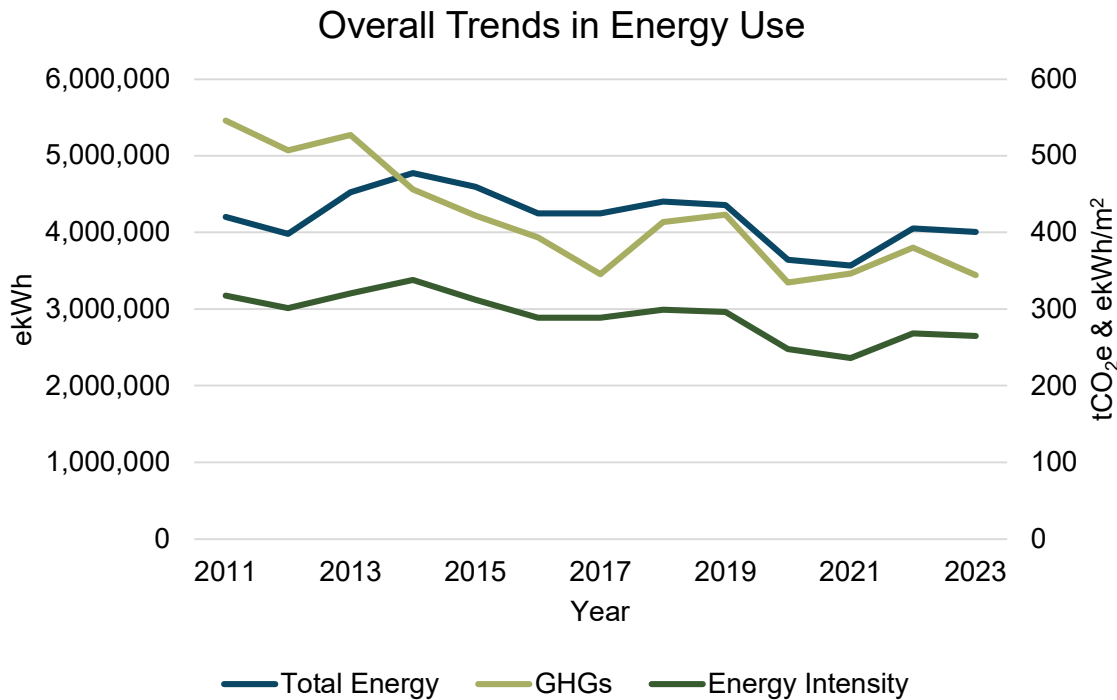


Figure 4. Change in total energy, GHG emissions, and energy intensity for all facilities between 2011 and 2023.

When examining trends in energy data overtime, many facility types saw decreased energy use between 2011 and 2023. The Township’s Streetlights saw the largest decrease over this period, achieving a 60% reduction in energy use due to converting light fixtures to LEDs.

Fire and Police facilities also achieved energy reductions over this period of 28% and 14% respectively. The Township phased out the use of furnace oil in Fire facilities in 2014 leading to energy and GHG savings. Throughout this period, both Fire and Police facilities have also had energy efficiency upgrades, including LED lighting and new hot water tanks. Additionally, heating degree days have been trending down in recent years, due to more mild winters. This has resulted in reduced natural gas and propane use in some facilities, including Fire and Police.

Increased energy use was observed primarily in Public Works and Recreation facilities. In 2015 the Township built an addition onto the Main Public Works Garage, resulting in a 41% increase in building area and a subsequent rise in energy use. Similarly, Recreation facilities have experienced an increase in building area by 14% over this period, which is due to an expansion at the Ennismore Arena and the construction of the River Den.



All of the Township's facilities saw decreased GHG emissions over this time period, except for Public Works. Electricity and natural gas have been trending down in Township facilities in recent years due to ongoing energy conservation efforts, as well as decreased energy use during COVID. Propane use has increased slightly over this period, which is a result of transitioning facilities from other heating sources to propane, as well as the expansion of facilities, such as the Main Public Works Garage, which is heated by propane. The latter is why the Public Works department has seen an increase in emissions over this time. 64% of the Township's energy use is electricity. The large decrease in GHG emissions after 2013 is largely a result of a cleaner electrical grid due to Ontario phasing out the use of coal for electricity generation.

