



## THE CORPORATION OF THE TOWN OF TECUMSEH

### Parks and Recreation Report No. 32/13

**TO:** Mayor and Members of Council  
**FROM:** Ray Hammond, Facilities Manager  
**DATE:** October 28, 2013  
**SUBJECT:** Green Energy Act, O. Reg. 397/11 – Update October 2013

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### **RECOMMENDATIONS**

It is recommended that:

1. Parks and Recreation Report No. 32/13 Green Energy Act, O.Reg. 397/11 – Update October 2013 providing Council with information relating to the Town's obligations and the current status in meeting its responsibilities under the *Green Energy Act* and detailed energy consumption data for the Town's facility portfolio be received for information purposes.

### **BACKGROUND**

In August 2009, the Province of Ontario enacted Ontario Regulation 397/11 – Energy Conservation and Demand Management Plan – mandating all public agencies (including municipalities) to provide their energy consumption information to the public and to develop energy management plans.

Parks and Recreation Report No. 04/13 Green Energy Act, O. Reg. 397/11 Compliance Requirements was received by Council on January 22, 2013. The report outlined requirements for public agencies which Administration summarized in two parts with seven phases as follows:

#### **Part 1 - July 1, 2013**

Phase I – Building Inventory, Baseline Energy Audits, and Basic Metering Review

- Facility Inventory – Feb 2012
- Baseline Performance Audit – June 2012

Phase II – Metering Compliance

- Identified Water Oasis sub-metering required –Feb 2012

Phase III – Annual Report Preparation - see Comments section below

#### **Part 2 - July 1, 2014**

Phase IV – Tecumseh's Sustainability Plan/Goal Setting

- Development of an energy conservation strategy as part of an overall sustainability plan
- Determine strategies to reach stated goals

Phase V – Short, Medium, Long-term Actions

- Develop clear working plans and actions to move the strategy from theory to reality
- Outline necessary steps for the next five years including cost estimation and project planning

Phase VI – Five Year Report - 2014

- Publish the Energy Reduction Strategy with Action Plans covering the coming five year period
- Include the Town's Vision, Action Plans and supporting information

Phase VII – Implementation of Plan Actions 2014 to 2019

- Implement projects, adapt as necessary and account for unanticipated changes

## **COMMENTS**

This report is provided to update Council on compliance with Regulation requirements, to highlight results of the Town's energy consumption for 2011 and 2012 and to provide information on the next steps required for compliance with the July 1, 2014 requirements.

### **Phase III – Annual Report Preparation**

This phase required the preparation, publishing (website and printed form) and submission to the Ministry of Energy of the Annual Report.

Effectively managing energy usage first requires baseline data to measure future performance, hence the first objective of the Provincial Government was reporting on 2011 energy consumption data. The Association of Municipalities of Ontario (AMO) and the Local Authority Services (LAS) have worked with provincial staff to design the Energy Planning Tool (EPT), an on-line tool to record energy consumption data and facilitate the creation of an energy demand management plan. Town Administration has been tracking energy consumption data since 2003 in spreadsheet form, monitoring changes in usage and pricing. To facilitate the required Ministry of Energy (MoE) detailed reporting, including greenhouse gas emissions, Administration has utilized the EPT tool to record baseline data for all of its facilities.

Provided in [Appendix A](#), is the Corporation's energy consumption and greenhouse gas emission data for year one (1) of operation (January 2011 to December 2011) that was provided to the Ministry of Energy prior to July 1, 2013, in compliance with Ontario Regulation 397/11. The data loaded into the EPT system was imported to the Ministry's database.

This report will be added to the Town's website and a printed copy made available at the front counter.

