

ENERGY CONSERVATION AND DEMAND MANAGEMENT PLAN

2024 - 2029



middlesex
centre

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Alternative Formats:

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1.0 INTRODUCTION AND BACKGROUND

The Municipality of Middlesex Centre developed its first Energy Conservation and Demand Management (ECDM) Plan in 2014 in accordance with the former Ontario Regulation (O.Reg.) 397/11 under the Green Energy Act, 2009. The Green Energy Act was subsequently revoked in early 2019; however, an updated ECDM Plan was still required to be in compliance with O.Reg. 507/18 under the Electricity Act, 1998. In February of 2023, O.Reg. 507/18 was replaced with the current regulation, O.Reg. 25/23: Broader Public Sector: Energy Reporting and Conservation and Demand Management Plans.

Similar to the previous regulations, O.Reg. 25/23 requires municipalities to publicly report on energy consumption and associated greenhouse gas (GHG) emissions annually. The regulation also continues the prescribed requirement for publication of an updated ECDM Plan. This plan meets the requirements of this regulation including:

- Description of goals and objectives for conserving and otherwise reducing energy consumption and managing the Municipality's demand for energy.
- Description of actual results achieved.
- Description of previous, current, and proposed measures for conserving and reducing the amount of energy consumption including a forecast of the expected results or current and proposed measures.

This ECDM Plan is a living document and to be used as a tool by the Municipality of Middlesex Centre to manage its energy consumption in order to reduce its carbon footprint and to control the energy costs for heated and cooled facilities for electrical power and natural gas. The Plan will be available on the Municipality's website

<https://middlesexcentre.ca/>.

2.0 DECLARATION OF COMMITMENT

The Middlesex Centre Council is committed in allocating necessary resources to develop and implement a five-year Energy Conservation and Demand Management (ECDM) Plan as required under Ontario Regulation 25/23 (Broader Public Sector: Energy Reporting and Conservation and Demand Management Plans) of the Electricity Act, 1998. This ECDM Plan will strive to reduce its energy consumption and its related environmental impact as outlined in the overall target. Council and staff will monitor continuous progress towards the objectives set in this plan and will update as required under O.Reg. 25/23 or any subsequent legislation.

3.0 VISION

The Municipality of Middlesex Centre will exercise stewardship in the use of finite energy resources to demonstrate leadership, optimize delivery of services, and enhance the overall quality of life of the community.

4.0 GOALS

The Municipality of Middlesex Centre will continuously improve the energy efficiency of facilities and processes in order to reduce operating costs, energy consumption and the concomitant greenhouse gas emissions. The Municipality of Middlesex Centre's Energy Conservation and Demand Management Plan will strive to achieve the following goals:

- Maximize fiscal resources and avoid cost increases through direct and indirect energy savings.
- Reduce the environmental impact of the Municipality's operations.
- Increase the comfort and safety of staff and users of the municipal facilities.
- Improve the reliability of municipal equipment and reduce maintenance costs.
- Promote a culture of energy conservation within the municipality.

5.0 TARGET

The Municipality's first ECDM Plan was developed in 2014 and approved by Council to outline the goals and objectives with respect to conservation and reducing energy consumption. A target of 1% energy consumption per annum was set.

6.0 STRATEGIC OBJECTIVES

This ECDM Plan reaffirms the following goals and objectives which have been updated to reflect current policies and best practices:

- To create a culture of conservation within the Municipality to reduce GHG emissions and to ensure the wise use of resources and fiscal accountability through savings and cost avoidance which will lead to both direct and indirect savings.
- To demonstrate leadership within the Municipality and community and to commit to energy management and the investigation of new and emerging technologies.
- To demonstrate sound operating and maintenance practices to complement the energy efficiencies implemented through the capital asset renewal program.
- To provide a forum for discussion within the Municipality on energy management to be able to explore new ideas and trends. The forum will ensure energy management is a consideration in all operations and facility-based decisions. The integration of operational processes, facility-based infrastructure improvements and staff awareness is critical to move the Municipality towards the goal of reducing GHG emissions and transition to a carbon neutral future.

7.0 ENERGY CONSUMPTION BASELINE

O.Reg 25/23 requires the ECDM Plan to focus on buildings and facilities the municipalities own and operated that are heated or cooled, including those related to the treatment of water and sewage. The following are summary of buildings and facilities owned and operated by the Municipality of Middlesex Centre. Refer to Appendix A for full list of heated and/or cooled municipal facilities.

| Building/Facility | Number |
|--|-----------------------------|
| Administrative offices and related facilities, including municipal council chambers | 1 |
| Cultural facilities, indoor recreational facilities and community centres, including art galleries, performing arts facilities, auditoriums, indoor sports arenas, indoor ice rinks, indoor swimming pools, gyms and indoor courts for playing tennis, basketball or other sports. | 6 |
| Fire stations and associated offices and facilities | 5 |
| Storage facilities where equipment or vehicles are maintained, repaired, or stored. | 2 |
| Building facilities related to the treatment of water and sewage | 2 |
| Total number of facilities reported | 16 |
| Total floor area | 23,696 m² |

Table 1: The Municipality of Middlesex Centre does not own and operate any public libraries, ambulance stations, police stations or parking garages.

