

Township of Mapleton

CDM Plan 2014-2019



June 6, 2014

Energy Management Plan

Township of Mapleton

From: 2014-01-01 to: 2018-12-31

Commitment

- **Declaration of Commitment:** Council Resolution: We will allocate the necessary resources to develop and implement a strategic energy management plan that will reduce our energy consumption and its related environmental impact.
- **Vision:** We will exercise stewardship in our use of finite energy resources to demonstrate leadership, optimize our delivery of services, and enhance the overall quality of life in our community. We will manage energy efficiently, reduce our total energy consumption. This will involve all municipal employees' participation to develop energy saving strategies, to implement the energy plan and to make the township an environmentally sustainable community.
- **Policy:** We will incorporate energy efficiency into all areas of our activity including our organizational and human resources management procedures, procurement practices, financial management, investment decisions, facility operations and maintenance. We will develop a purchasing policy to ensure that energy conservation and efficiency is a key factor in any new equipment purchasing and facility updates. We will develop corporate wide policy to engage employees in taking energy saving actions in at the workplace.
- **Goals:** We will continuously improve the energy efficiency of our facilities and processes in order to reduce our operating costs, our energy consumption and the associated greenhouse gas emissions.
- **Overall Target:** We will reduce our consumption of fuels and electricity in all municipal operations by an average of 2% per year between now and 2020.
- **Objectives:** To implement energy audits on all municipal facilities in next five years; To improve the energy efficiency of our facilities by utilizing best practices; To better analyze energy costs and look for saving opportunities; To utilize available funding incentive to improve energy efficiency.

Organizational Understanding

- **Our Municipal Energy Needs:** We need reliable, low-cost, sustainable energy sources delivering energy to the most efficient facilities and energy-consuming technology feasible.
- **Stakeholder Needs:** Internal stakeholders (Council, CAO, staff) need to be able to clearly communicate the corporate commitment to energy efficiency, and to develop the skills and knowledge required to implement energy management practices and measures. External stakeholders (the Province, community citizens and groups) need the municipality to be accountable for energy performance and to minimize the energy component of the costs of municipal services.

- Municipal Energy Situation: (Strength, Weaknesses, Opportunities and Threats) Our assessment of organizational capacity for energy management with respect to energy policy; organizational structure; employee awareness, skills and knowledge; energy information management; communications; and investment practices indicates the following high, medium and low priorities for development (list): energy management policy-high, employee awareness about energy-high.

- How We Manage Energy Today: The management of energy consumption are the responsibilities of Finance Department (cost management), the data is monitored using LAS Energy Planning Tool (EPT). Energy consumption data is entered into the EPT. Consumption/trends are analyzed and reports are generated. Our Public Works Department is responsible for maintenance, energy supply management, and the energy performance of our facilities and equipment. Department managers are responsible for day-day energy operation.

- Summary of Current Energy Consumption, Cost and GHGs: Total annual energy consumption for the years 2012 and 2013 are provided in appendix A. Staff will continue to report on energy consumption as required to the Ministry of Energy before the annual July deadline. The township relies on its utility bills to establish the numbers in this baseline year and all future years.

- Summary of Current Technical Practices: Our assessment of operations and maintenance practices, facility and equipment condition, and energy performance indicators establishes the following priorities: 1. Upgrade and retrofit of existing facilities to achieve energy efficiency. 2. Development of standard operating procedures incorporating energy efficiency optimization. 3. Enhancement of preventative maintenance procedures.

- Renewable Energy Utilized or Planned: The Township of Mapleton aspires to show leadership in the promotion and development of renewable energy systems that are compatible with our asset management and land use planning objectives. As a result, we will investigate the potential to develop solar photovoltaic systems on the rooftops of any new facilities with sound, south-facing roofs.

Strategic Planning

- Links with other municipal plans: As an integral component of the management structure, the energy management plan is coordinated with the municipality's budget planning process, strategic plan, purchasing policy, preventative maintenance plans, environmental management plan, and the overall asset management plan.

Structure Planning

- Staffing requirements and duties: We will incorporate energy efficiency into standard operating procedures and the knowledge requirements for operational jobs.

Resources Planning

- **Energy Leader:** We will designate the Director of Public Works as the energy leader with overall responsibility for corporate energy management.

