



GRAND VALLEY

Conservation and Demand Management Plan (2019-2024)



Fleet Management



Facilities Management



Strategic Plans

Collaboration

Procurement



Conservation



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Town of Grand Valley Conservation and Demand Management Plan 2019-2024

Introduction and Background

Municipal Energy Management depends on the successful integration of energy-efficient practices into the “business as usual” conduct of the organization. It includes the regular assessment of energy use performance and requires the implementation of measures that reduce energy waste and increase efficiency. Regardless of the size of the municipality, the common element in any successful energy management plan is the allocation of staff and resources to continuously improve energy performance.

Ontario Regulation 507/18 (Broader Public Sector: Energy Reporting and Conservation and Demand Management Plans) requires broader public sector organizations, including municipalities, to develop a CDM plan and update it every five years.

In 2014, the Town of Grand Valley adopted its first Conservation and Demand Management (CDM) Plan. In this update for 2019-2024, we present our new energy conservation goals and objectives, current and proposed energy conservation measures, results from the 2014 CDM plan, and changes from our previous plan to help achieve the new goals and objectives. Furthermore, this updated CDM Plan will continue to support our work under the asset management plan and in our annual budgets.

Vision and Declaration of Commitment

The Town of Grand Valley strives to reduce our total energy consumption and associated GHG production through wise and efficient use of energy and resources, while still maintaining an efficient and effective level of service for our community. This will require a collaborative effort to increase the education, awareness and understanding of energy management within the municipality. Our Vision can be achieved through the integration of efficiencies into our infrastructure and operations, and by building a culture of energy awareness and knowledge within our community. While commitment and leadership from Council and Senior Management is crucial, everyone in our community has a role to play in reducing energy consumption and making wise use of energy.

The Town of Grand Valley commits to allocating the necessary resources to develop and implement this Conservation and Demand Management Plan as required under the *Electricity*

Act, 1998 and Ontario Regulation 507/18. Council supports the execution of the plan and our efforts to avoid unnecessary cost increases and reduce our energy consumption and subsequent environmental impact. Both Council and Senior Management will ensure that the objectives presented in this plan are achieved and that progress is monitored on a continuous basis.

Goals and Objectives

The Town of Grand Valley aspires to continue:

- ✓ Improving the energy efficiency of our facilities, using best practices to reduce our operating costs, energy consumption and GHG emissions.
- ✓ Creating a culture of conservation.
- ✓ Increasing the comfort and safety of staff and visitors to the Town's facilities.
- ✓ Improving the reliability and efficiency of the Town's equipment while reducing maintenance, time and costs.

To achieve the strategic Goals of the Plan, we have established the following Objectives to help achieve our goals:

- ➔ Imbed energy management into the Town's capital and operational decision-making processes, including capital and asset management plans, budgeting, procurement and project design.
- ➔ Ensure energy efficiency across all municipal facilities and seek out savings opportunities through energy commodity procurement options and taking advantage of all available resources and funding for energy projects.
- ➔ Monitor, then analyze and report on energy consumption at least annually to verify the financial and environmental return on investment in our projects.
- ➔ Increase Council and staff awareness regarding energy efficiency by communicating successes and presenting best practices.
- ➔ Create energy generation opportunities if economically viable.

Current Energy Consumption and GHG Emissions

Total energy consumption in Grand Valley includes the use of electricity, oil, propane, natural gas and diesel. The Town of Grand Valley's energy is supplied by a number of providers, including:

- Electricity from Orangeville Hydro (in the urban area) and Hydro One (in rural areas)

- Propane, oil and diesel from local providers
- Natural Gas from Enbridge Gas

We use data obtained from monthly invoices and occasional meter reads to monitor our use and costs incurred.

Appendix A is presented to depict the Town's energy consumption and GHG Emissions from 2012, as was presented in the first Plan, and in 2017, being the last full year for which data is available. This appendix indicates the improvements that the Town made during the course of the first Plan and establishes the benchmark against which the updated Plan will be measured.

