



Energy Conservation and Demand Management Plan 2020-2024

Introduction

The Integrated Community Sustainability Plan, adopted by the Council of the Township of Malahide in 2013, is based upon four “pillars” of sustainability: land, economy, community, and local government. The “land” pillar focuses on the environment and includes such topics as preservation of the natural environment, the provision of clean water, the protection of agricultural areas, and the importance of energy conservation.

Maximizing energy efficiency, water conservation, and waste management practices are the core focus of the Township’s goal to conserve finite resources associated with our land. Energy efficiency and water conservation are two of the most notable environmental enhancement efforts of the past decade due to escalating utility costs, a shift to more energy efficient lighting and low flow plumbing systems, and accredited standards such as Energy Star or LEED certifications in building designs.

Operating with energy efficiency in mind can result in a number of benefits. Electricity has traditionally been derived from sources such as coal, hydro-electric, and nuclear power, all of which have differing degrees of impacts on the environment. Burning fossil fuels (e.g. coal and natural gas), for example, release greenhouse gases into the atmosphere and are believed to contribute to global warming and the depletion of the stratospheric ozone layer. By utilizing less electricity, the environmental footprint of the end user (whether a municipality, business or household) is reduced while costs incurred for using energy are also lower.

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

years. Our updated CDM plan was developed in compliance with the regulation and covers the period from 2020 to 2024. The plan was approved by Council on July 4, 2019.

The plan describes our municipality's:

- New energy conservation goals and objectives;
- Current and proposed energy conservation measures;
- Results from the first CDM plan; and
- Changes made from the previous plan to help achieve the new goals and objectives.

Our updated CDM plan builds on the municipality's first plan developed in 2015 and the experience gained in energy conservation over the last 4 years

Hard copies of the plan are available at the Township Office located at 87 John St. S., Aylmer.

Goals and Objectives for Conserving Energy

Our municipality's goal is to be viewed as a conservative approach to energy management and conservation in the BPS. We are willing to work with other BPS organizations to better manage energy use across our community. Our energy conservation objective is to reduce our overall energy consumption by 5%.

Tracking Energy Consumption and Savings

Annual energy reporting is required under the regulation and allows our municipality to understand how energy is used in our buildings, identify potential energy conservation opportunities, and track progress on energy conservation efforts. This has helped us to report on our achievements and inform the development of new measures.

In addition to the municipality benefitting from reducing its energy use, residents and local businesses also benefit from more efficient use of tax payer dollars and better maintained/operated public buildings and facilities.

Changes from Previous Plan to Achieve our Goals and Objectives

While the municipality met its conservation objectives from the 2015 plan (Appendix A) attached, we recognize other measures could take place to ensure savings continue and that new conservation measures are identified and acted upon. The Township will continue to encourage a culture of energy conservation within its corporate structure and operations, extending to energy and fuel consumption, as well as water conservation to protect local water sources.

Current and Proposed Energy Conservation

Current Measures Include:

Within the Integrated Community Sustainability Plan, a number of action plans have been identified to move the Township towards reducing its energy consumption, as well as its' reliance on traditional energy sources. The action plans specific to reducing the Township's energy consumption are noted in Chart 1 below.

CHART 1

Number	Action
LAND 20	Develop a strategy to retrofit the municipal lighting system in buildings, streetlights, and traffic signals with energy efficient lighting over the course of the next ten years. Where appropriate, drawing energy from "off the grid" or renewable sources should also be considered to power municipal operations.
LAND 22	For all Township buildings that are to be constructed or substantially expanded, explore designs that achieve energy efficient certifications (e.g. LEED or equivalent standards), recognizing that the long-term operating and environmental cost savings tend to rationalize the higher than average initial costs of construction. The Township should also investigate the provision of incentives to private-sector construction projects that achieve green building or energy efficient certifications.
LAND 23	Explore appropriate green investments aimed at improving the energy efficiency of municipal buildings through use of on-site renewable energy sources such as solar, wind, or geothermal power to generate electricity needed to power these buildings.

Buildings

The Township of Malahide has installed programmable thermostats into all municipal buildings, establishing appropriate temperatures each season. This minimizes costly fluctuations in heating or cooling needs and discourages excessive heating or cooling demands based on personal preferences.

The Township of Malahide, in keeping with Action Plan LAND 20, will seek to incorporate funds to retrofit lighting systems during annual budget deliberations. At least one building per budget year will be considered for retrofit. A presentation of

anticipated capital costs and a projection of long term operating cost savings will be provided to the Council during the budget deliberations.

The Township of Malahide, in keeping with Action Plan LAND 23, will explore alternative energy sources including green energy and on-site renewable energy sources along with traditional sources of energy when replacing or altering current heating/cooling systems. A review of the alternatives will include up-front capital cost, as well as long-term operating cost comparisons.

