



## TAY VALLEY TOWNSHIP

# ENERGY CONSERVATION & DEMAND MANAGEMENT PLAN

June 26, 2019

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## **SECTION 1 - INTRODUCTION & BACKGROUND**

The Ontario Government is committed to helping the Broader Public Sector better understand and manage their energy consumption. As part of this requirement, Ontario Regulation 507/18 requires that Tay Valley Township report its annual energy use to the Ministry of Energy, Northern Development and Mines and that the Municipality develop energy Conservation and Demand Management (CDM) plans.

Tay Valley developed its CDM plan in the first iteration of this program in 2014 and has submitted its annual energy use reports since then to the Ministry and has published those reports on our website.

The Ontario Government requires municipalities to update their 2014 plan and submit a new plan by July 1, 2019. The energy Conservation and Demand Management Plan Framework specific requirements are to:

- submit the Energy Consumption, Greenhouse Gas and Costs data report using 2018 data;
- provide the goals and objectives for conserving energy and managing demand;
- describe the actual results from the 2014 plan; and,
- present the proposed measures.

Further details of the CDM for the municipality to submit include:

- 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; and,
- 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.

## **SECTION 2 - OUR COMMITMENT**

Effective energy management begins with the specific, visible expression of commitment by the senior authorities in the municipality to making the reduction of energy consumption an organizational priority. This commitment includes a resolution by Municipal Council articulating that staff plan and implement measures for energy efficiency improvement. Regardless of the size of the municipality, the common element of successful energy management is the allocation of staff and resources to continually improve energy performance.

### **DECLARATION OF COMMITMENT**

#### **RESOLUTION #C-2019-06-09**

**“THAT**, the Energy Conservation and Demand Management Plan dated June, 2019 be approved and submitted to the Ministry of Energy, Northern Development and Mines by the July 1, 2019 deadline;

**THAT**, revisions to the Energy Conservation and Demand Management Plan be presented to Council for submission once the FCM Climate Change Plan is complete;

**AND THAT**, staff begin to plan and implement measures for energy efficiency improvements in accordance with the Tay Valley Township Energy Conservation and Demand Management Plan.”

**ADOPTED**

Tay Valley is committed to the promotion of responsible energy management, through the implementation of economically viable energy efficiencies and consideration of Greenhouse Gas emissions throughout all operations facilities, assets and equipment.

### **VISION**

We will continually approach energy management in a strategic manner allowing for the proactive pursuit of optimal energy solutions that lead to environmental, social and economic benefits.

## **SECTION 3 – RESULTS FROM INITIAL 2014 CDM REPORT**

### **ENERGY CONSUMPTION, GREENHOUSE GAS AND COSTS DATA REPORT**

The Municipality submitted annual Energy Consumption, Greenhouse Gas and Costs reports beginning in 2014 and through 2018. The 2019 report, 2017 data will be submitted with this report and plan.

#### **2014 ACTION PLAN**

In its 2014 plan, the municipality committed to numerous actions, including:

- conducting energy audits for all municipal buildings – COMPLETED (Actions taken and reported in 2014 plan.)
- launching an awareness campaign on methods of reducing carbon footprints and how to access energy conservation programs – PENDING (to be undertaken through FCM grant.)
- offering suggestions on how to improve building efficiency through the building permit process – PENDING (to be undertaken through FCM grant.)
- examining the merits of installing microFit photovoltaics on municipal buildings – PENDING (Chief Administrative Officer met with eco Perth who determined the Maberly and Burgess Halls were not oriented appropriately for solar panels. The municipal hall was determined to be appropriate. The meeting did not result in a report to Council.)
- Establishing a usage-based inventory of CO<sub>2</sub> to measure the carbon footprint of Township activities – PENDING (to be undertaken through FCM grant.)
- developing CO<sub>2</sub> reduction goals – PENDING (to be undertaken through thte FCM grant.)
- conducting a municipal fleet review and rating exercise (through the Fleet Challenge Program). Fleet review – PENDING (to be explored by Public Works.)

#### **ADDITIONAL ACTIONS FROM 2014 PLAN**

As well as the above technical measures, the municipality also committed to a range of measures designed to change the organizational and behavioral patterns within the municipality.

These included:

- incorporating energy budget accountability into departmental responsibilities;
- integrating energy efficiency knowledge and practices into requirements of staffing and suppliers;
- energy awareness training for staff; and,
- revising energy purchasing policies and practices.