Overall, the Township has achieved a 5% reduction in energy use and a 37% decrease in GHG emissions between 2011 and 2023. Energy intensity also decreased during this time, which means that the Township is using less energy per m² of building area and is therefore operating more efficiently. This is important given that the Township's building area increased by almost 13% over this period.

5.3 Energy Benchmarks

Energy benchmarks allow us to see how the energy intensity of Township facilities compares to the energy intensity of other municipal facilities in Ontario. This may help the Township identify facilities that aren't operating as efficiently as they could be, which can help us prioritize energy conservation efforts.

The most recent provincial benchmarking data available was for 2020. The data below is averaged by facility type and shows how Township facilities compare to other facilities in the Province. The Township's Streetlights and Water and Sewer facilities are excluded from this data, as the energy intensity of these assets isn't expressed by square footage.



2020 Energy Benchmarks

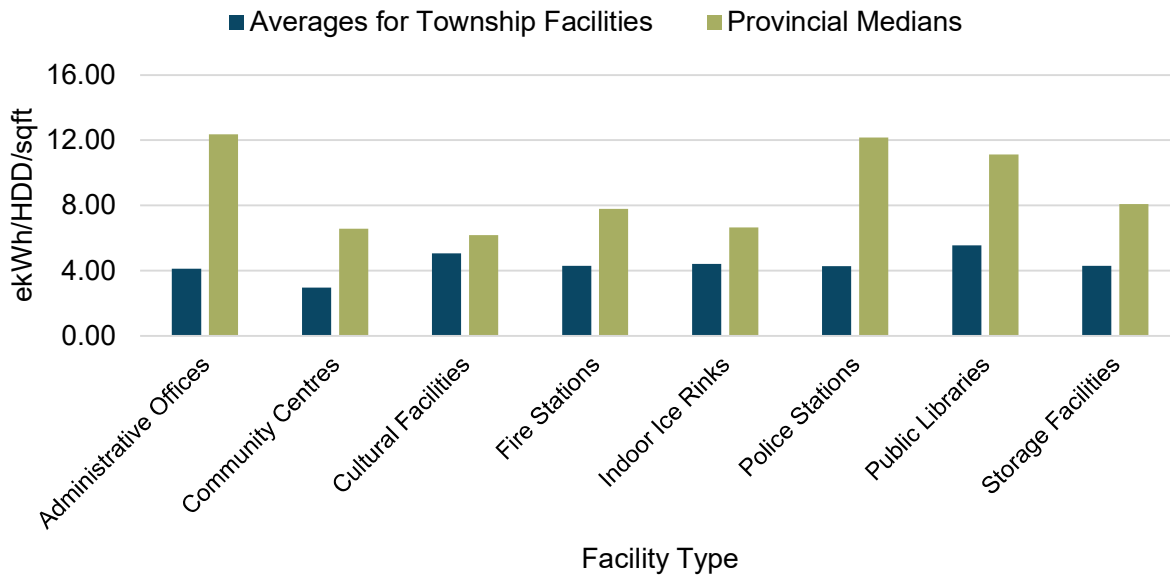


Figure 5. Energy intensities averaged by facility type and compared to provincial medians. Provincial medians were obtained from Climate Neutral Technologies Inc.

In examining the data, on average all Township facility types are operating more efficiently than the provincial medians. The 2020 energy intensity for each Township facility is provided in the Appendix (Table 3). When looking at individual facilities, the only Township facility that exceeds the provincial median for that facility type is the Lakefield Marina.

6.0 Renewable Energy

The Township of Selwyn aspires to demonstrate leadership in the promotion and development of renewable energy systems. As a result, the Township owns and operates six roof mounted solar photovoltaic systems. These systems were installed under the Feed-in Tarrif (FIT) program. Through the FIT program the Township receives revenue for the electricity that is produced by the solar panels.

In 2012, three MicroFIT solar systems were installed at the Township Office (10 kW), Bridgenorth Library (10 kW), and the Lakefield Library (10 kW). In 2016, three larger FIT projects were installed at the Ennismore Arena (250 kW), Main Public Works Garage (70 kW), and the Lakefield Public Works Garage (22 kW). The total installed capacity across all facilities amounts to 372 kW.