The first reporting year for the Municipality's energy consumption and GHG emissions was in 2012, and as such this will form the baseline from which energy reductions are evaluated. Based on the 2012 Energy Consumption and Greenhouse Gas Emissions Reporting, the total energy consumption for electricity is 4,588,052 kWh and natural gas is 11,415 GJ for all buildings and facilities.

8.0 ENERGY CONSUMPTION AND GHG EMISSIONS

Under the first ECDM Plan, the Municipality committed to reducing its impact on the environment by reducing consumption of fuels and electricity in all municipal operation by 1% per year. In reporting the accomplishments at the end of the first ECDM Plan, the Municipality has made substantial progress towards incorporating energy conservation initiatives into corporate policies and practices.

Tables 2, 3, and 4 below outline the overall performance of the Municipality’s facilities portfolio in terms of energy consumption and GHG emissions, starting from the 2012 baseline year. Note that numbers are adjusted to account for the impact of increased utilization rates. Since the inception of the first ECDM Plan, the Municipality of Middlesex Centre has seen a substantial increase in demands for services due to growth. Based on Statistics Canada Censusⁱ and the Municipality’s Building Services Department reports, the total private dwellings increased by 24.5% between 2012 and 2023. As such, electricity and natural gas consumptions are adjusted to reflect this increase.

Table 2 shows the Municipality’s electricity consumptions. For the period of nine years, consumption decreased by 11.72% , or an average of 1.30% decrease annually.

| Year | Electricity Use – Grid Purchase (kWh) | Year-Over- Year Change | Private Dwelling Growth | Adjusted Year-Over- Year Change |
|-----------------------|--|-----------------------------------|--|--|
| 2012 (Base Year) | 4,588,052.30 | | | |
| 2015 | 4,401,115.90 | -4.07% | 1.54% | -5.61% |
| 2016 | 4,454,431.30 | 1.21% | 1.62% | -0.41% |
| 2017 | 3,821,537.60 | -14.21% | 2.25% | -16.46% |
| 2018 | 3,733,679.90 | -2.30% | 1.99% | -4.29% |
| 2019 | 4,173,318.60 | 11.77% | 2.58% | 9.19% |
| 2020 | 3,427,402.90 | -17.87% | 4.08% | -21.95% |
| 2021 | 3,963,192.90 | 15.63% | 5.46% | 10.17% |
| 2022 | 4,597,766.50 | 16.01% | 2.70% | 13.31% |
| 2023 | 4,901,173.80 | 6.60% | 2.27% | 4.33% |
| 9-Year Total | | | | -11.72% ↓ |
| 9-Year Average | | | | -1.30% ↓ |

Table 2: The Municipality of Middlesex Centre Electricity Consumption for Period 2015 - 2019 with Base Year 2012.

Table 3 is the Municipality’s natural gas consumption for the same period. Natural gas consumption dropped by 14.08% in the nine-year period or an average of 1.56% decrease annually.

| Year | Natural Gas Use (GJ) | Year-Over-Year Change | Private Dwelling Growth | Adjusted Year-Over-Year Change |
|-----------------------|-----------------------------|------------------------------|--------------------------------|---------------------------------------|
| 2012 (Base Year) | 11,415.20 | | | |
| 2015 | 11,921.00 | 4.43% | 1.54% | 2.89% |
| 2016 | 9,592.70 | -19.53% | 1.62% | -21.15% |
| 2017 | 11,234.80 | 17.12% | 2.25% | 14.87% |
| 2018 | 11,737.00 | 4.47% | 1.99% | 2.48% |
| 2019 | 11,692.20 | -0.38% | 2.58% | -2.96% |
| 2020 | 11,861.80 | 1.45% | 4.08% | -2.63% |
| 2021 | 14,261.90 | 20.23% | 5.46% | 14.77% |
| 2022 | 11,800.20 | -17.26% | 2.70% | -19.96% |
| 2023 | 11,786.60 | -0.12% | 2.27% | -2.39% |
| 9-Year Total | | | | -14.08% ↓ |
| 9-Year Average | | | | -1.56% ↓ |

Table 3: The Municipality of Middlesex Centre Natural Gas Consumption for Period 2015-2019 with Base Year 2012.

