



## **TOWNSHIP OF ZORRA**

# **ENERGY CONSERVATION AND DEMAND MANAGEMENT PLAN**

**2014**

## **Our Commitment**

### **Background**

In 2009, Ontario Regulation 397/11, under the Green Energy Act, directed all public agencies in Ontario to prepare an energy conservation and demand management plan. Additionally, mandated annual reporting of energy consumption and greenhouse gas emissions commenced on July 1, 2013.

Energy Conservation and Demand Management plan is required by July 1, 2014 (extension: July 25, 2014), and is reviewed and revised every five years thereafter. This plan fulfils the Township's monitoring and reporting requirements under the Green Energy Act. The Energy Management Plan should include all energy sources such as natural gas, electricity, fleet fuel and water.

### **Vision**

We exercise stewardship in our use of finite energy resources in order to demonstrate leadership, optimize our delivery of services, and enhance the overall quality of life in our community.

### **Policy**

We will incorporate energy efficiency into all areas of our activity including our procurement practices, financial management decisions and facility operations and maintenance.

### **Historic Commitment to Energy Savings**

In the past the Township has undertaken a number of initiatives in response to the need to maximize fiscal resources by becoming more efficient in the use of energy. Some of these initiatives have included:

- Public Works department replaced all streetlight fixtures with LED lights
- Replaced the high pressure sodium fixtures with T5 fixtures at both arenas approx. savings of \$500 per month in hydro.
- Matching lighting levels to facility use
- Reducing flood water temperatures to 120F
- Only filling up ice resurfacer with just enough water to flood ice (no over filling)
- Replacing exterior lights at all facilities with LED fixtures when old fixtures are not functional
- Occupancy sensors have been installed in low traffic areas such as the washrooms, dressing rooms

- Replaced old refrigeration compressors that are not operating at optimal level at both arenas
- Replaced refrigeration controls to digital programmable system

**Long-Term Goals**

To continuously improve the energy efficiency of our facilities and processes to reduce our operating costs, our energy consumption and the concomitant greenhouse gas emissions.

In order to achieve the above, three main goals have been identified:

- Reduction in energy consumption
- GHG reduction
- Cost savings
- Investigate options to incorporate renewable energy installations at Township facilities.
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**Overall target**

To achieve these goals, the Township will reduce the consumption of fuels and electricity by an average of 1% per year until 2019, which will reduce Greenhouse Gas Emissions and produce cost savings.

	2012 base	Current Annual Average	2019 Targets
Electrical Consumption	1, 015,107 kWh	1,008,913 kWh	946, 146 kWh
Natural Gas Consumption	87, 143 m3	106, 543 m3	81, 222 m3

## **Objectives**

- Maximize our fiscal resources through direct and indirect energy savings.
- Reduce the environmental impact of the Township's operations.
- Increase the comfort and safety of staff and patrons of the Township facilities.
- Improve the reliability of Township equipment and reduce maintenance.
- Develop a culture of environmental sustainability.
- Improve the Township's understanding of energy consumption which is essential for us to meet our corporate energy management goals.

## **Summary of Current Energy Consumption**

	<b>2011</b>	<b>2012</b>
Electrical (kWh)	1, 002, 719	1, 015, 107
Natural Gas (m3)	115, 943	87, 143
Furnace Oil 1&2 (L)	13, 708	10, 941
Propane (L)	1104	736
GHG Emissions (kg CO2e/yr)	354, 700	293,305
Energy Intensity (ekWh/m2)	3, 040.18	2,221.08

## **Factors which influence Energy Consumption**

Special events, such as those listed below, may influence energy consumption:

- Anticipated increase/decrease in building occupancy
- Unusual weather (i.e. mild winter, hot and humid summers)
- Closing of a facility
- An increase/decrease in unit energy cost by the supplier
- Addition of new facilities

## **Staff Resources**

The Senior Management Team will be responsible for the overall implementation of the energy management plan, particularly, in their respective facilities.

It is important that all staff understands the importance of energy management and that an overall culture of energy efficiency is developed. All staff should have ownership in the success of this plan.

A communication, awareness and training program is a key component in the overall energy management program and will be undertaken where needed including communication and awareness strategies.

## **Action Plan**

An assessment of the Township's current activities concerning energy initiatives showed actions to be implemented that will improve the Township's energy performance.

## **Process Improvement**

- Provide energy data to staff
- Develop a communications plan to promote the importance of energy efficiency and energy use/savings to staff

## **Program implementation**

- Ensure a preventative maintenance program is implemented for each facility
- Continue to update and maintain the Township's Energy Management Plan
- Develop and implement a facility walk-through checklist to be used by staff

## **Projects**

- Continue to implement system upgrades
- Implement alternative energy projects
- Incorporate green building features to improve energy and water efficiency
- Implement energy efficient standards when replacing equipment

## **Energy Plan Review**

The energy management plan will be reviewed and updated annually in conjunction with the annual budget process and energy consumption reporting activities. This plan will be updated with any new initiatives and most recent consumption figures.

Last Revision: 2014-07-11