The Township’s solar panels generate on average 380,000 kWh per year, which amounts to an average annual gross revenue of \$142,000. This revenue is used to pay



off the remaining debt from the solar projects, as well as being used to fund the Township’s sustainability reserve. The Township’s MicroFIT projects are fully paid off and the FIT projects will be paid for in 2026.

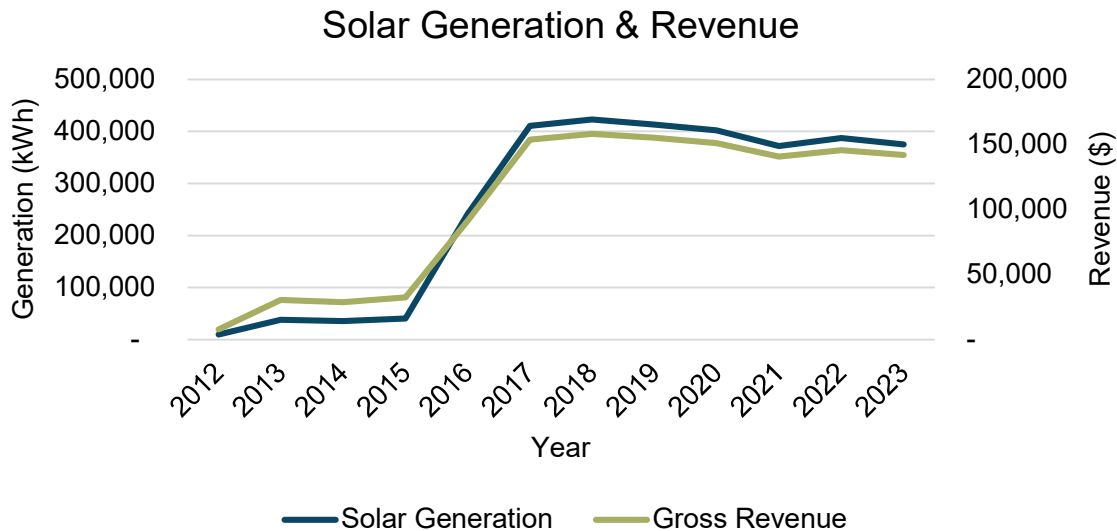


Figure 6. Trends in the Township’s solar generation and revenue overtime.

As the Township’s solar panels age, we have seen a slight decline in annual generation, which is to be expected. The Township plans to undertake a review of each site to look at ways to improve performance and optimize returns on investments moving forward.

7.0 Proposed Energy Conservation Initiatives

The Township of Selwyn remains committed to the following goals and objectives as it relates to implementing the CDM Plan and improving energy conservation and management:

7.1 Goals

1. To create a culture of energy conservation throughout our organization including Council, Management and Staff.
2. To implement a comprehensive corporate energy management program to facilitate conservation in all aspects of our activities and delivery of services.
3. To improve the energy efficiency of facilities by utilizing best practices.
4. To continuously improve the energy efficiency of facilities and processes in order to reduce operating costs, energy consumption, and the resulting GHG emissions.
5. To increase the reliability and efficiency of energy consuming equipment.



6. To report to Council annually to advise of current trends and progress made on our commitments in the CDM Plan.

7.2 Proposed Initiatives

The following lists the Township of Selwyn's proposed energy conservation initiatives to be prioritized and implemented over the next 5 years. Outlining a plan for these initiatives ensures that the Township is committed to continuing to take action to reduce energy use. These initiatives are categorized by technical, organizational, and behavioral measures.

Many of the proposed technical measures align with the Township's Asset Management Plan (AMP), including the most recent work completed under the Facility Condition Assessment Report completed by Ron Awde Architect. The actions recommended in the AMP are based on a lifecycle analysis of our facilities and equipment and prioritize replacing or repairing equipment based on the age and state of repair. These recommendations seek to maintain the Township's assets and levels of service, however many of the recommendations also have the benefit of improved energy efficiency.

