THE MUNICIPALITY OF
LAMBTON SHORES

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2014 ENERGY CONSERVATION AND DEMAND MANAGEMENT PLAN

Background

The Municipality of Lambton Shores is a vibrant community located along the shore of Lake Huron in Southwestern Ontario. Comprised of five very diverse communities brought together through amalgamation, the municipality has a wide variety of facilities and operations that require varying levels of energy resources.

Lambton Shores has an inherent connection to the environment due to its abundant natural resources throughout the Municipality. This connection drives the Municipality to be conscious of the environmental impacts of its operations and strive to continuously improve processes. Rising utility costs also drive the Municipality to look for innovation to reduce financial impacts on the residents of Lambton Shores. Although less formal, the municipality has a history of success with regards to energy conservation and demand management. These successes are highlighted through projects such as the LEED® Gold Certified Legacy Centre and Shores Recreation Complex constructed in recent years. These projects incorporated many energy conservation measures including; passive heating and cooling, high efficiency HVAC and ice making equipment, light sensors, LED lighting and rooftop solar panels.

This Plan was developed to meet the requirements of *O.Reg* 397/11 *Energy Conservation and Demand Management Plan*. The plan is meant to provide a starting place for the Municipality to develop programs and processes to formally address energy management initiatives. It is the intention of the Municipality to further develop the Plan and enhance the municipality's commitments once Council has developed a corporate strategic plan. While Lambton Shores will strive to continuously improve the plan on an annual basis, this plan is meant to be valid from 2014-2019, at which time a thorough review process will be required for a subsequent 5 year plan.

Current Energy Consumption

Lambton Shores has a total of 46 facilities that are identified as reportable under *O.Reg 397/11*. These include water and wastewater facilities, recreation and administration facilities, public works, libraries, fire department, community centres, public washrooms and harbour facilities. For the purpose of meeting the regulatory requirements these facilities have been included in energy recording and reporting documents. However, there are other facilities (ie. streetlights) that are not required by regulation for reporting purposes that the Municipality intends to incorporate into the Plan as it becomes further developed.

Lambton Shore's facilities use varying quantities of electricity and natural gas. In 2012 the municipality used 178,953m^3 of natural gas and 3,382,752 kWh of electricity for a combined energy equivalent value of 5,284,625 ekWh. This equates to an equivalent release of greenhouse gas emissions of 663 tonne CO_2e. Utility costs for hydro and natural gas were $460,700 and $69,400, respectively in 2012.

The following policies, programs, processes and projects will be carried out for the duration of the Plan in an attempt to reduce the municipality's energy consumption and funding requirements from the 2012 base line values.

Commitment

Declaration of Commitment
The Municipality of Lambton Shores will allocate the necessary resources to develop and implement a strategic energy management plan in an attempt to reduce our energy consumption and its related environmental impact.

Vision
The Municipality of Lambton Shores 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.

Goals
To continuously improve the energy efficiency of municipal facilities and processes in order to reduce operating costs, energy consumption and the contribution of greenhouse gas emissions.

Overall Target
We will endeavour to create an energy conscientious workforce and pursue energy conservation measures and best practices into all operations where possible.

Objectives
To implement all programs and processes identified in this Plan. This will include developing advanced statistical energy tracking normalized to weather conditions.

Organizational Understanding

Renewable Energy Utilized or Planned
The Municipality of Lambton Shores aspires to reduce the environmental impacts of its operations where possible. The utilization of renewable energy in the form of rooftop solar photovoltaic systems on the LEED® Certified Legacy Centre shows leadership in the promotion and development of renewable energy systems that are compatible with our asset management and land use planning objectives.

Resources Planning

Energy Leader
We will clearly designate leadership and overall responsibility for corporate energy management.

Projects Execution

Municipal Level
We will carry out the required development of business procedures and communication programs and implement them methodically according to the planned time lines within the resources constraints that apply.

Asset Level
We use the corporate energy leader to facilitate the implementation of facility level business procedures and communication initiatives, including energy performance reporting.

Review

Energy Plan Review

We will review and evaluate our energy plan, revising and updating it as necessary, on an annual basis within our corporate planning process.