With the steady decrease in both electricity and natural gas consumption, the Municipality's GHG emissions are reduced by 12.36% or 1.37% annual average as presented in Table 4.

| Year | Direct GHG Emissions (Metric Tons CO2e) | Year-Over-Year Change | Private Dwelling Growth | Adjusted Year-Over-Year Change |
|-----------------------|--|------------------------------|--------------------------------|---------------------------------------|
| 2012 (Base Year) | 564.00 | | | |
| 2015 | 596.20 | 5.71% | 1.54% | 4.17% |
| 2016 | 480.90 | -19.34% | 1.62% | -20.96% |
| 2017 | 563.50 | 17.18% | 2.25% | 14.93% |
| 2018 | 590.10 | 4.72% | 1.99% | 2.73% |
| 2019 | 587.80 | -0.39% | 2.58% | -2.97% |
| 2020 | 596.50 | 1.48% | 4.08% | -2.60% |
| 2021 | 717.2 | 20.23% | 5.46% | 14.77% |
| 2022 | 593.20 | -17.29% | 2.70% | -19.99% |
| 2023 | 592.20 | -0.17% | 2.27% | -2.44% |
| 9-Year Total | | | | -12.36% ↓ |
| 9-Year Average | | | | -1.37% ↓ |

Table 4: The Municipality of Middlesex Centre GHG Emissions for Period 2015 - 2019 with Base Year 2012.

Refer to Appendix B for a detailed listing of energy consumption and GHG emissions for all municipal facilities.

9.0 ENERGY CONSERVATION MEASURES

The Municipality of Middlesex Centre aspires to show leadership in the promotion and development of strategic energy management that are compatible with asset management and land use planning objectives. Below are few highlights of energy efficiency initiatives at the Municipality of Middlesex Centre:

| Project | Details and Locations | Year Completed |
|----------------------------------|--|-----------------------|
| Lighting Retrofit | Komoka Wellness & Recreation Complex – Over the rinks LED | 2017 |
| | Ilderton Arena – Over the rink LED | 2017 |
| | All indoor recreational facilities – Wall pack LED conversion | 2022 |
| | All outdoor recreational facilities – lighting timers (including “Astral”) between sun set and sundown times | 2022 |
| | Delaware Community Centre – LED upgrade | 2024 |
| High Efficiency HVAC Conversions | Komoka Community Centre | 2023 |
| | Bryanston Community Centre | 2023 |
| | Delaware Community Centre | 2021 |
| | Ilderton Community Centre | 2024 |
| | Komoka Wellness & Recreation Complex | 2024 |
| VFD on Motors/Pumps | Komoka Wellness & Recreation Complex - VFD cooling towers and water circulation | 2024 |
| | Denfield Booster Pumping Station & Rechlorination | 2018 |
| | Delaware Bypass Pumping Station | 2018 |
| | Kilworth Sewage Pump Station #2 and Forcemain | 2017 |
| | Ilderton Sewage Pump Station #1 | 2014 |
| | Komoka-Kilworth Intermediate Booster Pump Station | 2014 |

| Project | Details and Locations | Year Completed |
|-------------------------------|---|-----------------------|
| Demand Control Ventilation | All Municipal facilities have been outfitted with programmable thermostats on all HVAC units to utilize night setbacks. | 2022 |
| Chiller Replacements | Ilderton Arena | 2023 |
| Solar Photovoltaic System | Komoka Wellness & Recreation Complex | 2014 |
| | Coldstream Fire Station | 2018 |
| | Ilderton Wastewater Treatment Facility | 2019 |
| Green Fleet | Level Ice Laser system and FastICE | 2022 |
| | Light Duty – full electric/Hybrid vehicles | 2018 |
| Refrigeration Plants Upgrades | 6000E BAS has been reprogrammed to better utilize setbacks and unoccupied times | 2022 |
| | The capturing of waste heat using hydronic heating loops and thermos-store tank to heat domestic water | 2022 |
| | Installation of cooling tower full clean and high flow nozzles improving efficiency while saving water | 2022 |
| | Switch to Moss in water tank to control water chemistry allowing for less water cycles. | 2022 |
| | Installation of mini plates and frames for jacket cooling thus saving run hours on compressors. | 2022 |
| | Installation of condenser clean plus nozzle improving heat rejections. | 2022 |

10.0 RENEWABLE ENERGY GENERATION

01. SOLAR PHOTOVOLTAICS (PV)

The Municipality of Middlesex Centre has a “net metering” arrangement with Hydro One to produce energy on site that can be used in the facility. Any excess energy is sent to the grid and credited to the billing account for the specific location. This allows for a system to overproduce energy during the summer and use the credits from excess generation in the

winter. The Municipality currently has three net-meter solar PV assets producing electricity as follows:

- PV power 15kW off grid supplying the lighting at the Ilderton Wastewater Treatment Facility.
- The solar photovoltaic system on the rooftop of the Komoka Wellness & Recreation Complex has reduced the electricity demand off the grid by 11.21% for a five-year period.
- Coldstream Fire Station, Canada's First Net Zero Fire Station, utilizes photovoltaic power. The extra energy generated from the system is sent to the adjacent Municipal Office saving the Municipality over \$21,000 in electricity to date.