Highlights of the data in the Annual Report include:

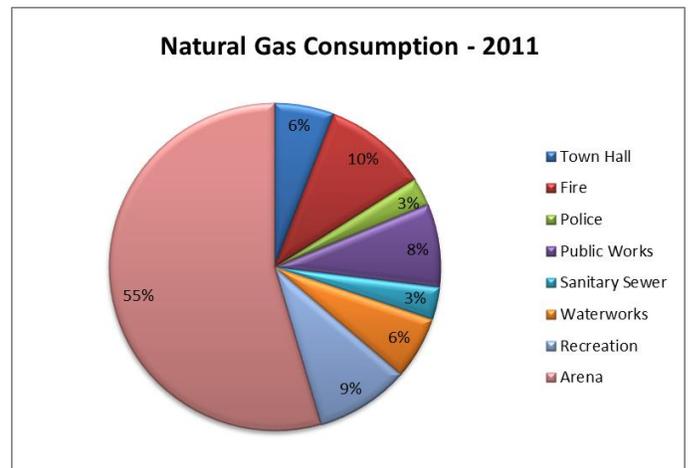
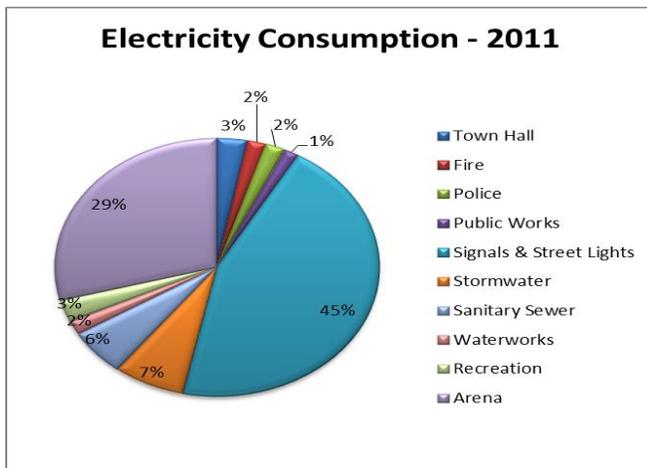
- In 2011, the Corporation's total energy use (electricity and natural gas) was 5,110,869 equivalent kilowatt hours (ekWh), exclusive of the library facility and signals and street light consumption. (Note that signals and street light consumption currently do not form part of the reporting requirements of Ontario Regulation 397/11 and the County pays directly for Library energy consumption). The 2011 total consisted of 2,565,345 kWh of electricity and 240,439 m<sup>3</sup> of natural gas, which is equivalent to 2,119,710 kWh.

- To aid in monitoring corporate energy consumption and development of an Energy Conservation and Demand Management Plan, the Corporation's energy portfolio has been sectioned into distinct cost centres. A breakdown of ekWh consumption and GHG Emissions is summarized in Table 1 below.
- Table 1: Energy Consumption and Green House Gas Emissions by Major Town Operations**

Cost Centre	Total Energy Consumption		GHG Emissions	
	(ekWh)	(%)	(Kg)	(%)
Environmental Services Dept.	264,627	14.53	38,847	5.80
Town Hall	300,808	2.72	38,390	5.80
Fire Dept.	345,934	6.44	52,880	8.00
OPP Station	179,570	1.62	22,007	3.30
Arena	2,752,453	24.90	354,792	53.80
Other Recreation Centres	365,261	11.94	51,763	7.80
Sewage Treatment Stations	352,226	9.89	37,765	5.70
Storm water Pump Stations	334,043	24.31	26,720	4.20
Public Works Facilities	205,947	3.65	36,636	5.60
<b>Total (re: Ont.Reg 397/11) *</b>	<b>5,110,869</b>	<b>100.00</b>	<b>659,800</b>	<b>100.00</b>

\* excludes signals and street lights and the library

- The graphs below highlight electrical and natural gas usage by facility type (street and signal lights are included in the graph). The Corporation's electrical and natural gas portfolios are similar with the exception that the Arena uses a greater percentage of electricity and uses a greater percentage of natural gas. Street lighting and signals are the biggest users of electricity.
- Figure 1: Facilities' Electrical Consumption**    **Figure 2: Facilities' Natural Gas Consumption**