- **Energy Team:** All staff will be energy efficiency team members and will be responsible to the overall municipal energy management plan. We will raise the employee's awareness of energy consumption. We will incorporate "green thinking" into the company culture. We will encourage employees to reduce energy consumption through daily actions such as turning off the lights, computers, printers, reducing waste of paper by setting computer defaults to print double-sided.

- **Key Individuals:** We will identify staff members and personnel from our critical service providers who carry significant responsibility for energy performance or who can make essential input to energy management processes.

- **Internal Resources:** We will develop criteria for determining whether internal resources can be utilized for the implementation of energy projects.

- **External Consultants and Suppliers:** We will establish criteria based on our energy goals and objectives for the selection of external consultants and energy suppliers.

- **Energy Training:** Where feasible, we will develop and deliver energy training for relevant staff and Council members. This training will not be limited to operators and maintainers with "hands-on" involvement with energy consuming equipment but will also include others since they also make energy consumption decision in their daily work. Training focused on the energy use and conservation opportunities associated with employee job functions will be utilized whenever possible.

Procurement Planning

- **Energy Purchasing:** We will develop a procedure for the negotiation of energy purchase contracts that appropriately addresses our cost considerations, available energy services, energy quality and reliability, and other performance factors.

- **Consideration of energy efficiency of acquired equipment:** Our purchasing procedures will be modified as required to incorporate energy efficiency into the criteria for selection of materials and equipment.

Implementation Planning

- **Building Standards:** We will develop criteria for the design and/or acquisition of new buildings that include energy performance factors and that use as appropriate the principles embedded in performance standards such as LEED and the Model National Energy Code for Buildings. LEED (Leadership in Energy and Environmental Design) is a green building certification tool administered by CaBGC (Canada Green Building Council), which provides a framework for constructing green/energy efficient buildings.

- **Communication Programs:** We will develop a communication strategy that creates and sustains awareness of energy efficiency as a corporate priority among all employees, and conveys our commitment and progress to our stakeholders.

Investment Planning

- **Internal Funding Sources:** We will develop criteria for determining whether internal resources can be utilized for the implementation of energy projects.
- **Creative Approaches:** We will investigate options for the implementation of energy projects that utilize public-private partnerships, creative financing arrangements including energy performance contracting, and other creative approaches.

Implementation Planning

- **Business Procedures:** We will carry out a comprehensive review of all business processes and modify them as necessary in order to incorporate energy efficiency considerations.

Projects Execution

- **Municipal Level:** The administration and implementation of this energy conservation and demand management plan will be the responsibility of the Director of Public Works and the management team. All municipal staff will be participating in the implementation of the energy plan. The management team's responsibility is to train staff to be aware of their energy use and work towards a culture of conservation.
- **Asset Level:** The first step in implementing an energy management program is the completion of energy audits for corporate facilities. Audits involve a technical review of a facility and its operations, the development and analysis of a baseline energy profile for the facility and identification of energy management opportunities and savings. We have recently retained our local LAS EESP to audit our facilities and provide some recommendations for energy efficiency measures. We will continue to coordinate with LAS, and have our facility managers re-examine our facilities on a regular basis to implement new technology where it applies to reduce the energy consumption and greenhouse gas emissions.

Review

- **Energy Plan Review:** We will review and evaluate our energy plan, revising and updating it as necessary, at least every 5 years as required by provincial regulation.
- **Discussion of Progress:** We will correlate our progress towards corporate goals and objectives, and update those goals and objectives accordingly.

Evaluation Progress

- **Energy Consumption:** Our energy consumption was 3,198,057 ekWh/yr in 2011, and 3,020,785 ekWh/yr in 2013. It represents a 5.5% reduction in two years. We continue to work on some projects to reduce energy consumption. Please see appendix A: Consumption Reports.

- **Green House Gas Emission:** Our greenhouse gas emissions were 422,730 kg CO₂e in 2011, and were 402,639 in 2013 kg CO₂e. It represents a 4.8% reduction in two years. Please see appendix A: Consumption Reports.