Technical Measures – All Facilities

Description of Measure	Estimated Cost	Estimated Energy Savings	Estimated Cost Savings	Key Staff	Expected Date of Completion
Conduct a review of the Township’s solar panels to improve performance and returns on investment	\$600	N/A	TBD	*Sustainability Coordinator	2025
Apply for funding to complete energy audits on Township facilities	\$100,000 - \$275,000 depending on number of facilities. Potential for grant to cover 80%	TBD	Potential to save 15% on energy costs per facility	*Sustainability Coordinator **Facilities Maintenance Coordinator	2026

Technical Measures – Water & Sewer

Description of Measure	Estimated Cost	Estimated Energy Savings	Estimated Cost Savings	Key Staff	Expected Date of Completion
Install at least one new treated water pump with variable frequency drive	\$200,000	TBD	TBD	*Water & Sewer Supervisor	2024
Review water and sewer backwash protocol to reduce pump run times	N/A	TBD	TBD	*Water & Sewer Supervisor	2024
Replace interior lighting at Lakefield Water Treatment Plant with LEDs	\$11,040	Up to 90% per fixture	\$200/year	*Water & Sewer Supervisor **Facilities Maintenance Coordinator	2027

Technical Measures – Recreation Services

Description of Measure	Estimated Cost	Estimated Energy Savings	Estimated Cost Savings	Key Staff	Expected Date of Completion
Replace lights at Ennismore Ball Diamond	\$36,250	50% reduction in energy use	50% cost savings	*Manager of Recreation Services	2024
Replace furnaces at Bridgenorth Fire Hall	\$16,816	Estimated to operate 15-20% more efficiently	TBD	*Facilities Maintenance Coordinator	2025
Replace furnace/HRV at Marshland Centre	\$10,510	Estimated to operate 15-20% more efficiently	TBD	*Facilities Maintenance Coordinator	2025
Update interior lights at Marshland Centre to LEDs	\$4,624	Up to 90% per fixture	Estimated at \$300/year	*Facilities Maintenance Coordinator	2025
Upgrade HVAC system at the Ennismore Arena	\$31,530	Estimated to operate 15-20% more efficiently	TBD	*Facilities Maintenance Coordinator	2025
Replace furnace at Memorial Hall	\$10,510	Estimated to operate 15-20% more efficiently	TBD	*Facilities Maintenance Coordinator	2025
Replace furnaces at Ennismore Fire Hall	\$18,768	Estimated to operate 15-20% more efficiently	TBD	*Facilities Maintenance Coordinator	2027
Install a Heat Recovery Ventilator at the Young's Point Fire Hall	\$3,959	TBD	TBD	*Facilities Maintenance Coordinator	2028
Upgrade HVAC system at the Township Municipal Office	\$31,668	Estimated to operate 15-20% more efficiently	TBD	*Facilities Maintenance Coordinator	2028
Update interior and exterior lights at	\$32,596	Up to 90% per fixture	Estimated at \$1,500/year	*Facilities Maintenance Coordinator	2029

Lakefield Fire Hall to LEDs					
Upgrade interior and exterior lighting at Douglas Sports Park to LEDs	\$5,220	Up to 90% per fixture	Estimated at \$200/year	*Facilities Maintenance Coordinator	2029
Upgrade interior lights at Main Public Works Garage to LEDs	\$12,180	Up to 90% per fixture	Estimated at \$350/year	*Facilities Maintenance Coordinator	2029
Repair caulking and sealants on various facilities	\$90,150	TBD	Up to 10% of annual energy costs per facility, based on state of repair	*Facilities Maintenance Coordinator	2025 to 2032 based on the facility
Investigate funding to install low-flow plumbing fixtures in Township facilities, including no flush urinals	TBD	TBD	TBD	*Facilities Maintenance Coordinator **Recreation Facilities Supervisor	TBD

Organizational Measures

Description of Measure	Estimated Cost	Estimated Energy Savings	Estimated Cost Savings	Key Staff	Expected Date of Completion
Provide key departments with access to EnergyCAP and system training	N/A	N/A	N/A	*Sustainability Coordinator	2024
Establish process for tracking completed energy conservation measures and the associated cost and energy savings	N/A	N/A	N/A	*Sustainability Coordinator **Facilities Maintenance Coordinator	2025