While there are no plans for new or expanded buildings within the five-year timeframe under consideration in the Energy Conservation and Demand Management Plan, the Council of the Township of Malahide is aware of the benefits of energy efficient buildings and commits to investigating a variety of energy efficiency options when the need for new or expanded buildings arises in keeping with Action Plan LAND 22.

Streetlights

The Township of Malahide has completed its energy conservation program with a conversion from high-pressure sodium (HPS) streetlights to light emitting diode (LED) lights. This project was completed in 2014.

Community Safety Zones - Pedestrian Crosswalk

The Township of Malahide has initiated the process to install Community Safety Zones within two school zones in the Township. The Township of Malahide, in keeping with Action Plan LAND 20, will seek to consider LED signals for these units as they are energy efficient and will assist in reducing power consumption and maintenance costs.

Corporate

The Township of Malahide will encourage a culture of energy conservation within its corporate structure and operations, extending to energy and fuel consumption, as well as water conservation to protect local water sources.

Selecting Proposed Measures

The Township undertakes to reduce its energy demands by 1% each fiscal year for the term of this Plan. This target will be met in a variety of ways including lighting retrofits, amending current operational procedures to make more efficient use of energy, and impacting corporate culture through the revision of policies and procedures to be more conscientious of our energy consumption. As other specific initiatives are undertaken, such as the replacement of heating/cooling system, the target reductions will be amended to reflect the greater consumption reductions anticipated from these changes.

While the Township is committed to reducing its consumption, it does not at this time anticipate cost savings due to the projected energy cost increases over the next 5

years. The Township does, however, assume that these increases will be mitigated by its consumption reduction efforts.

Appendix A Energy Conservation and Demand Management Plan

Building name	Address + Postal Code	Building type	Utility	Year of construction	Size of building in sq. ft.	Hours of use	2015 Total	2016 Total	2017 Total
Township Office	87 John St S Aylmer, ON N5H 2C3	Office	Hydro kWhrs	1994	5715	35 hrs/week	74667	68227	62768
South Garage	49458 John Wise Line		Nat Gas m ³				2634	1757	2215.4
North Shop	13272 Imperial Road		Hydro kWhrs	1978-79	8964 + 9000	40 hrs/week	62599.067	62362.162	67148.65
Malahide Community Place	12105 Whittaker Rd, Springfield ON, N0L 2J0	Garage	Nat Gas m ³				18480	13156	14060
Springfield Sewage Pumping Sta	11690 Springfield Rd	Work Shop	Hydro kWhrs	1952	6845	40 hrs/week	9411.354	9182.573	9966.06
			Nat Gas m ³				7822	5805	7397.7
		Recreation Centre	Hydro kWhrs	2010	11,814.50		199620	202140	173520
			Nat Gas m ³				18219	14934	15491.9
		Sewage pumping station	Hydro kWhrs	2001-02	300	365/24	19244.432	28120.08	33927.24
			Nat Gas m ³				82	130	67.2
Fire Hall #1	50896 Vienna Line	Fire Hall	Hydro kWhrs	1968	3767.37	6hrs/month	10116.379	9899.476	10071.186
Firehall #2	9036 Springfield Road		Nat Gas m ³					3343.7	
Firehall #3/Chambers/Police	51219 Ron McNeil Line	Fire hall	Hydro kWhrs	1968	3928.83	6hrs/month	14467.415	13657.745	16070.05
South Dorchester Hall/Firehall #4	49431 Lyons Line, Springfield ON N0L 2J0		Nat Gas m ³				2834	2345	2835.7
Fire Hall South Station	7355 Imperial Road	Fire Hall	Hydro kWhrs	2002	4090.29		23645.572	24503.498	26426.88
			Nat Gas m ³				4845	3766	3759.4
		Firehall/Community Hall	Hydro kWhrs	2010	6489.6		49708.492	49627.77	48227.89
			Nat Gas m ³				9946	7835	9295.5
		Fire Hall	Hydro kWhrs						
			Nat Gas m ³						
Pt Bruce Street Lights	Wonnacon Park	Street Lights	Hydro kWhrs	2008	n/a	Dusk to dawn	0	0	0
Street Lights	87 John Street S, Aylmer, ON N5H 2C3	Street lights	Hydro kWhrs	1995	n/a	Dusk to dawn	0	0	0
Street lights	10 Concession Lot 12	Street Lights	Hydro kWhrs	1962	n/a	Dusk to dawn	0	0	0
Port Bruce Pavillion	3174 Colen Street, Port Bruce	Outdoor Pavillion	Hydro kWhrs	1985	2872	Dusk to dawn	162,775	148,594	209,217
Springfield Cenotaph	51137 Ron McNeil Line	Cenotaph	Hydro kWhrs	1931	n/a	Dusk to dawn	185,8424	518,1978	540,54
Grand Total			Hydro kWhrs				232339.61	192115.83	200700.94
Grand Total			Nat Gas m ³				31852	23193	26576

**Meter pits, booster stations and pumps for the Secondary Water boards are not included.