Programs

Description	Facility	Contact	Date	Status
Staff Training, Employee Engagement	Mapleton Township Office	,	2014-08-04	Pending
Details	Successful energy management program depend on employee's support and participation. We will add energy awareness to staff meetings and management meetings, and help staff to understand and become aware of energy efficiency. We will provide tours of the township facilities, training and workshops to our staff. We will consider an incentive program to reward employees who are actively involved in daily energy saving program.			
Energy Audit		Yufang Du, Director of Finance	2014-04-28	Completed
Details	Our local LAS, EESP has completed the energy audit for various municipal locations.			
Energy Leader		,	2014-07-01	Pending
Details	Township of Mapleton is in the process of hiring a director of public works. The director of public works will oversee the energy saving projects, instill a culture of energy conservation within their department, develop conservation strategies within facility staff, find best practices, and monitor progress towards energy conservation goals.			
Implement Behavioural Program	Mapleton Township Office	,	2014-06-05	Pending
Details	Implement a behavioral program to encourage employees to save energy at work and at home. Explore incentives, contests, and awards to motivate staff.			

Processes

Description	Facility	Contact	Start	End	Status	Cost	Save (ekWh/yr)	Save (\$)	ROI
Re-lamping Existing Facilities		,	2014-09-01	2014-09-01	Pending [0%]	0.00	0	0.00	3
Details	Interior lighting in some municipal facilities are still using old inefficient lamps. Replacing these lamps will significantly reduce the maintenance cost and energy consumption.								
Occupancy Sensors		,	2015-06-01	2015-06-01	Pending [0%]	0.00	0	0.00	0
Details	There are no occupancy sensors in most of our township rooms. They require employees to manually turn off the lights. By								

	installing occupancy sensors, the light operating time could be reduced on average by 30% - 50%.								
From Manual Thermostats to Automatic Thermostats		,	2015-10-01	2015-10-31	Pending [0%]	0.00	0	0.00	0
Details	Most of our buildings use manual thermostats to control heating and cooling. Replacing the manual thermostats with automatic thermostats could result in energy savings								
Electronic Device Usage Efficiency		,	2014-07-01	2014-12-31	Pending [0%]	0.00	0	0.00	0
Details	Everybody's action counts when it comes to using energy efficiently. Employees need to turn off all the electronic devices when they are not in use, such as coffee makers, printers, calculators, computers, and lights. Each individual can make a big difference by daily actions of turning off these devices.								
Review Energy Usage		,	2014-06-05	2014-06-05	Pending [0%]	0.00	0	0.00	0
Details	Review utility data on a monthly basis at the management meetings. Brainstorm ideas about how to save energy. Contact suppliers as needed.								
discussion with staff and Council		,	2014-06-05	2014-06-05	Pending [0%]	0.00	0	0.00	0
Details	Have regular staff meetings to discuss the energy saving program. Have regular updates to Council about the energy consumptions and the progress of the energy saving program.								

Projects

Description	Facility	Contact	Start	End	Status	Cost	Save (ekWh/yr)	Save (\$)	ROI
Streetlight upgrade		Patty Sinnamon, CAO/Clerk & Economic Development	2014-10-01	2014-12-31	Pending [5%]	253000.00	2179000	49600.00	5
Details	Upgrade 391 HPS streetlights to LED. OPA rebate is available.								
PMD Interior Lighting	PMD Arena	Don Culp , Facilities Manager	2014-09-01	2014-09-30	Pending [0%]	2500.00	4800	670.00	3
Details	Upgrade interior lighting from T12 fluorescent to T8 technology with electronic ballasts. Payback includes \$670 savings per year, and incentive of \$850 available until December 31, 2014.								
Occupancy Sensors	PMD Arena	Don Culp , Facilities Manager	2015-06-01	2015-06-30	Pending [0%]	2500.00	0	0.00	3