				**Water & Sewer Coordinator	
Look into LAS electricity and natural gas procurement programs to achieve cost savings	TBD	N/A	Electricity program has the potential to save \$0.01-0.02/kWh	*Sustainability Coordinator **Finance	2026
Investigate training opportunities for facilities operation and maintenance staff, and water and sewer operators	\$10,000 with potential for incentivizes through Save on Energy	TBD	TBD	*Sustainability Coordinator	2026
Incorporate energy efficiency into SOPs where applicable and knowledge requirements for operational jobs	N/A	N/A	N/A	*Public Works *Recreation Services **Human Resources	2027
Explore the creation of a Green Building Standard for Township Facilities	TBD	TBD	TBD	*Sustainability Coordinator	2027
Incorporate energy efficiency criteria into the Township's Procurement Policy	N/A	N/A	N/A	*Sustainability Coordinator **Finance	2028

Behavioural Measures

Description of Measure	Estimated Cost	Estimated Energy Savings	Estimated Cost Savings	Key Staff	Expected Date of Completion
Provide biannual energy updates to the Township's Management Committee	N/A	N/A	N/A	*Sustainability Coordinator	2024
Sustainability Coordinator attends department meetings to discuss energy conservation and get feedback on areas for improvement	N/A	Goal of 1% of total energy use per year (approx. 40,000 ekWh) from employee education initiatives	\$6,000/year	*Sustainability Coordinator	2024
Incorporate energy savings tips in the staff newsletter	N/A			*Sustainability Coordinator **Comms	2024
Create posters/signs for corporate facilities with energy savings tips and best practices for staff to follow	N/A			*Sustainability Coordinator **Comms	2025
Explore the creation of an internal Energy Conservation Committee to share updates and investigate funding opportunities	N/A	N/A	N/A	*Sustainability Coordinator	2025



8.0 Appendix

Table 1. 2023 energy consumption data for Selwyn Township facilities.

Building Name	Electricity (kWh)	Natural Gas (m ³)	Propane (L)	Total Energy (ekWh)	Energy Intensity (ekWh/m ²)	GHGs (tCO ₂ e)
Fire Department						
Bridgenorth Hall	18,815	4,285	0	63,893	118	8.820
Curve Lake Hall	4,306	0	3,001	26,900	144	4.760
Ennismore Hall	10,703	5,977	0	73,581	179	11.850
Gore Street Well Shed	3,396	0	0	3,396	1132	0.100
Lakefield Hall	0	4,456	0	46,877	132	8.610
Radio Repeater Station	1,256	0	0	1,256	209	0.040
Slaters Hall Storage	0	0	0	0	N/A	0.000
Youngs Point Hall	8,592	0	3,988	38,609	148	6.410
Total	47,067	14,718	6,989	254,512	137	40.590
Library						
Bridgenorth Library & Community Hall	53,249	9,144	0	149,443	186	19.190
Ennismore Library	20,196	5,967	0	82,968	444	12.110
Lakefield Library	16,674	6,080	0	80,636	293	12.220
Total	90,119	21,191	0	313,047	247	43.520
Recreation						
Bridgenorth Ball Park	11,922	0	0	11,922	N/A	0.340
Bridgenorth Beautification	816	0	0	816	N/A	0.020
Douglas Sports Centre	4,529	0	0	4,529	110	0.130
Ennismore Arena	419,058	27,325	0	706,517	193	64.729
Isabel Morris Park	3,207	0	0	3,207	N/A	0.090
Lakefield Arena	591,688	14,391	0	743,082	266	44.660
Lakefield Campground	12,205	0	0	12,205	68	0.350
Lakefield Marina	35,250	0	0	35,250	430	1.000
Marshland Centre	5,470	2,140	0	27,983	151	4.300
The River Den	24,274	0	0	24,274	194	0.690
Total	1,108,420	43,856	0	1,569,785	222	116.309