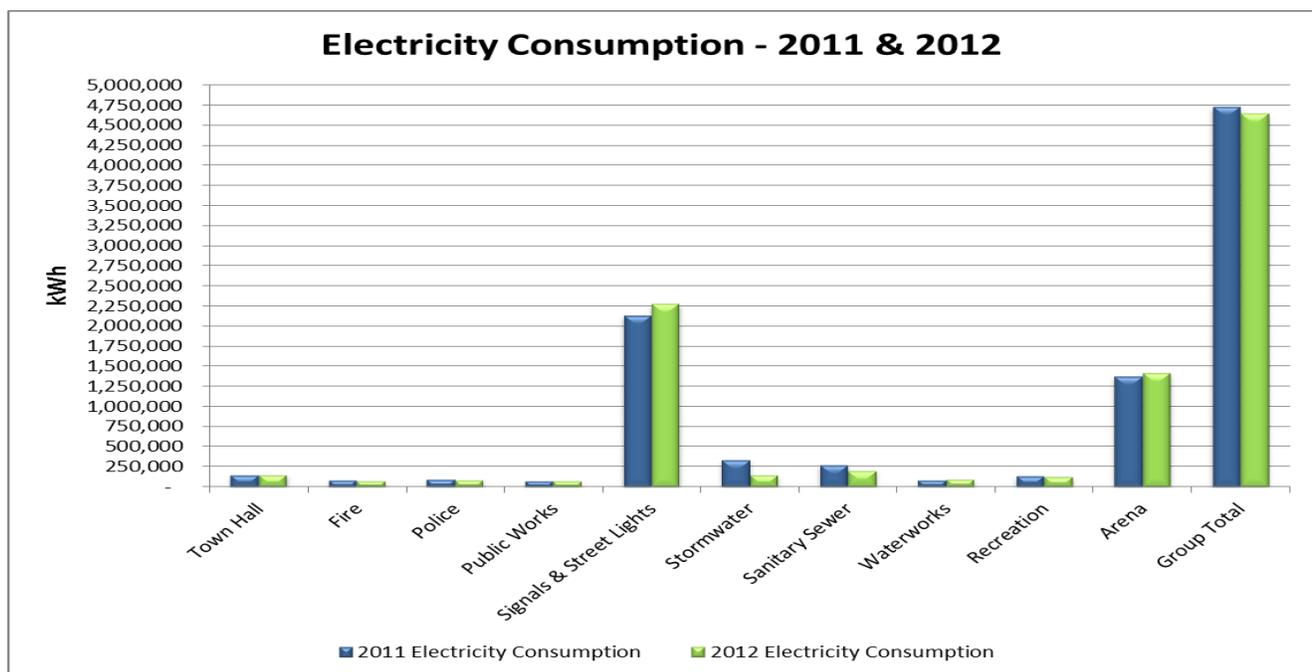


## Part 2 - Energy Management Plan – July 1, 2014

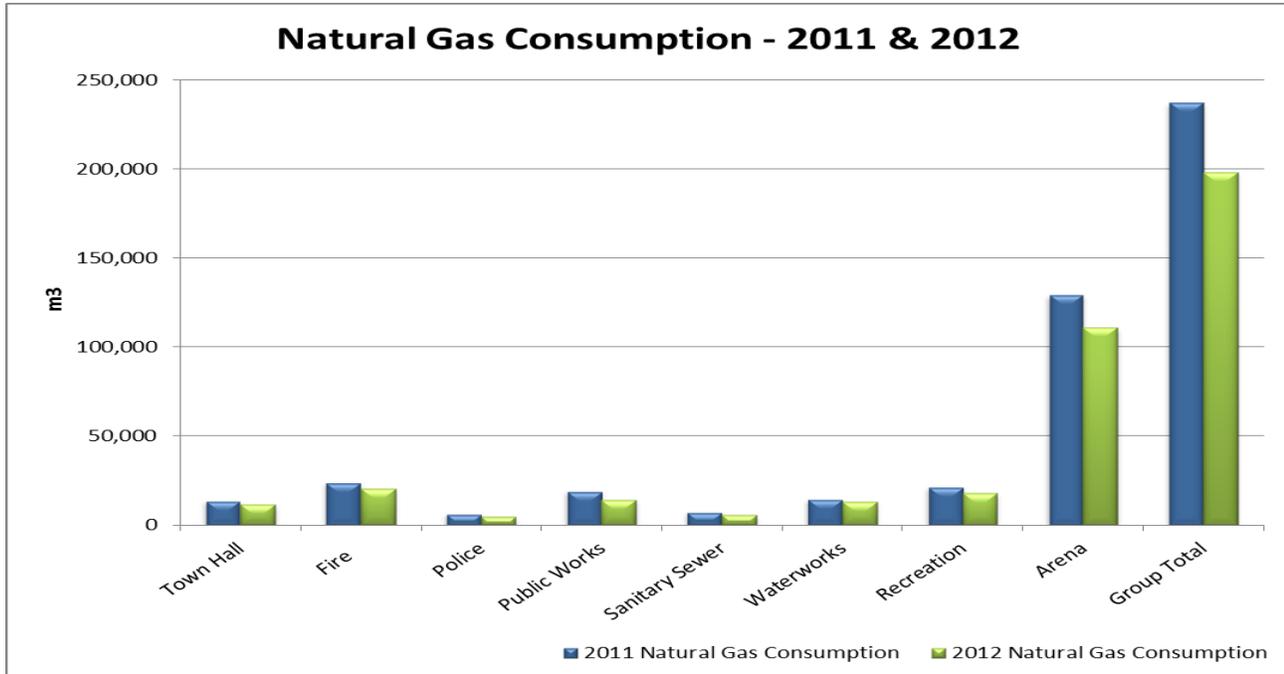
The Corporation now needs to begin the second component of the MoE reporting, which is to develop and publish a detailed Energy Conservation and Demand Management Plan by July 1, 2014; this Part 2 includes Phases IV to VII as outlined in the Background Section.