Details	Install occupancy sensors in Men's and Women's washrooms, dressing rooms and offices. The energy savings could be 40-50% in washroom lighting and 80% in dressing room lighting. The payback also includes an incentive of \$280.								
HVAC	PMD Arena	Don Culp , Facilities Manager	2015-06-01	2015-06-30	Pending [0%]	30000.00	10300	1500.00	15
Details	Upgrade (2) 12.5 tonne roof top units as they are near the end of their life. Payback includes savings of \$1,500 per year and an incentive of \$4740 is available.								
Replace Thermostats	Roads Shop Maryborough	Don Culp , Facilities Manager	2015-09-01	2015-09-01	Pending [0%]	300.00	0	0.00	2
Details	Replace manual thermostats with programmable thermostats, reduce fuel usage.								
MCC Lighting	Moorefield Community Centre	Don Culp , Facilities Manager	2014-09-01	2014-09-30	Pending [0%]	4200.00	11550	1615.00	3
Details	Replacing interior T12 fluorescent lighting with T8 lamps and electronic ballasts. Replace existing recessed lighting/track light PAR38 and wall sconce lamps with LED. Upgrade exit sign lamps to LED technology. This will results in \$1615 savings per year, an incentive of \$1344 is available until December 31, 2014.								
Replace HID lighting Over Ice Surface	PMD Arena	Don Culp , Facilities Manager	2016-07-01	2016-07-31	Pending [0%]	27000.00	32400	4530.00	6
Details	Replace HID lighting over ice surface with LED or T5 technology. Payback includes savings of \$4530 per year and available incentive of \$3888.								
Upgrade Exterior Lighting	Roads Shop Maryborough	Don Culp , Facilities Manager	2014-09-01	2014-09-30	Pending [0%]	12000.00	14900	2080.00	5
Details	Upgrade exterior lighting (HID pot lights, floods, wall packs) to LED technology. Replace MH shop lights with LED or T5 high bay technology. Annual saving will be \$2,080.								
Replace Thermostats	Moorefield Community Centre	,	2015-09-01	2015-09-01	Pending [0%]	900.00	0	500.00	2
Details	Replace manual thermostats with remotely controlled programmable thermostats. Payback includes fuel savings of 2000 m³ per year and \$500 per year.								
Occupancy Sensors	Moorefield Community Centre	,	2015-06-01	2015-06-30	Pending [0%]	300.00	0	40.00	5
Details	Install occupancy sensors in the kitchen. Payback includes 50-75% savings in fuel and an incentive of \$40, no electric savings are expected.								
Upgrade Exterior Lighting	Roads Shop - Drayton	,	2014-09-01	2014-09-30	Pending [0%]	500.00	800	110.00	5
Details	Upgrade exterior lighting (HID wall packs) to LED technology. Estimated savings are \$110 per year.								

Replace Thermostats	Roads Shop - Drayton	,	2015-09-01	2015-09-30	Pending [0%]	400.00	800	470.00	1
Details	Install programmable thermostat to control shop unit heater. Payback includes nature gas savings of 900m ³ per year and \$360 per year. Install programmable thermostat on electric heat in office. The estimated savings will be \$110 per year.								
Upgrade HVAC	Roads Shop - Drayton	,	2015-06-01	2015-06-30	Pending [0%]	2000.00	0	0.00	0
Details	Upgrade forced air unit heater to radiant tube heating system in shop. Savings will be in fuel reduction, not in electricity. An incentive of \$300 from Union Gas is available.								
Township Office Lighting	Mapleton Township Office	,	2014-09-01	2014-09-30	Pending [0%]	7000.00	13885	1930.00	3
Details	Upgrade interior recessed lighting to LED technology. Replace interior T12 fluorescent lighting with T8 lamps and electronic ballasts. Remove lamps/fixtures in over lit spaces (washrooms, basement corridor). Payback includes savings of \$1930 per year and an incentive of \$2027 available until December 31, 2014.								
Occupancy Sensors	Mapleton Township Office	,	2015-06-01	2015-06-01	Pending [0%]	600.00	0	0.00	4
Details	Install occupancy sensors in file storage room and kitchenette. Payback includes 30% savings in room lighting consumption and incentive of \$80.								
Upgrade Lighting	Water Pump House - Moorefield	,	2014-09-01	2014-09-30	Pending [0%]	300.00	250	40.00	7
Details	Upgrade exterior lighting to LED technology, expecting \$40 savings per year.								
Occupancy Sensors	Water Pump House - Moorefield	,	2015-06-01	2015-06-30	Pending [0%]	600.00	5750	800.00	1
Details	Install occupancy sensors on lighting systems in all rooms. Payback includes \$800 savings per year and incentive of \$80.								
Pump Motors	Water Pump House - Moorefield	,	2016-06-03	2016-06-30	Pending [0%]	2000.00	11	0.00	3
Details	Install VSD on (5HP) pump motor and stage motors appropriately. Consider shifting pump motor run times to after hours to fill water tower. Savings includes 50% energy reduction and \$265 incentive available.								