Building Name	Electricity (kWh)	Natural Gas (m ³)	Propane (L)	Total Energy (ekWh)	Energy Intensity (ekWh/m ²)	GHGs (tCO ₂ e)
Public Works						
Ennismore Garage	18,162	5,154	0	72,382	208	10.480
Lakefield Garage	14,542	3,886	0	55,423	154	7.920
Landfill Office	16,127	0	0	16,127	375	0.460
Main Garage	50,006	0	33,061	298,880	225	52.590
Total	98,837	9,040	33,061	442,812	213	71.450
Other Facilities						
Chamber Building	19,648	5,644	0	79,023	145	11.470
Memorial Hall	51,845	3,582	0	89,528	137	8.400
OPP Office	7,554	2,193	0	30,624	162	4.460
Township Office	85,283	0	9,872	159,600	160	17.710
Treasure Trove Thrift Store	9,768	1,419	0	24,696	54	0.280
Total	174,098	12,838	9,872	383,471	135	42.320
Streetlights						
Hydro One Lights	57,461	0	0	57,461	142	1.640
Lakefield Lights	111,219	0	0	111,219	525	3.170
Total	168,680	0	0	168,680	274	4.810
Water & Sewer						
George Pump	14,729	0	0	14,729	N/A	0.420
Kingdon Pump	772	0	0	772	N/A	0.020
Lakefield Lagoon	307,227	0	0	307,227	N/A	8.750
Park Pump	634	0	0	634	N/A	0.020
Rolliston Booster	0	0	0	0	N/A	0.000
Stewart Pump	1,102	0	0	1,102	N/A	0.030
Strickland Treatment	14,857	0	0	14,857	N/A	0.420
Water Street Sewage	119,115	0	0	119,115	N/A	3.390
Water Street Treatment	351,288	0	0	351,288	N/A	10.000
Water Tower	24,865	0	0	24,865	N/A	0.710
Woodland Acres	37,021	0	0	37,021	N/A	1.050
Total	871,610	0	0	871,610	N/A	24.810
Grand Total	2,558,829	101,643	49,922	4,003,917	265	344



Table 2. Energy consumption data from 2011 to 2023 by facility type.

Fire Department

Year	Electricity (kWh)	Natural Gas (m ³)	Furnace Oil (L)	Propane (L)	Total Energy (ekWh)	Building Area (m ²)	Energy Intensity (ekWh/m ²)	GHGs (tCO ₂ e)
2011	66,390	21,458	2,386	5,072	355,814	1,757	203	61.42
2012	64,705	17,247	2,797	5,487	316,723	1,757	180	54.93
2013	76,859	17,517	2,841	4,230	323,383	1,757	184	53.25
2014	64,695	22,861	2,291	7,518	385,202	1,757	219	63.66
2015	64,517	20,077	0	11,010	355,295	1,757	202	57.18
2016	68,363	17,864	0	7,504	310,973	1,757	177	47.77
2017	68,031	16,014	0	7,852	293,426	1,757	167	43.55
2018	70,904	21,237	0	10,392	369,665	1,757	210	58.26
2019	76,316	23,142	0	9,534	389,291	1,757	222	60.70
2020	57,642	16,839	0	9,127	301,403	1,757	172	47.51
2021	50,996	16,222	0	8,228	283,589	1,857	153	45.48
2022	48,382	20,052	0	9,787	324,776	1,857	175	55.28
2023	47,067	14,718	0	6,989	254,512	1,857	137	40.59

Library

Year	Electricity (kWh)	Natural Gas (m ³)	Total Energy (ekWh)	Building Area (m ²)	Energy Intensity (ekWh/m ²)	GHGs (tCO ₂ e)
2011	87,648	21,171	312,642	945	331	48.62
2012	87,622	19,023	289,793	945	307	44.38
2013	88,882	19,683	298,067	945	315	43.97
2014	81,439	22,713	322,826	945	342	46.20
2015	80,230	22,068	314,756	945	333	44.53
2016	81,264	18,697	279,970	945	296	38.24
2017	72,810	19,288	277,797	945	294	37.73
2018	77,272	21,323	303,886	945	322	42.60
2019	72,341	21,923	305,332	945	323	43.65
2020	55,990	18,750	255,261	945	270	36.87
2021	70,728	23,309	315,939	1,267	249	47.10
2022	87,589	24,137	341,510	1,267	270	47.94
2023	90,119	21,191	313,047	1,267	247	43.52