02. HEAT PUMPS AND GROUND SOURCE ENERGY

Ground-source heat pump (geo-thermal/exchange) system is being utilized at the Coldstream Fire Station, Canada's First Net Zero Fire Station. The system extracts thermal energy from the earth for heating during colder months and work in reverse during warmer months to optimize facility cooling. The system supports heating and cooling for the entire building; there are no GHG emissions from natural gas combustion for heating at this location.

11.0 FUTURE MEASURES

This 2024 – 2029 ECDM Plan will build on the successes from the previous Plan to continue to reduce its carbon footprint. The Municipality's success over the next five years will be measured against a target energy reduction of an average of 1% year after year.

Facility renewal priorities are identified through ongoing asset management planning with input from frontline operations and maintenance of which proposed capital expenditures are reviewed annually as part of the capital budget process. Capital budgets are approved on a yearly basis, the implementation plan is fluid and will adjust based on funding availability and asset renewal requirements.

The following are sampling of potential upcoming projects that will allow the Municipality to further decrease its carbon footprint. It should be noted that the projected costs have been

calculated based on Class D estimates and are based on 2024 dollars. As these estimates precede the comprehensive design phase, it is anticipated that the final costs for constructions may increase as the project progresses.

| Facility Name | Potential Project | Estimated Cost | Timeframe |
|--------------------------------------|--|-----------------------|------------------|
| Komoka Wastewater Treatment Facility | Aeration, Blower, and HVAC Improvements | \$ 625,000 | Immediate |
| Ilderton Arena & Curling Club | Arena Upgrade | \$ 3,500,000 | Immediate |
| Ilderton Arena & Curling Club | Green Fleet – Electric Ice Resurfacer | \$ 225,000 | 2 – 5 Years |
| Various Locations | Street EV Charging Stations | \$ 500,000 | 2 – 5 Years |
| Denfield Operations Centre | PWE Works – Energy Generation Project | \$ 300,000 | 2 – 5 Years |
| Denfield Operations Centre | LED Lighting Retrofit | \$ 80,000 | 2 – 5 Years |
| Ilderton Community Centre | LED Lighting Upgrade | \$ 40,000 | 2 – 5 Years |
| Komoka Wellness & Recreation Complex | Refrigeration Plant Generator Replacement | \$ 225,000 | 2 – 5 Years |
| Komoka Wellness & Recreation Complex | Supplementary Dehumidifier on Canadian Ice Pad | \$ 80,000 | 2 – 5 Years |
| Komoka Wastewater Treatment Facility | Wastewater Treatment Facility Upgrade | \$ 23,570,000 | 2 – 5 Years |

| Facility Name | Potential Project | Estimated Cost | Timeframe |
|--|---------------------------------------|-----------------------|------------------|
| Ilderton Wastewater Treatment Facility | Wastewater Treatment Facility Upgrade | \$ 9,780,000 | 2 – 5 Years |

12.0 ENERGY LEADER

The Director of Community Services is designated as leader of energy planning and has been given overall responsibility for the Energy Conservation & Demand Management Plan. The Director of Community Services is supported in this role through collective decision making of the Management Team represented by the CAO, Departmental Directors and Supervisors across all municipal departments

13.0 PROJECT EXECUTION – MUNICIPAL LEVEL

The administration and implementation of this plan will be responsibility of the Director of Community Services. Since we all use energy in our daily activities, it will also be the responsibility of all Municipal staff to be aware of their energy use and work towards a culture of conservation. Through staff training and web-based energy management tools, staff will be able to see the results of their efforts, and benchmark between corporate facilities and with industry standards.

14.0 ENERGY PLAN REVIEW

The Senior Management Team will review and evaluate the Municipality of Middlesex Centre's Energy Conservation and Demand Management Plan annually, revising and updating as necessary within the corporate budget planning process.