Appendix A: Consumption Reports



Township of Mapleton
CDM Plan 2014-2019

Energy Consumption and GHG Emissions

From: 2011-01-01 To: 2011-12-31

Facility Name	Address	Total Area(m2)	Average Hours/Day	Fuel Types	Consumption	Energy (ekWh/yr)	GHG Emissions (kgCO2e/yr)	GHG Intensity (kgCO2e/m2)	Energy Intensity
Facility Primary Type: Office									
Mapleton Health C	11 Andrews Drive	1021	5.72	NG	12659.00 m3	134537.03	23933.45	23.44	131.77 (ekWh/m2)
				Elect.	165547.00 kWh	165547	15899.13	15.57	162.14 (ekWh/m2)
Mapleton Townsh	7275 Sideroad 16	278	6.43	NG	3523.00 m3	37441.66	6660.68	23.96	134.68 (ekWh/m2)
				Elect.	45425.00 kWh	45425	4362.62	15.69	163.40 (ekWh/m2)
Facility Type Total						382950.69	50855.88		
Facility Primary Type: Emergency Medical Services									
Maryborough Fire	5 Hillwood Drive	510	2	Elect.	34100.00 kWh	34100	3274.96	6.42	66.86 (ekWh/m2)
Drayton Fire Static	12 Main Street We	445	4.14	NG	3429.00 m3	36442.65	6482.96	14.57	81.89 (ekWh/m2)
				Elect.	32820.00 kWh	32820	3152.03	7.08	73.75 (ekWh/m2)
Facility Type Total						103362.65	12909.96		
Facility Primary Type: Community Centre									
PMD Arena	68 Main Street W	557	9.43	NG	13576.22 m3	144285.03	25667.57	46.08	259.04 (ekWh/m2)
				Elect.	126698.86 kWh	126698.86	12168.16	21.85	227.47 (ekWh/m2)
Alma Community C	51 Simpson Street	454	3.14	NG	2901.00 m3	30831.18	5484.71	12.08	67.91 (ekWh/m2)
				Elect.	84507.00 kWh	84507	8116.05	17.88	186.14 (ekWh/m2)
Moorefield Comm	15 Ball Avenue	100	4.43	NG	12567.00 m3	133559.27	23759.51	237.6	1335.59 (ekWh/m2)
				Elect.	19680.00 kWh	19680	1890.07	18.9	196.80 (ekWh/m2)
Facility Type Total						539561.34	77086.06		
Facility Primary Type: Public Works									
Roads Shop - Peel	7275 Sideroad 16	798	8.72	NG	20390.00 m3	216700.37	38549.88	48.31	271.55 (ekWh/m2)
				Elect.	36117.00 kWh	36117	3468.68	4.35	45.26 (ekWh/m2)

