



---

**The Corporation of the Municipality of West Grey**

---

# **Energy Conservation and Demand Management Plan**

Pending Council Approval Date: July 21<sup>th</sup>, 2014

## **Energy Conservation & Demand Management Plan**

### **Municipality of West Grey**

**From: 2014-01-01 to: 2018-12-31**

#### **Commitment**

##### **Declaration of Commitment**

The Council of the Municipality of West Grey will consider allocation of necessary resources to develop and implement a strategic energy management plan that will reduce the municipality's energy consumption and its related environmental impact.

##### **Vision**

The Municipality of West Grey shall 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**

The Municipality of West Grey will strive to continuously research and implement alternatives to improve the energy efficiency of our facilities and processes in order to reduce our operating costs, our energy consumption and the concomitant greenhouse gas emissions.

##### **Overall Target**

The Municipality of West Grey will endeavor to reduce our consumption of fuels and electricity in all municipal operations by an average of 1.5% per year between now and 2018. The year 2018 corresponds with the end of a Council term and provides appropriate context for the renewal of this energy conservation plan in time for July 1, 2019 as required under Regulation 397/11 of the *Green Energy Act, 2009*.

##### **Objectives**

The Municipality of West Grey is committed to the implementation of a culture of conservation within the Municipality that will:

1. Reduce greenhouse gas emissions and encourage the wise use of resources;
2. Foster fiscal accountability through savings and cost avoidance to lead to both direct and indirect savings;
3. Demonstrate leadership within the Municipality as to the commitment to energy management and investigation of new and emerging technology;

4. Demonstrate sound operating and maintenance practices to complement the energy efficiency goals implemented through the capital asset renewal program.

## **Organizational Understanding**

### **Our Municipal Energy Needs**

We need reliable, low-cost, sustainable energy sources delivering energy to the most efficient facilities and energy-consuming technology feasible.

### **Stakeholder Needs**

Internal stakeholders (Council, CAO, staff) need to be able to clearly communicate the corporate commitment to energy efficiency, and to develop the skills and knowledge required to implement energy management practices and measures. External stakeholders (the Province, community citizens and groups) need the municipality to be accountable for energy performance and to minimize the energy component of the costs of municipal services.

### **How We Manage Energy Today**

The management of energy consumption and the energy performance of our facilities and equipment are the responsibilities of Finance (cost management), Infrastructure & Public Works Department (maintenance), and department managers (operations).

### **Summary of Current Energy Consumption, Cost and GHGs**

Based on 2012 data, the Municipality of West Grey's total annual energy consumption in municipal operations is 3,158,866.53 ekWh, at a cost of \$420,883.44 per year and GHG emission of 395,319.75 kg/year eCO<sub>2</sub>.

### **Renewable Energy Utilized or Planned**

The Municipality of West Grey aspires to show leadership in the promotion and development of renewable energy systems that are compatible with our asset management and land use planning objectives. As a result, the Municipality will investigate the potential to develop solar photovoltaic systems on the rooftops of all corporate facilities with sound, south-facing roofs.

## **Strategic Planning**

### **Links with other municipal plans**

As an integral component of the management structure, the energy management plan will be coordinated with the municipality's budget planning process, preventative maintenance plans, environmental management plan, and the overall asset management plan.

## **Structure Planning**

### **Staffing requirements and duties**

The Municipality of West Grey will strive to incorporate energy efficiency into standard operating procedures and the knowledge requirements for operational jobs.

**Consideration of energy efficiency for all projects:** The Municipality of West Grey will endeavor to incorporate life cycle cost analysis into the design procedures for all capital projects.

## **Resources Planning**

### **Energy Leader**

The Municipality of West Grey will utilize a team leadership approach to foster a collaborative effort across all departments with the Senior Management Team assuming a cooperative leadership role for overall responsibility for corporate energy management.

### **Internal Resources**

The Municipality of West Grey will consider energy projects on an individual basis and determine the level of internal resources that will be utilized for the implementation of individual energy projects.

### **Energy Training**

The Municipality of West Grey will consider the development and delivery of energy training for relevant staff and Council members as a component of an employee energy engagement process.

## **Procurement Planning**

### **Energy Purchasing**

The Municipality of West Grey will continue to negotiate energy purchase contracts that appropriately address our cost considerations, available energy services, energy quality and reliability, and other performance factors.

### **Consideration of energy efficiency for all projects**

The Municipality of West Grey will endeavor to incorporate life cycle cost analysis into the design procedures for all capital projects.

### **Consideration of energy efficiency of acquired equipment**

The Municipality's will review its purchasing procedures and consider modifications to these procedures as required to incorporate energy efficiency into the criteria for selection of materials and equipment.