15.0 CONFIRMATION OF APPROVAL

This updated ECDM Plan was endorsed by the Municipality of Middlesex Centre Council on ***December 18, 2024.***

16.0 APPENDIX A: LIST OF HEATED AND/OR COOLED MUNICIPAL FACILITIES

| Facility Name | Operation Type | Address | Total Floor Area (m²) |
|---|---|------------------------------------|---|
| Arva Fire Station | Fire stations and associated offices and facilities | 14352 Medway Road, Arva | 418.0 |
| Bryanston Fire Station/Community Centre | Fire stations and associated offices and facilities | 15321 Plover Mills Road, Bryanston | 372.0 |
| Coldstream Community Centre | Community centres | 10227 Ilderton Road, Ilderton | 557.0 |
| Coldstream Fire Station (NET ZERO) | Fire stations and associated offices and facilities | 10284 Ilderton Road, Ilderton | 195.0 |
| Delaware Community Centre | Community centres | 2652 Gideon Drive, Delaware | 1,021.0 |
| Delaware Fire Station | Fire stations and associated offices and facilities | 11563 Longwoods Road, Delaware | 418.0 |
| Delaware Operations Centre | Storage facilities where equipment or vehicles are maintained, repaired or stored | 805 Gideon Drive, Delaware | 1,839.0 |
| Denfield Operations Centre | Storage facilities where equipment or vehicles are maintained, repaired or stored | 23053 Denfield Road, Denfield | 11,540.0 |
| Ilderton Arena & Curling Club | Indoor ice rinks | 13168 Ilderton Road, Ilderton | 3,716.0 |
| Ilderton Community Centre | Community centres | 13168 Ilderton Road, Ilderton | 372.0 |

| Facility Name | Operation Type | Address | Total Floor Area (m²) |
|--|---|------------------------------------|---|
| Ilderton Firehall | Fire stations and associated offices and facilities | 22531 Hyde Park Road, Ilderton | 465.0 |
| Ilderton Wastewater Treatment Facility | Facilities related to the treatment of sewage | 147 Meadowcreek Drive, Ilderton | 220.0 |
| Komoka Community Centre | Community centres | 133 Queen Street, Komoka | 1,114.0 |
| Komoka Wastewater Treatment Facility | Facilities related to the treatment of sewage | 22280 Komoka Road, Komoka | 1,522.0 |
| Municipal Office | Administrative offices and related facilities, including municipal council chambers | 10227 Ilderton Road, RR2, Ilderton | 557.0 |
| Komoka Wellness & Recreation Complex | Indoor recreational facilities | 1 Tunks Lane, Komoka | 10,033.0 |

17.0 APPENDIX B: DETAILED ENERGY CONSUMPTION AND GHG EMISSIONS REPORTING

| 2023 | | | |
|---|--------------------------|-------------------------|---|
| OPERATION NAME | ELECTRICITY (kWh) | NATURAL GAS (GJ) | DIRECT GHG EMISSIONS (Metric Tons CO₂e) |
| Arva Fire Station | 18,948.90 | 194.80 | 9.80 |
| Bryanston Fire Station/Community Centre | 25,120.40 | 209.70 | 10.50 |
| Coldstream Community Centre | 72,929.10 | 50.20 | 2.50 |
| Coldstream Fire Station (NET ZERO) | - | - | - |

| 2023 | | | |
|--|--------------------------|-------------------------|--|
| OPERATION NAME | ELECTRICITY (kWh) | NATURAL GAS (GJ) | DIRECT GHG EMISSIONS (Metric Tons CO2e) |
| Delaware Community Centre | 45,144.50 | 347.20 | 17.40 |
| Delaware Fire Station | 9,356.40 | 133.80 | 6.70 |
| Delaware Operations Centre | 109,724.70 | 490.60 | 24.70 |
| Denfield Operations Centre | 212,688.00 | 1,134.90 | 57.00 |
| Ilderton Arena & Curling Club | 35,784.30 | 352.20 | 17.70 |
| Ilderton Community Centre | 638,034.10 | 1,686.30 | 84.70 |
| Ilderton Firehall | 15,603.40 | 181.60 | 9.10 |
| Ilderton Wastewater Treatment Facility | 660,572.20 | 670.30 | 33.70 |
| Komoka Community Centre | 69,016.80 | 519.90 | 26.10 |
| Komoka Wastewater Treatment Facility | 737,801.40 | 96.00 | 4.80 |
| Municipal Office | 72,929.10 | 458.70 | 23.10 |
| Komoka Wellness & Recreation Complex | 2,177,520.30 | 5,260.40 | 264.40 |