Programs

Description	Facility	Contact	Date	Status	Details
Energy Awareness In Staff Meetings	All	Department Managers	2014/06/04	Pending	This program would see energy awareness items added to staff meeting agendas. Updated utility consumption data could be presented and energy conservation measures could be discussed.
Employee Participation Program	All	Department Managers	2014/06/04	Pending	Energy conservation measures related to specific work tasks that are developed by staff are essential to continuous improvement of the Energy Management Plan. Staff can submit their recommendations during staff meetings where they can be further developed and recorded. Performance tracking measures would be determined recorded during the year and a recognition program could potentially be developed.
Case Studies of Success	All	Municipal Energy Leader	2014/06/04	Pending	As energy conservation initiatives are carried out, departmental energy management representatives would keep detailed records of the initiatives. Those initiatives that prove to be the most successful would be presented as case studies for future employees to learn about. Case studies could be posted in the corporate intranet for employees to access. Successful case studies could also be presented to the public to further the municipality's goal of being a steward in energy management.

Processes

Description	Facility	Contact	Start	End	Status	Details
Energy Reporting	All	Municipal Energy Leader	2014/06/04	2014/06/04	Pending	Energy consumption reports would be created and distributed to department managers on a regular basis. This will allow appropriate staff to take actions if energy consumption were to rise and create a stronger sense of ownership with facility energy conservation.

Projects

Description	Facility	Contact	Start	End	Status	Details
Energy Reporting	All	Municipal Energy Leader	2014-06-04	2014-06-04	Pending	Energy consumption reports would be created and distributed to department managers on a regular basis. This will allow appropriate staff to take actions if energy consumption were to rise and create a stronger sense of ownership with facility energy conservation.
Energy Auditing of Facilities	All	Municipal Energy Leader	2014-09-30	2015-09-30	Pending	Utilize services of AMO-LAS energy specialists to complete energy audits of municipal administrative and operational facilities. These services are free through AMO and could potentially uncover many energy conservation and retrofit projects.
Forest STP UV System	Forest Sewage Treatment	Infrastructure Manager	2014-10-31	2016-06-23	Pending	Through a walk through energy audit of the Forest STP, it was recommended

Description	Facility	Contact	Start	End	Status	Details
	Plant					to investigate the possibility of utilizing control measures to reduce UV usage. This project could potentially utilize OPA Process and Systems Study funding. further analysis is needed to determine potential energy savings and economics.
Arkona STP Improved Temperature Control	Arkona Sewage Treatment Plant	Infrastructure Manager	2014-09-30	2015-07-30	Pending	The thermostats at the Arkona STP could be replaced with programmable thermostats to allow temperature setback when building is unoccupied. Further investigation is required to determine cost and return on investment.
PS2 - wet well pumps	Pump Station 2	Infrastructure Manager	2014-09-30	2015-11-30	Pending	Design engineers have identified a potential energy savings at the main sewage pump station in Grand Bend. By utilizing a smaller "jockey" pump, the station could potentially save energy during low flow periods by not running the larger duty pumps. Further design analysis is required to determine if this is feasible with the dry well space limitations. If determined to be beneficial, this project could be incorporated into the PS2 upgrade

Description	Facility	Contact	Start	End	Status	Details
						contract scheduled for 2014-2015.
Arkona STP Aeration Diffusers	Arkona Sewage Treatment Plant	Infrastructure Manager	2014-09-30	2016-06-23	Pending	An energy audit walk through recommended investigation of replacing current broadband diffusers in aeration basins to fine bubble diffusers to improve air transfer and therefore reduce blower requirements. Further investigation is required to determine replacement costs and return on investment.
LED Streetlight Replacement Program	Streetlights	Infrastructure Manager	2014-10-31	2017-12-31	Pending	The LED Streetlight market has expanded drastically over the past 5 years and there are reliable LED streetlight replacement products that municipalities are investing in to reduce energy costs. Staff have been in contact with various LED streetlight replacement product suppliers. Further consideration and investigation will be needed to determine whether an LED street light replacement program is right for Lambton Shores.