Roads Shop Maryt 3 Hillwood Drive	761	8.72 NG Elect.	5130.00 m3 22600.00 kWh	54520.5 22600	9698.92 2170.5	12.74 71.64 (ekWh/m2) 2.85 29.70 (ekWh/m2)
Water Pump Hous 2 Hillwood Drive	8	24 NG Elect.	14929.00 m3 70600.00 kWh	158662.08 70600	28225.17 6780.42	3528.15 3269.65 (ekWh/ML) 847.55 1454.90 (ekWh/ML)
Sewage Pumping 5 20 Booth Street Ea	100	24 Elect.	29300.00 kWh	29300	2813.97	28.14 872.65 (ekWh/ML)
Water Pump Hous 60 Wood Street	74	24 Elect.	138200.00 kWh	138200	13272.73	179.36 788.10 (ekWh/ML)
Roads Shop - Dray 58 Wood Street	185	8.72 NG Elect.	3971.00 m3 8107.00 kWh	42202.9 8107	7507.68 778.6	40.58 228.12 (ekWh/m2) 4.21 43.82 (ekWh/m2)
Moorefield Stora 37 Adam Brown St	41	0.72 Elect.	17.00 kWh	17	1.63	0.04 0.41 (ekWh/m2)
Sewage Pumping 5 20 Mill Street	32	24 Elect.	72500.00 kWh	72500	6962.9	217.59 334.42 (ekWh/ML)
Sewage lagoon - D 7101 Sideroad 15	100	24 Elect.	219990.00 kWh	219990	21127.84	211.28 610.38 (ekWh/ML)
Facility Type Total				1069516.9	141358.92	
Facility Primary Type: Other						
Drayton Ball Park 51 Elm Street	37	2 Elect.	5532.00 kWh	5532	531.29	14.36 149.51 (ekWh/m2)
Moorefield Optimi 14 Ball Avenue	100	2 Elect.	10337.00 kWh	10337	992.77	9.93 103.37 (ekWh/m2)
Moorefield Recrea 15 Ball Avenue	41	1 Elect.	8681.00 kWh	8681	833.72	20.33 211.73 (ekWh/m2)
Drayton Cemetery 187 Wellington Str	41	1 Elect.	18.00 kWh	18	1.73	0.04 0.44 (ekWh/m2)
Pavillion - Drayton 57 Wellington Stre	100	1 Elect.	14.00 kWh	14	1.34	0.01 0.14 (ekWh/m2)
Facility Type Total				24582	2360.86	
Facility Primary Type: Single-Pad Arena						
PMD Arena 68 Main Street W	1460	9.43 NG Elect.	35585.78 m3 332101.14 kWh	378197.74 332101.14	67279.44 31894.99	46.08 259.04 (ekWh/m2) 21.85 227.47 (ekWh/m2)

Facility Type Total				710298.88	99174.43		
Facility Primary Type: Streetlights (optional)							
Moorefield Tennis 15 Ball Avenue	100	2 Elect.	5280.00 kWh	5280	507.09	5.07	52.80 (ekWh/m2)
Streetlight - Conce Concession 11, Lot	1	12 Elect.	3014.00 kWh	3014	289.46	289.46	3014.00 (ekWh/m2)
Streetlight - 15 Qu 15 Queen Street	1	12 Elect.	11264.00 kWh	11264	1081.79	1081.79	11264.00 (ekWh/m2)
Streetlight - 112 Pe 112 Peel Street	1	12 Elect.	46332.00 kWh	46332	4449.73	4449.73	46332.00 (ekWh/m2)
Streetlight - Conce Concession 11, Lot	1	12 Elect.	10696.00 kWh	10696	1027.24	1027.24	10696.00 (ekWh/m2)
Streetlight - Conce Concession 14, Lot	1	12 Elect.	4081.00 kWh	4081	391.94	391.94	4081.00 (ekWh/m2)
Streetlight - Drayt 7275 Sideroad 16	1	12 Elect.	148753.00 kWh	148753	14286.24	14286.24	148753.00 (ekWh/m2)
Streetlight - River River Run Road	1	12 Elect.	7337.00 kWh	7337	704.65	704.65	7337.00 (ekWh/m2)
Streetlight - 0 Mail 0 Main Street	1	12 Elect.	3796.00 kWh	3796	364.57	364.57	3796.00 (ekWh/m2)
Streetlight - Moor Moorefield	1	12 Elect.	59895.00 kWh	59895	5752.32	5752.32	59895.00 (ekWh/m2)
Streetlight - Conce Concession 10, Lot	1	12 Elect.	17336.00 kWh	17336	1664.95	1664.95	17336.00 (ekWh/m2)
Streetlight - Conce Concession 9, Lot :	1	12 Elect.	8173.00 kWh	8173	784.93	784.93	8173.00 (ekWh/m2)
Streetlight - Conce Concession 5, Lot :	1	12 Elect.	8674.00 kWh	8674	833.05	833.05	8674.00 (ekWh/m2)
Streetlight - Conce Concession 11 - Lo	1	12 Elect.	22671.00 kWh	22671	2177.32	2177.32	22671.00 (ekWh/m2)
Streetlight - Riverv Concession 12, Lot	1	12 Elect.	3949.00 kWh	3949	379.26	379.26	3949.00 (ekWh/m2)
Streetlight - Conce Concession 11, Lot	1	12 Elect.	6534.00 kWh	6534	627.53	627.53	6534.00 (ekWh/m2)
Streetlights - Indu Industrial Drive	1	12					

Streetlights - 13 M 13 Main Street	1	12		
Streetlights - Main Main/Wellington/	1	12		
Facility Type Total			367785	35322.07
Grand Total			3198057.4	419068.18