Looking Back – what we've accomplished so far

To achieve the results demonstrated in Appendix A, the Town completed the following measures between 2014 and 2017:

- Glass door replacement and automatic door operating mechanism replacement at the municipal office
- Lighting replacement with new LED fixtures in the Town's urban Public Works Shop
- Heater Unit replacement at The Door Youth Centre facility
- Hot Water Tank replacement at the Grand Valley and District Community Centre

In 2018, the Town completed additional measures that are not covered under the Appendix A report, but will create cost savings and decrease GHG emissions:

- Back Entrance door replacement at the municipal office
- Lighting retrofit and replacement with new LED fixtures in the municipal office
- Overhead Door replacement at the Town's rural Public Works Shop
- Furnace replacement in the change rooms at the Grand Valley and District Community Centre

Also in 2018, the Town and Tesla formed a partnership under Tesla's Destination Charging Program to install three electric vehicle charging stations in one of our municipal parking lots, making Grand Valley one of the first locations in the Headwaters region to be part of the program. Through this arrangement, the Town has demonstrated its support for drivers choosing to use electric vehicles to reduce their GHG emissions.

Looking Ahead – what we’re planning for the next five years

Energy conservation measures can be categorized as technical (e.g., installing heat pumps in municipal facilities), organizational (e.g., establishing a staff “green team”), or behavioural (e.g., running a daylight harvesting campaign, where lights are turned off on sunny days). Progress on and results of our measures will be monitored using the annual energy reports prepared under the regulation.

Technical Measures

In 2019, the Town will continue its conservation efforts by converting fluorescent and incandescent lighting to LED fixtures in the municipal office, the library, the medical/dental centre and in the public works yards.

When procuring new vehicles, the Town will continue to include GHG emission reductions and energy efficiency when purchasing, renting and leasing for the various departments.

The Town will continue monitoring invoicing and meter reads to watch for energy and water use anomalies and will ensure water leaks are identified and addressed promptly.

As water fixtures are in need of replacement, the Town will endeavour to choose low-flow and low consumption fixtures.

Whenever the opportunity presents, we will investigate electricity generation opportunities, including solar installation, ground source heating and cooling, and wind power generation.

Organizational Measures

In 2019, the Town passed By-law 2019-10, a By-law to state the manner in which the Town will protect and enhance the tree canopy and natural vegetation in the Town. Under this by-law, the Town will strive to protect its tree canopy, which in turn will improve air quality and reduce the Town’s carbon footprint.

Within the period of this CDM plan, the Town will be conducting studies for and creating a Recreation Master Plan. This plan will present the Town with opportunities to create sustainable, energy-efficient recreation for our community.

Additionally, outdated or unnecessary facilities or processes with either be updated (e.g., computer hardware upgrades to more modern devices that are more energy efficient) or removed from use entirely (e.g., decommissioning of a Town well and demolition of its pumphouse).

Partners for Climate Protection Program

The Town of Grand Valley has joined the Federation of Canadian Municipalities/ICLEI Local Governments for Sustainability Partners for Climate Protection Program, in collaboration with the County of Dufferin and the member municipalities. Through this initiative, the Town will undertake studies, consultations and analysis to determine best practices and next steps for our Town, in addition to those stated in this plan.

Confirmation

On June 25, 2019, in accordance with Section 6(1)(c)(viii) of Ontario Regulation 507/18 under the *Electricity Act, 1998*, the Council for the Corporation of the Town of Grand Valley approved and adopted this Conservation and Demand Management Plan, through By-law 2019-34.