Recreation

Year	Electricity (kWh)	Natural Gas (m ³)	Total Energy (ekWh)	Building Area (m ²)	Energy Intensity (ekWh/m ²)	GHGs (tCO ₂ e)
2011	887,159	41,748	1,330,839	6,231	214	165.91
2012	855,279	49,238	1,378,566	6,231	221	175.23
2013	1,039,101	67,531	1,756,800	7,091	248	206.66
2014	1,136,304	66,147	1,839,294	7,091	259	170.52
2015	1,084,149	58,045	1,701,028	7,091	240	147.70
2016	1,075,794	51,716	1,625,416	7,091	229	136.02
2017	1,070,223	50,439	1,606,274	7,091	227	113.87
2018	1,052,002	58,317	1,671,778	7,091	236	141.34
2019	1,022,666	59,906	1,659,329	7,091	234	144.42
2020	771,818	45,763	1,258,172	7,091	177	106.16
2021	746,950	45,295	1,223,452	7,299	168	107.73
2022	958,850	48,344	1,467,429	7,299	201	120.71
2023	1,108,420	48,856	1,569,785	7,299	222	116.31

Public Works

Year	Electricity (kWh)	Natural Gas (m ³)	Propane (L)	Total Energy (ekWh)	Building Area (m ²)	Energy Intensity (ekWh/m ²)	GHGs (tCO ₂ e)
2011	100,250	10,351	22,274	366,857	1,481	248	63.79
2012	98,212	7,026	15,860	284,386	1,481	192	47.16
2013	107,852	10,337	21,151	366,413	1,481	247	60.33
2014	109,274	14,935	19,004	401,606	1,481	271	61.89
2015	110,469	10,782	27,659	419,513	2,081	202	66.87
2016	119,166	8,223	38,066	474,181	2,081	228	78.44
2017	107,429	10,160	37,760	480,878	2,081	231	79.25
2018	115,978	11,702	32,789	470,866	2,081	226	76.08
2019	124,581	11,579	35,626	498,108	2,081	239	80.59
2020	115,708	7,866	31,468	420,539	2,081	202	66.31
2021	112,740	9,304	27,919	420,786	2,081	202	64.40
2022	109,782	11,069	32,124	468,051	2,081	225	74.23
2023	98,837	9,040	33,061	442,812	2,081	213	71.45



Police

Year	Electricity (kWh)	Natural Gas (m ³)	Total Energy (ekWh)	Building Area (m ²)	Energy Intensity (ekWh/m ²)	GHGs (tCO ₂ e)
2011	33,544	10,773	148,032	734	202	23.66
2012	35,762	9,630	138,107	734	188	21.64
2013	33,713	10,398	144,220	734	196	22.22
2014	30,084	11,699	154,417	734	210	23.32
2015	33,040	12,038	160,977	734	219	23.92
2016	33,104	9,563	134,737	734	184	19.26
2017	27,882	10,311	137,464	734	187	19.98
2018	26,873	12,057	155,011	734	211	23.59
2019	23,763	12,587	157,534	734	215	24.52
2020	23,308	10,971	139,904	734	191	21.34
2021	22,180	10,921	137,069	734	187	21.80
2022	25,664	9,657	127,256	734	173	19.40

Other

Year	Electricity (kWh)	Natural Gas (m ³)	Propane (L)	Total Energy (ekWh)	Building Area (m ²)	Energy Intensity (ekWh/m ²)	GHGs (tCO ₂ e)
2011	218,959	7,837	12,235	388,273	2,107	184	55.18
2012	192,838	4,701	9,391	308,822	2,107	147	41.88
2013	189,153	5,843	9,806	320,192	2,107	152	40.54
2014	167,991	9,022	8,316	322,340	2,107	153	36.59
2015	161,740	8,559	8,549	312,810	2,107	148	35.02
2016	153,727	7,838	8,844	299,205	2,107	142	33.91
2017	143,010	7,500	9,225	287,574	2,107	136	30.87
2018	137,337	7,868	12,638	309,807	2,107	147	38.41
2019	124,087	7,035	12,895	289,511	2,107	137	36.95
2020	105,462	6,123	10,598	245,045	2,107	116	30.59
2021	113,283	6,172	11,434	264,283	2,107	125	32.90
2022	110,366	7,260	10,043	262,346	2,107	125	32.71
2023	174,098	12,838	9,872	383,471	2,841	135	42.32