| 2022 | | | |
|---|--------------------------|-------------------------|--|
| OPERATION NAME | ELECTRICITY (kWh) | NATURAL GAS (GJ) | DIRECT GHG EMISSIONS (Metric Tons CO2e) |
| Arva Fire Station | 19,218.30 | 161.30 | 8.10 |
| Bryanston Fire Station/Community Centre | 29,169.80 | 222.90 | 11.20 |
| Coldstream Community Centre | 82,043.50 | 49.70 | 2.50 |
| Coldstream Fire Station (NET ZERO) | - | - | - |
| Delaware Community Centre | 41,937.40 | 380.20 | 19.10 |
| Delaware Fire Station | 9,711.90 | 134.20 | 6.70 |
| Delaware Operations Centre | 93,690.10 | 514.10 | 25.80 |
| Denfield Operations Centre | 175,875.50 | 1,048.10 | 52.70 |
| Ilderton Arena & Curling Club | 655,823.40 | 1,643.20 | 82.60 |
| Ilderton Community Centre | 51,847.20 | 343.40 | 17.30 |
| Ilderton Firehall | 16,072.80 | 187.10 | 9.40 |
| Ilderton Wastewater Treatment Facility | 590,789.40 | 701.50 | 35.30 |
| Komoka Community Centre | 51,043.50 | 585.20 | 29.40 |
| Komoka Wastewater Treatment Facility | 690,040.10 | 37.50 | 1.90 |
| Municipal Office | 82,043.50 | 352.90 | 17.70 |
| Komoka Wellness & Recreation Complex | 2,008,460.10 | 5,438.90 | 273.50 |

| 2021 | | | |
|---|--------------------------|-------------------------|--|
| OPERATION NAME | ELECTRICITY (kWh) | NATURAL GAS (GJ) | DIRECT GHG EMISSIONS (Metric Tons CO2e) |
| Arva Fire Station | 22,489.50 | 119.10 | 6.00 |
| Bryanston Fire Station/Community Centre | 20,431.00 | 259.70 | 13.10 |
| Coldstream Community Centre | 69,540.50 | 57.10 | 2.90 |
| Coldstream Fire Station (NET ZERO) | - | - | - |
| Delaware Community Centre | 29,971.40 | 311.60 | 15.70 |
| Delaware Fire Station | 8,799.90 | 134.80 | 6.80 |
| Delaware Operations Centre | 106,299.20 | 554.50 | 27.90 |
| Denfield Operations Centre | 209,383.90 | 1,154.60 | 58.00 |
| Ilderton Arena & Curling Club | 490,444.40 | 2,353.20 | 118.30 |
| Ilderton Community Centre | 22,726.30 | 525.90 | 26.40 |
| Ilderton Firehall | 16,552.20 | 188.10 | 9.50 |
| Ilderton Wastewater Treatment Facility | 614,266.60 | 736.20 | 37.00 |
| Komoka Community Centre | 40,875.50 | 579.40 | 29.10 |
| Komoka Wastewater Treatment Facility | 592,315.70 | 51.30 | 2.60 |
| Municipal Office | 69,540.50 | 341.30 | 17.20 |

| <u>2021</u> | | | |
|--------------------------------------|--------------------------|-------------------------|--|
| OPERATION NAME | ELECTRICITY (kWh) | NATURAL GAS (GJ) | DIRECT GHG EMISSIONS (Metric Tons CO2e) |
| Komoka Wellness & Recreation Complex | 1,649,556.30 | 6,895.10 | 346.70 |

| <u>2020</u> | | | |
|---|--------------------------|-------------------------|--|
| OPERATION NAME | ELECTRICITY (kWh) | NATURAL GAS (GJ) | DIRECT GHG EMISSIONS (Metric Tons CO2e) |
| Arva Fire Station | 15,427.00 | 96.90 | 4.90 |
| Bryanston Fire Station/Community Centre | 17,789.00 | 214.70 | 10.80 |
| Coldstream Community Centre | 60,741.00 | 69.10 | 3.50 |
| Coldstream Fire Station (NET ZERO) | - | - | - |
| Delaware Community Centre | 23,052.00 | 318.20 | 16.00 |
| Delaware Fire Station | 7,284.00 | 144.50 | 7.30 |
| Delaware Operations Centre | 81,892.00 | 232.80 | 11.70 |
| Denfield Operations Centre | 191,859.00 | 1,342.20 | 67.50 |
| Ilderton Community Centre | 16,550.00 | 257.40 | 12.90 |
| Ilderton Arena & Curling Club | 407,364.00 | 1,610.70 | 81.00 |

| <u>2020</u> | | | |
|--|--------------------------|-------------------------|--|
| OPERATION NAME | ELECTRICITY (kWh) | NATURAL GAS (GJ) | DIRECT GHG EMISSIONS (Metric Tons CO2e) |
| Ilderton Firehall | 15,363.00 | 214.20 | 10.80 |
| Ilderton Wastewater Treatment Facility | 496,079.90 | 601.40 | 30.20 |
| Komoka Community Centre | 20,274.00 | 838.40 | 42.20 |
| Komoka Wastewater Treatment Plant | 578,395.90 | 13.80 | 0.70 |
| Municipal Office | 60,741.00 | 379.90 | 19.10 |
| Komoka Wellness & Recreation Complex | 1,434,591.10 | 5,527.60 | 277.90 |