While the plan committed to tracking and evaluating results it did not identify a means of doing so. However, the project leads identified showing energy saving actions taken based on the audits conducted of the municipality's two air-conditioned halls.

Between the creation of the first plan in 2014 and 2019, the municipality experienced extensive staff turnover, including the plan leads (Public Works Manager and Chief Administrative

Officer).No current staff member was assigned to the plan until May 2019.

## **SECTION 4 – MUNICIPALITY’S 2019-2024 PLAN**

In 2018, the municipality formed a Green Energy and Climate Change Working Group. The Working Group is tasked with many of the same requirements as are required by the Energy Conservation and Demand Management Plan.

In 2018, as a consequence of the Working Group’s activities, the municipality was awarded a grant from the Federation of Canadian Municipalities Staff Grants program.

With this award the municipality hired a staff person in May 2019 for a 7 month period to:

- develop a Local Climate Change Action Plan;
- develop an Emissions Reduction Target; and,
- develop a Climate Mitigation Plan.

The development of this Local Climate Change Action Plan aligns with the requirements of the municipality’s Conservation and Demand Management Plan. Consequently, the two will be developed together over the next six to seven months. The municipality will submit its full 2019 Conservation and Demand Management Plan by December 31, 2019. The plans share similar goals, objectives and measures. Those for the Local Climate Change Action Plan are to:

- create an inventory of the municipality’s corporate emissions and the community’s emissions in the base year (2019) by sectors;
- estimate the corporation and community emissions forecast for 10 years beyond 2019;
- compare the difference between the base year and 10-year forecast using emission intensity ratings;
- review federal, provincial, local municipal, county, conservation authority and regional environmental commitments to greenhouse gas reduction targets;
- identify a proposed visionary corporate target;
- identify a proposed visionary community target;
- identify stakeholders;
- identify methods of communication, create materials and organize community consultation and outreach meetings;
- identify projects to achieve the emissions reduction target;
- quantify the reduction potential of each project;
- identify potential costs, funding sources and the role of each municipal department for each project;
- identify the roles of community organizations for each project and formalize any partnerships;
- create an implementation schedule for each project; and,
- formalize steps for monitoring progress.

This information will contribute greatly to the Conservation Demand Management Plan.

## **SECTION 5 – OUR EXECUTION**

Implementation of the 2019-2024 Plan will be shared among municipal departments to ensure the Plan does not get lost and forgotten. For example, the municipality will integrate its CDM Plan with its Asset Management Plan.

## **SECTION 6 – OUR EVALUATION**

The municipality intends to turn the combined CDM and Local Climate Action Plan into a living document which senior management will review twice a year and will report on annually to Council.