Appendix A – Municipal Energy Comparison of 2012 versus 2017

Operation Name	Year Removed from service	Floor Area (sqft) - 2017	Avg. hrs of operation/ week - 2017	Annual Flow (ML) - 2017	Energy Consumption by Type - 2017			Total – 2012			Total - 2017		
					Electricity (kWh)	Gas (litres)	Propane (litres)	GHG Emissions (Kg)	Energy Intensity (ekWh/sqft)	Energy Intensity (ekWh/ML)	GHG Emissions (Kg)	Energy Intensity (ekWh/sqft)	Energy Intensity (ekWh/ML)
Community Centre		18,350.00	68	2.83500	376,896.7600	20,526.00		79,420.4000	37.21236		45,326.56996	32.42738	209,891.53817
Library		2,504.00	50	0.40000	48,013.9900			6,306.1150	26.22580		830.54600	19.17492	120,034.97500
Medical Centre		4,820.00	40	0.15900	29,800.5900	4,009.00		n/a	n/a	n/a	8,095.01425	15.02227	455,392.12574
Melody Lane Pumphouse		n/a	7	97.80000	98,322.4000			5,765.0240		16,032.9400	1,700.78088		1,005.34151
Monticello/Deaken Street lights		10.00**	56		4,104.0000			n/a	n/a	n/a	70.99099	684.00000	
Mount Haven Street lights		10.00**	56		444.0000			n/a	n/a	n/a	7.68031	44.40000	
Municipal Office		2,030.00	40		30,136.8300	4,127.00*		8,180.6500	41.96040		8,323.92451	36.45205	
Old Well (Crozier)	2019	216.00	5		317.4600			36.8275	1.77528		5.49142	1.46972	
Pavilion		580.00	56		122.3300			n/a	n/a	n/a	2.11606	0.21091	
Pumping Station (Amaranth)		16.00	5		883.7400			89.1357	58.00687		15.28693	55.23375	
Pumping Station (Emma)		288.00	5		84,038.0700			8,139.0560	294.25880		1,453.69053	291.79885	
River Street Pumphouse		n/a	7	174.50000	162,072.8600			9,480.4200		12,702.7700	2,803.53633		928.78430
Rural Shop		3,173.00	40		16,050.4716		9,802.90*	1,524.4430	5.00252		15,383.75311	26.77917	
Sewage Plant		5,145.00	68	202.11280	441,448.7374	20,203.00		63,111.6400		2.12364	45,832.51754	127.53386	3,246.51242
Urban Shop		3,860.00	68	0.09000	11,660.0500	6,681.00		16,495.4900	2.26597		12,832.97453	21.41560	918,491.42374
Urban Street lights		139.00**	56		75,437.5200			n/a	n/a	n/a	1,304.91822	542.71597	
Visitor Centre	2018	1,469.00	40		1,052.0100			n/a	n/a	n/a	18.19767	0.71614	
Water Tower		144.00	5		13,662.7482	20,526.00		2,018.4730	145.95140		236.33822	94.88020	
OPP Station	2015	801.64	10		1816.4900			174.4557	2.26597		n/a	n/a	n/a
Colbeck Hall	2015	1544.00	5		928.0000		557.00	947.4532	3.13732		n/a	n/a	n/a
GRAND VALLEY TOTALS					1,397,209.0572	76,072.00	10,359.90	201,689.5831	618.06269	28,737.8336	144,244.32746	1,994.2308	1,708,990.70088

Notes:

n/a – information not available or not applicable due to closure of the facility

Highlighted figures indicate improvements between 2012 audit and 2017 audit

* - data not recorded in 2012

** - number of street lights in that area

Appendix B – 2019 CDM Plan Update Requirements

Section 6 of the regulation lists the requirements for the 2019 CDM and future plan updates, which includes:

- Information on the public agency's annual energy consumption during the last year for which complete information is available for a full year (2017).
- The public agency's goals and objectives for conserving and otherwise reducing energy consumption and managing its demand for energy.
- The public agency's actual results.
- The public agency's current and proposed measures under its energy conservation and demand management plan.
- The revised forecast of the expected results of the current and proposed measures.
- Cost and saving estimates for its proposed measures.
- The estimated length of time the public agency's energy conservation and demand management measures will be in place.
- A description of any proposed changes to be made to assist the public agency in reaching any targets it has established or forecasts it has made.
- A description of any renewable energy generation facility operated by the public agency and the amount of energy produced on an annual basis by the facility.
- A description of:
 - The ground source energy harnessed, if any, by ground source heat pump technology operated by the public agency.
 - The solar energy harnessed, if any, by thermal air technology or thermal water technology operated by the public agency.
 - The proposed plan, if any, to operate heat pump technology, thermal air technology or thermal water technology in the future.
- Confirmation that the energy conservation and demand management plan has been approved by the public agency's senior management.
- The CDM plan has been made publicly available by:
 - Publishing it on the public agency's website (if there is one).
 - Publishing it on the public agency's intranet site (if there is one).
 - Making it available to the public in printed form at the head office.

CDM Updates need to be published on or before July 1, 2019 and on or before every fifth anniversary thereafter. The next update is required by July 1, 2024.