Consumption data for 2012 has been gathered and will be tabulated in the appropriate software. Overall energy consumption (the sum of electrical and natural gas usage) was lower in 2012. This was experienced in a year with a milder winter but with a significantly warmer summer. As indicated in [Figure 3](#), electrical consumption was relatively stable from year to year.

- **Figure 3: Facilities' Electrical Consumption (2012 vs. 2011)**



- Natural gas consumption in 2012 was lower than 2011, as highlighted in [Figure 4](#). The mild winter of 2012 together with improvements in some building system efficiencies.
- [Figure 4: Facilities' Natural Gas Consumption \(2012 vs. 2011\)](#)



In order to assist in developing a strategy for conservation, an energy audit for the Arena has been undertaken. Recommended efficiency measures include upgrades to refrigeration controls, heat recovery system to pre heat the domestic hot water for the Arena, power correction for the refrigeration plant and optimize the existing HVAC system in the arena. These measures need to be prioritized and planned along with other measures outlined in the audit.

Investigation of the feasibility of energy conservation through retrofitting street lights to LED is being undertaken to determine if it can form part of the Town's energy management strategy.

Development of an energy conservation strategy as part of an overall sustainability plan is a complicated and time consuming process requiring specific skills not readily available within Town staffing. Administration recommends hiring a consultant to guide us in formulating this plan. Accordingly, costs have been included in the 2014 budget to assist with the process.

## **CONSULTATIONS**

Paul Anthony, Director, Parks and Recreation  
Luc Gagnon, Director, Financial Services  
Dan Piescic, Director, Environmental Services

## **FINANCIAL IMPLICATIONS**

There are two aspects to the costs related to the Green Energy Act. First, there is the cost to understand the requirements and to formulate a strategy that meets the Act's requirements. Town staff has taken the initial steps to meet the data gathering requirements but are recommending outside assistance to formulate the strategy. Costs for this aspect are estimated to be \$ 10,000 to \$15,000

Secondly, there is a cost to implement the strategies that are approved as a result of developing the plan. Costs for this aspect are not determinable until the strategies are approved. This report has been reviewed by senior Administration as indicated below and recommended for submission by the CAO.

## **LINK TO STRATEGIC PRIORITIES**

This report links to the Strategic Plan as follows:

- Maintaining and developing current and planned services that continue to be affordable to taxpayers
- Positioning the Town as partners for potential and future initiatives and opportunities
- Evaluate all Town lands and buildings to determine future needs
- Partner with Essex Power on Energy Management Opportunities

Prepared by:

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Ray Hammond  
Facility Manager

Reviewed by:

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Paul Anthony RRFA  
Director, Parks and Recreation

Reviewed by:

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Luc Gagnon, CPA, CA, BMath  
Director, Financial Services

Reviewed by:

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Dan Piescic P Eng.  
Director, Environmental Services

Recommended by:

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Tony Haddad, MSA, CMO, CPFA  
Chief Administrative Officer

Attachment(s):     1. The Corporation of the Town of Tecumseh – 2011 Energy Consumption and Greenhouse Gas Emission Report

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