# APPENDIX A

**ANNUAL ENERGY CONSUMPTION, GREENHOUSE GAS AND COSTS FOR 2011-2017**

**APPENDIX A**

**Total annual energy consumption (EC), costs (\$) and Green House Gas (GHG) Emissions for 2011-2017**

Facility	Address	Area m <sup>2</sup> /ft <sup>2</sup>	Energy/Service Type		2011			2012			2013			2014			2015			2016			2017		
					EC	\$	GHG/kg	EC	\$	GHG/kg	EC	\$	GHG/kg	EC	\$	GHG/kg	EC	\$	GHG/kg	EC	\$	GHG/kg	EC	\$	GHG/kg
Maberly Community Hall	180 Maberly- Elphin Road	253/2,726	Oil	500G	5,497L	4,463	15,756	4,149L	4,363	12,796	3,419L	3,701	14,012	-	2,189	9,696	-	-	8,669	-	-	9,152	-	-	7,239
			Propane	500G	-	0		-	-		2,495L	1,947		6,078L	2,738		5,455L	3,139		5,795L	3,131		4619L	2,902	
			Electric	General	9,541kWh	1,846		15,081kWh	2,422		10,705kWh	1,853		8,239kWh	1,892		6480kWh	1,511		6,243kWh	1,793		7,033kWh	1,618	
Maberly Garage	180 Maberly- Elphin Road	287/3,090	Oil	200G	-	7,867	-	-	2,285	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			Electric	General	-	1,577	-	-	1,431	-	3174kWh	853	-	4,403kWh	984	-	4,859kWh	1,180	-	4,167kWh	1,310	-	5,431kWh	1,271	-
Burgess Community Hall	4174 Narrows Lock Road	139/1,500	Electric	General	17,238kWh	1,723	1,379	10,906kWh	1,651	1,047	9,605kWh	1,706	22,912	9,060kWh	1,218	22,977	9,883kWh	1,791	15,029	7,884kWh	1,732	17,616	10,139kWh	1,763	17,038
Burgess Garage	4174 Narrows Lock Road	218/2,345	Oil	500G	7,027L	5,489	7,844L	7,439	7,688L	6,818	8,061L	7,647		5,119L	4,977		6,178L	3,742		6,865L	4,934		15,851kWh	2,757	
Municipal Office	217 Harper Road	732/7,875	Nat Gas	-	12,595 M <sup>3</sup>	3,814	27,294	10,287 M <sup>3</sup>	2,350	23,129	10,326M <sup>3</sup>	2,708	39,321	12,298 M <sup>3</sup>	3,268	42,713	11,655 m3	3,523	39,518	11,242L	3,133	40,273	11,206L	3,497	22,316
			Electric	General	43,515kW	5		38,307kWh	4,930		47,421kWh	6,236		46,779kWh	6,351		29,787kWh	6,127		29,787kWh	7,500		38,411kWh	6,898	
Bathurst Garage	217 Harper Road	512/5,514	Nat Gas	-	8,819 M <sup>3</sup>	2,010	19,111	7,203 M <sup>3</sup>	2,350	16,914	7,230M <sup>3</sup>	2,340	39,321	8,611 M <sup>3</sup>	3,268	42,713	8,161 m3	2,467	39,518	9,107L	2,194	40,273	7,847	2,449	22,316
			Electric	General	30,469kWh	4,865		26,822kWh	4,897		33,204kWh	6,236		32,754kWh	6,351		20,857kWh	4,290		20,857kWh	5,252		26,895kWh	4,830	
South Sherbrooke Fire Hall	22110 Hwy 7	1,244/8599	Propane	500G	-	-	9,913L	3,559	12,797	2,496L	6,197	18,982	9,366L	8,264	15,979	7,998L	5,617	13,748	9,295L	4,251	15,409	7,928L	4,660	12,651	
			Electric	General	-	-	22,006kWh	4,518		35,772kWh	5,109		38,636kWh	6,320		35,103kWh	6,143		30,528kWh	6,352		25,258kWh	5,207		
Maberly Ice Rink Lights & Bldg	4884 Bolingbroke Rd		Electric	Sentinel	-	1,222	-	-	1,067	-	7,393kWh	1,536	-	1,362kWh	1,665	-	1,847kWh	1,244	-	1,443kWh	1,320	-	4,420kWh	1,486	-
Glen Tay Ice Rink Light & Pump	155 Harper Rd		Electric	General	-	445	-	-	434	-	17kWh	462	-	668kWh	536	-	451kWh	477	-	1,043kWh	635	-	1,232kWh	541	-
Glen Tay Waste Site; Lights, Heat & Compactor	156 Muttons Rd		Electric	General	-	204	-	-	1,006	-	6,627kWh	1,354	-	11,321kWh	1,945	-	9,571kWh	1,943	-	7,570kWh	1,836	-	8,467kWh	1,714	-
Stanleyville Waste Site; Lights, Heat & Compactor	1200 Stanleyville Rd		Electric	General	-	767	-	-	619	-	1,905kWh	765	-	2,579kWh	666	-	1,809kWh	666	-	1,907kWh	763	-	2,567kWh	816	-
Maberly Waste Site; Lights, heat & Compactor	180 Zealand Rd		Electric	General	-	489	-	-	619	-	6,575kWh	765	-	6,681kWh	1,343	-	5,599kWh	1,312	-	6,088kWh	1,339	-	5,802kWh	1,348	-
Streetlights	Harper Rd #20-22-25 Glen Tay #15 Brooke #1 Dewitts Cnrs #5&10 Stanleyville #1-5 Maberly #2-20 even Fallbrook #30-42 even	3 1 1 2 5 10 7	Electric	Streetlights	-	4,371	-	-	4,415	-	36,569kWh	5,481	-	34,284kWh	5,694	-	32,131kWh	6,103	-	11,623kWh	3,065	-	11,975kWh	2,568	-