Streetlights

Year	Electricity (kWh)	Total Energy (ekWh)	Streetlight Fixtures	Energy Intensity (ekWh/fixture)	GHGs (tCO ₂ e)
2011	413,687	413,687	544	726	40.56
2012	412,102	412,102	544	758	39.58
2013	403,586	403,586	544	742	30.68
2014	400,443	400,443	544	736	16.02
2015	391,491	391,491	544	720	13.71
2016	156,139	156,139	608	257	5.55
2017	159,935	159,935	608	263	2.77
2018	160,232	160,232	616	260	4.73
2019	159,595	159,595	616	259	4.86
2020	160,959	160,959	616	261	4.10
2021	171,199	171,199	616	278	5.00
2022	170,172	170,172	616	276	4.85
2023	168,680	168,680	616	274	4.81

Water & Sewer

Year	Electricity (kWh)	Total Energy (ekWh)	Flow Volume (m ³)	Energy Intensity (ekWh/m ³)	GHGs (tCO ₂ e)
2011	884,229	884,229	1,747,906	0.51	86.69
2012	852,320	852,320	1,733,349	0.49	81.86
2013	909,993	909,993	1,775,582	0.51	69.17
2014	948,477	948,477	1,846,754	0.51	37.95
2015	937,101	937,101	1,812,937	0.52	32.81
2016	965,429	965,429	1,855,745	0.52	34.32
2017	1,002,255	1,002,255	2,034,803	0.49	17.34
2018	960,918	960,918	1,831,062	0.52	28.39
2019	899,095	899,095	1,679,128	0.55	27.40
2020	861,107	861,107	1,755,606	0.49	21.91
2021	752,014	752,014	1,945,372	0.39	21.75
2022	882,635	882,635	1,878,131	0.47	25.14
2023	871,610	871,610	1,882,786	0.46	24.81



All Facilities

Year	Electricity (kWh)	Natural Gas (m ³)	Furnace Oil (L)	Propane (L)	Total Energy (ekWh)	Building Area (m ²)	Energy Intensity (ekWh/m ²)	GHGs (tCO ₂ e)
2011	2,691,865	113,337	2,386	39,582	4,200,373	13,225	317.61	546.00
2012	2,598,840	106,865	2,797	30,738	3,980,818	13,225	301.01	507.00
2013	2,849,139	131,309	2,841	35,187	4,522,653	14,115	320.41	527.00
2014	2,938,707	147,377	2,291	34,838	4,774,606	14,115	338.26	456.00
2015	2,862,737	131,568	0	47,218	4,592,971	14,715	312.13	422.00
2016	2,652,986	113,901	0	54,414	4,246,049	14,715	288.55	393.50
2017	2,651,575	113,712	0	54,837	4,245,604	14,715	288.52	345.40
2018	2,601,516	132,504	0	55,819	4,402,164	14,715	299.16	413.40
2019	2,502,444	136,172	0	58,055	4,357,795	14,715	296.15	423.20
2020	2,151,994	106,312	0	51,283	3,642,390	14,715	247.53	334.80
2021	2,040,089	111,223	0	47,581	3,568,322	15,120	236.00	346.16
2022	2,393,440	120,519	0	51,954	4,052,401	15,120	268.02	380.00
2023	2,558,829	101,643	0	49,922	4,003,917	15,120	264.81	344.00



Table 3. 2020 energy intensities (ekWh/HDD/sqft) for Selwyn Township facilities compared to provincial medians.

Facility	Energy Intensity	Provincial Median for Facility Type
Bridgenorth Fire Hall	2.87	7.79
Ennismore Arena	3.45	6.65
Ennismore Fire Hall	3.58	7.79
Bridgenorth Public Library	3.93	11.13
Curve Lake Fire Hall	4.39	7.79
Ennismore Public Library	10.24	11.13
Ennismore Public Works Garage	4.11	8.09
Lakefield Police Services Building	4.39	12.17
Lakefield Public Library	6.30	11.13
Lakefield Public Works Garage	3.23	8.09
Memorial Hall	4.66	12.37
OPP Community Policing Office	2.81	12.17
Public Works Main Depot	4.54	8.09
Township Municipal Office	3.11	12.37
Young's Point Fire Hall	3.20	7.79
Lakefield Arena	4.15	6.65
Lakefield Fire Hall	4.21	7.79
Lakefield Marina	9.03	6.18
Landfill Weigh Scale Office	8.07	12.37
Marshland Centre	2.96	6.58
Treasure Trove Thrift Shop	1.10	6.18