| <u>2019</u> | | | |
|---|--------------------------|-------------------------|--|
| OPERATION NAME | ELECTRICITY (kWh) | NATURAL GAS (GJ) | DIRECT GHG EMISSIONS (Metric Tons CO2e) |
| Arva Fire Station | 21,525.70 | 121.60 | 6.10 |
| Bryanston Fire Station/Community Centre | 26,280.70 | 249.00 | 12.50 |
| Coldstream Community Centre | 85,042.90 | 236.40 | 11.90 |
| Coldstream Fire Station (NET ZERO) | 1.00 | - | - |
| Delaware Community Centre | 48,033.40 | 487.50 | 24.50 |

| 2019 | | | |
|--|--------------------------|-------------------------|--|
| OPERATION NAME | ELECTRICITY (kWh) | NATURAL GAS (GJ) | DIRECT GHG EMISSIONS (Metric Tons CO2e) |
| Delaware Fire Station | 9,933.00 | 151.10 | 7.60 |
| Delaware Operations Centre | 88,136.90 | 298.30 | 15.00 |
| Denfield Operations Centre | 231,979.30 | 1,379.00 | 69.30 |
| Ilderton Community Centre | 40,211.10 | 312.90 | 15.70 |
| Ilderton Arena & Curling Club | 554,279.90 | 1,682.60 | 84.60 |
| Ilderton Firehall | 19,152.40 | 203.40 | 10.20 |
| Ilderton Wastewater Treatment Facility | 535,500.00 | - | - |
| Komoka Community Centre | 70,596.30 | 702.10 | 35.30 |
| Komoka Wastewater Treatment Plant | 414,599.90 | - | - |
| Municipal Office | 85,042.90 | 236.40 | 11.90 |
| Komoka Wellness & Recreation Complex | 1,943,003.20 | 5,631.90 | 283.20 |

| 2018 | | | |
|---|--------------------------|-------------------------|--|
| OPERATION NAME | ELECTRICITY (kWh) | NATURAL GAS (GJ) | DIRECT GHG EMISSIONS (Metric Tons CO2e) |
| Arva Fire Station | 18,654.60 | 139.60 | 7.00 |
| Bryanston Fire Station/Community Centre | 28,369.60 | 305.20 | 15.30 |
| Coldstream Community Centre | 5,053.80 | 283.90 | 14.30 |
| Coldstream Fire Station | 5,676.50 | - | - |
| Delaware Community Centre | 46,627.20 | 551.70 | 27.70 |
| Delaware Fire Station | 8,961.50 | 175.30 | 8.80 |
| Delaware Operations Centre | 68,880.00 | 658.80 | 33.10 |
| Denfield Operations Centre | 181,597.90 | 1,316.00 | 66.20 |
| Ilderton Community Centre | 31,600.00 | 321.70 | 16.20 |
| Ilderton Arena & Curling Club | 598,229.90 | 1,624.80 | 81.70 |
| Ilderton Firehall | 16,237.10 | 199.10 | 10.00 |
| Ilderton Wastewater Treatment Facility | 400,080.00 | - | - |
| Komoka Community Centre | 59,280.00 | 761.20 | 38.30 |
| Komoka Wastewater Treatment Plant | 409,559.90 | 62.00 | 3.10 |
| Municipal Office | 5,053.80 | 283.90 | 14.30 |
| Komoka Wellness & Recreation Complex | 1,849,818.10 | 5,053.80 | 254.10 |

| 2017 | | | |
|---|--------------------------|-------------------------|--|
| OPERATION NAME | ELECTRICITY (kWh) | NATURAL GAS (GJ) | DIRECT GHG EMISSIONS (Metric Tons CO2e) |
| Arva Fire Station | 20,606.00 | 127.90 | 6.40 |
| Bryanston Fire Station/Community Centre | 22,949.00 | 240.80 | 12.10 |
| Coldstream Community Centre | 2,400.00 | 61.50 | 3.10 |
| Coldstream Fire Station | 13,491.00 | 106.10 | 5.30 |
| Delaware Community Centre | 43,525.00 | 476.50 | 23.90 |
| Delaware Fire Station | 10,592.00 | 136.20 | 6.80 |
| Delaware Operations Centre | 73,680.00 | 483.30 | 24.20 |
| Denfield Operations Centre | 196,005.00 | 392.50 | 19.70 |
| Ilderton Community Centre | 45,520.00 | 261.20 | 13.10 |
| Ilderton Arena & Curling Club | 711,240.00 | 1,632.90 | 81.90 |
| Ilderton Firehall | 15,319.00 | 155.80 | 7.80 |
| Ilderton Wastewater Treatment Facility | 544,079.90 | - | - |
| Komoka Community Centre | 45,520.00 | 631.60 | 31.70 |
| Komoka Wastewater Treatment Plant | 45,520.00 | 57.30 | 2.90 |
| Municipal Office | 21,629.00 | 246.10 | 12.30 |