Energy Consumption and GHG Emissions

From: 2013-01-01 To: 2013-12-31

Facility Name	Address	Total Area (m2)	Average Hours/Day	Fuel Types	Consumption	Energy (ekWh/yr)	GHG Emissions (kg CO2e/yr)	GHG Intensity (kg CO2e/m2)	Energy Intensity
Facility Primary Type: Office									
Mapleton Health C	11 Andrews Drive	1021	5.72	NG	10536.00 m3	111974.26	19919.65	19.51	109.67 (ekWh/m2)
				Elect.	135644.00 kWh	135644	13027.25	12.76	132.85 (ekWh/m2)
Mapleton Townsh	7275 Sideroad 16	278	6.43	NG	4140.00 m3	43999	7827.2	28.16	158.27 (ekWh/m2)
				Elect.	42901.00 kWh	42901	4120.21	14.82	154.32 (ekWh/m2)
Facility Type Total						334518.26	44894.3		
Facility Primary Type: Emergency Medical Services									
Maryborough Fire	5 Hillwood Drive	510	2	Elect.	30912.00 kWh	30912	2968.79	5.82	60.61 (ekWh/m2)
Drayton Fire Static	12 Main Street We	445	4.14	NG	4750.00 m3	50481.94	8980.48	20.18	113.44 (ekWh/m2)
				Elect.	29498.00 kWh	29498	2832.99	6.37	66.29 (ekWh/m2)
Facility Type Total						110891.94	14782.25		
Facility Primary Type: Community Centre									
PMD Arena	68 Main Street W	557	9.43	NG	13305.59 m3	141408.84	25155.91	45.16	253.88 (ekWh/m2)
				Elect.	102949.73 kWh	102949.73	9887.29	17.75	184.83 (ekWh/m2)
Alma Community	151 Simpson Street	454	3.14	NG	3122.00 m3	33179.92	5902.54	13	73.08 (ekWh/m2)
				Elect.	81592.00 kWh	81592	7836.1	17.26	179.72 (ekWh/m2)
Moorefield Comm	15 Ball Avenue	100	4.43	NG	12055.00 m3	128117.85	22791.51	227.92	1281.18 (ekWh/m2)
				Elect.	24984.00 kWh	24984	2399.46	23.99	249.84 (ekWh/m2)
Facility Type Total						512232.34	73972.8		
Facility Primary Type: Public Works									
Roads Shop - Peel	7275 Sideroad 16	798	8.72	NG	18022.00 m3	191533.8	34072.88	42.7	240.02 (ekWh/m2)
				Elect.	36839.00 kWh	36839	3538.02	4.43	46.16 (ekWh/m2)

Roads Shop Maryt 3 Hillwood Drive	761	8.72 NG Elect.	5735.00 m3 24110.00 kWh	60950.3 24110	10842.75 2315.52	14.25 80.09 (ekWh/m2) 3.04 31.68 (ekWh/m2)
Water Pump Hous 2 Hillwood Drive	8	24 NG Elect.	13901.00 m3 49137.00 kWh	147736.73 49137	26281.61 4719.12	3285.2 3237.49 (ekWh/ML) 589.89 1076.78 (ekWh/ML)
Sewage Pumping 5 20 Booth Street Ea	100	24 Elect.	42000.00 kWh	42000	4033.68	40.34 1265.82 (ekWh/ML)
Water Pump Hous 60 Wood Street	74	24 Elect.	134679.00 kWh	134679	12934.57	174.79 466.27 (ekWh/ML)
Roads Shop - Dray 58 Wood Street	185	8.72 NG Elect.	5024.00 m3 9343.00 kWh	53393.95 9343	9498.51 897.3	51.34 288.62 (ekWh/m2) 4.85 50.50 (ekWh/m2)
Moorefield Storag 37 Adam Brown St	41	0.72 Elect.	2.00 kWh	2	0.19	0 0.05 (ekWh/m2)
Sewage Pumping 5 20 Mill Street	32	24 Elect.	73700.00 kWh	73700	7078.15	221.19 322.08 (ekWh/ML)
Sewage lagoon - D 7101 Sideroad 15	100	24 Elect.	230680.00 kWh	230680	22154.51	221.55 969.05 (ekWh/ML)
Facility Type Total				1054104.8	138366.8	
Facility Primary Type: Other						
Drayton Ball Park 51 Elm Street	37	2 Elect.	5316.00 kWh	5316	510.55	13.8 143.68 (ekWh/m2)
Moorefield Optimi 14 Ball Avenue	100	2 Elect.	6175.00 kWh	6175	593.05	5.93 61.75 (ekWh/m2)
Moorefield Recrea 15 Ball Avenue	41	1				
Drayton Cemetery 187 Wellington Str	41	1 Elect.	1.00 kWh	1	0.1	0 0.02 (ekWh/m2)
Pavillion - Drayton 57 Wellington Stre	100	1 Elect.	4.00 kWh	4	0.38	0 0.04 (ekWh/m2)
Facility Type Total				11496	1104.08	
Facility Primary Type: Single-Pad Arena						
PMD Arena 68 Main Street W	1460	9.43 NG Elect.	34876.41 m3 269850.27 kWh	370658.71 269850.27	65938.28 25916.42	45.16 253.88 (ekWh/m2) 17.75 184.83 (ekWh/m2)