| <u>2017</u> | | | |
|--------------------------------------|--------------------------|-------------------------|--|
| OPERATION NAME | ELECTRICITY (kWh) | NATURAL GAS (GJ) | DIRECT GHG EMISSIONS (Metric Tons CO2e) |
| Komoka Wellness & Recreation Complex | 2,009,461.70 | 6,225.10 | 312.30 |

| <u>2016</u> | | | |
|---|--------------------------|-------------------------|--|
| OPERATION NAME | ELECTRICITY (kWh) | NATURAL GAS (GJ) | DIRECT GHG EMISSIONS (Metric Tons CO2e) |
| Arva Fire Station | 17,073.60 | 144.20 | 7.20 |
| Bryanston Fire Station/Community Centre | 24,326.90 | 238.60 | 12.00 |
| Coldstream Community Centre | 1,280.00 | 83.10 | 4.20 |
| Coldstream Fire Station | 14,084.10 | 106.60 | 5.30 |
| Delaware Community Centre | 44,570.40 | 443.20 | 22.20 |
| Delaware Fire Station | 10,632.00 | 138.90 | 7.00 |
| Delaware Operations Centre | 91,200.00 | 541.00 | 27.10 |
| Denfield Operations Centre | 162,681.80 | 12.50 | 0.60 |
| Ilderton Community Centre | 36,480.00 | 240.20 | 12.00 |
| Ilderton Arena & Curling Club | 695,039.90 | 1,487.90 | 74.60 |

| 2016 | | | |
|--|--------------------------|-------------------------|--|
| OPERATION NAME | ELECTRICITY (kWh) | NATURAL GAS (GJ) | DIRECT GHG EMISSIONS (Metric Tons CO2e) |
| Ilderton Firehall | 17,976.60 | 162.80 | 8.20 |
| Ilderton Wastewater Treatment Facility | 541,199.90 | - | - |
| Komoka Community Centre | 57,280.00 | 554.90 | 27.80 |
| Komoka Wastewater Treatment Plant | 456,359.90 | - | - |
| Municipal Office | 12,522.40 | 343.00 | 17.20 |
| Komoka Wellness & Recreation Complex | 2,271,723.80 | 5,095.80 | 255.50 |

| 2015 | | | |
|---|--------------------------|-------------------------|--|
| OPERATION NAME | ELECTRICITY (kWh) | NATURAL GAS (GJ) | DIRECT GHG EMISSIONS (Metric Tons CO2e) |
| Arva Fire Station | 14,360.00 | 193.20 | 9.70 |
| Bryanston Fire Station/Community Centre | 23,447.00 | 268.20 | 13.40 |
| Coldstream Community Centre | 1,280.00 | 91.20 | 4.60 |
| Coldstream Fire Station | 10,236.00 | 150.40 | 7.50 |
| Delaware Community Centre | 46,762.00 | 597.90 | 29.90 |

| 2015 | | | |
|--|--------------------------|-------------------------|--|
| OPERATION NAME | ELECTRICITY (kWh) | NATURAL GAS (GJ) | DIRECT GHG EMISSIONS (Metric Tons CO2e) |
| Delaware Fire Station | 10,415.00 | 186.20 | 9.30 |
| Delaware Operations Centre | 125,839.90 | 663.30 | 33.20 |
| Denfield Operations Centre | 169,856.00 | - | - |
| Ilderton Community Centre | 31,752.00 | 276.40 | 13.80 |
| Ilderton Arena & Curling Club | 665,279.90 | 1,623.60 | 81.20 |
| Ilderton Firehall | 10,883.00 | 211.20 | 10.60 |
| Ilderton Wastewater Treatment Facility | 550,560.00 | - | - |
| Komoka Community Centre | 51,680.00 | 686.10 | 34.30 |
| Komoka Wastewater Treatment Plant | 443,339.90 | - | - |
| Municipal Office | 11,680.00 | 396.50 | 19.80 |
| Komoka Wellness & Recreation Complex | 2,233,745.20 | 6,576.80 | 328.90 |

ⁱ <https://www12.statcan.gc.ca/census-recensement/2021/dp-pd/prof/details/page.cfm?Lang=E&SearchText=middlesex%20centre&DGUIDlist=2021A00053539033&GENDERlist=1&STATISTIClist=1&HEADERlist=0>