Facility Type Total				640508.99	91854.7		
Facility Primary Type: Streetlights (optional)							
Moorefield Tennis 15 Ball Avenue	100	2 Elect.	2897.00 kWh	2897	278.23	2.78	28.97 (ekWh/m2)
Streetlight - Conce Concession 11, Lot	1	12 Elect.	3233.00 kWh	3233	310.5	310.5	3233.00 (ekWh/m2)
Streetlight - 15 Qu 15 Queen Street	1	12 Elect.	11060.00 kWh	11060	1062.2	1062.2	11060.00 (ekWh/m2)
Streetlight - 112 Pi 112 Peel Street	1	12 Elect.	45489.00 kWh	45489	4368.76	4368.76	45489.00 (ekWh/m2)
Streetlight - Conce Concession 11, Lot	1	12 Elect.	4906.00 kWh	4906	471.17	471.17	4906.00 (ekWh/m2)
Streetlight - Conce Concession 14, Lot	1	12 Elect.	4378.00 kWh	4378	420.46	420.46	4378.00 (ekWh/m2)
Streetlight - Drayt 7275 Sideroad 16	1	12					
Streetlight - River River Run Road	1	12 Elect.	7871.00 kWh	7871	755.93	755.93	7871.00 (ekWh/m2)
Streetlight - 0 Mail 0 Main Street	1	12 Elect.	132883.00 kWh	132883	12762.08	12762.08	132883.00 (ekWh/m2)
Streetlight - Moor Moorefield	1	12 Elect.	58805.00 kWh	58805	5647.63	5647.63	58805.00 (ekWh/m2)
Streetlight - Conce Concession 10, Lot	1	12 Elect.	18596.00 kWh	18596	1785.96	1785.96	18596.00 (ekWh/m2)
Streetlight - Conce Concession 9, Lot :	1	12 Elect.	8767.00 kWh	8767	841.98	841.98	8767.00 (ekWh/m2)
Streetlight - Conce Concession 5, Lot :	1	12 Elect.	9369.00 kWh	9369	899.8	899.8	9369.00 (ekWh/m2)
Streetlight - Conce Concession 11 - Lo	1	12 Elect.	22258.00 kWh	22258	2137.66	2137.66	22258.00 (ekWh/m2)
Streetlight - Riverv Concession 12, Lot	1	12 Elect.	3878.00 kWh	3878	372.44	372.44	3878.00 (ekWh/m2)
Streetlight - Conce Concession 11, Lot	1	12 Elect.	6415.00 kWh	6415	616.1	616.1	6415.00 (ekWh/m2)
Streetlights - Indu Industrial Drive	1	12 Elect.	3905.00 kWh	3905	375.04	375.04	3905.00 (ekWh/m2)

Streetlights - 13 M 13 Main Street	1	12 Elect.	7955.00 kWh	7955	764	764 7955.00 (ekWh/m2)
Streetlights - Main Main/Wellington/ Facility Type Total	1	12 Elect.	4368.00 kWh	4368	419.5	419.5 4368.00 (ekWh/m2)
Grand Total				357033	34289.45	
				3020785.3	399264.39	