## **Projects Execution**

### **Municipal Level**

The Municipality of West Grey 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**

The Municipality of West Grey will utilize all levels of department and facility staff to facilitate the implementation of facility level business procedures and communication initiatives, including energy performance reporting.

## **Review**

### **Energy Plan Review**

The Municipality of West Grey will review and evaluate our energy plan, revising and updating it as necessary, on an annual basis within our corporate planning process.

## **Evaluation Progress**

### **Energy Consumption**

The Municipality of West Grey's energy consumption in 2012 was reduced to 3,158,866 ekWh from our 2011 levels of 3,610,081 ekWh or a decrease of approximately 12.5%. The Municipality's GHG emissions were reduced to 395,320 kg CO<sub>2</sub>e in 2012 from 453,621 kg CO<sub>2</sub>e in 2011 or a decrease of approximately 12.85%.

**Appendix A – Programs, Processes and Projects**

**Programs**

<b>Description</b>	<b>Details</b>	<b>Date (yyyy-mm-dd)</b>	<b>Status</b>
Add Energy Awareness to Management Meetings	Add energy awareness to management team meetings.	2014-08-07	Active
Training	Send key staff to energy savings training.	2014-08-01	Active
Improve Staff Education & Awareness	Make use of visual displays to demonstrate the implications of current behaviours on energy consumption.	2015-06-01	Pending
Employee Participation Program	Investigate the creation of an employee participation program for identification of improvements to energy use.	2015-08-01	Pending
Review of CDM Plan	Continue to review and refine the Energy Conservation and Demand Management Plan to ensure it is a "living" document that changes with the needs of the municipality.	2015-07-01	Pending

**Processes**

<b>Description</b>	<b>Details</b>	<b>Date (yyyy-mm-dd)</b>	<b>Status</b>
Quarterly Energy Reports to Managers	Create and distribute Energy Reports on a quarterly basis to managers.	2014-09-01	Pending
Facility Walk Throughs	Have different staff walk through facilities to assist with identifying energy savings potential.	2014-09-01	Pending
Take Advantage of Off-Peak Hours	Take advantage of lower electricity costs during Off-Peak Hours by running the dishwasher during off peak hours.	2014-09-01	Pending
Turn off electronic devices	Turn off all electronic devices such as coffee makers, printers, calculators, phone chargers, etc. at night and on weekends.	2015-09-01	Pending
Research Best Practices	Observe the energy activity in other municipalities for opportunities to capitalize on the best practices of others.	2015-09-01	Pending
Energy as part of Senior Managements Meetings	Ensure that energy is regularly on the agenda of senior management meetings.	2015-09-01	Pending

**Projects**

<b>Description</b>	<b>Details</b>	<b>Date (yyyy-mm-dd)</b>	<b>Status</b>
Municipal Buildings Energy Efficient Lighting Retro-fit	Retro-fit municipal buildings with more energy efficient lighting.	2012-12-31	Completed
Replace Condenser at Normanby Arena Complex	Replace the condenser at the Normanby Arena with a new energy efficient model.	2012-09-01	Completed
Replace Water Heater at the Normanby Arena Complex	Replace the water heater at the Normanby Arena with a new energy efficient model.	2012-12-01	Completed
Install Window Canopies at the Neustadt Community Hall	Install window awnings to shade the windows and reduce cooling requirements thereby saving energy.	2012-09-01	Completed
Insulation and siding for Durham Fire Station	Insulate, clad & siding of the Durham Fire Station to provide better insulation and reduce heating/cooling costs.	2013-12-31	Completed
Investigate Solar Panel Installation on Municipal Buildings	Investigate the potential for solar panel installations on municipal buildings.	2014-12-31	Pending
Investigate Automatic Shut Down Programs	Investigate the potential for implementation for programs like <a href="http://www.localcooling.com">www.localcooling.com</a> to automatically shut down PCs at night.	2015-12-31	Pending
Investigate Automatic Shut Down Programs	Investigate the potential for implementation for programs like <a href="http://www.localcooling.com">www.localcooling.com</a> to automatically shut down PCs at night.	2015-12-31	Pending



**Projects (continued)**

<b>Description</b>	<b>Details</b>	<b>Date (yyyy-mm-dd)</b>	<b>Status</b>
Enhance Building Envelope	Enhance Building Envelope - window replacement program, window sealing in winter, caulking, weather-stripping and insulation in top 3 buildings in terms of energy use.	2015-12-31	Pending
Identify Unnecessary Plug Loads	Identify unnecessary plug loads (like plug-in phantom power).	2015-12-31	Pending
Install Occupancy Sensors	Install occupancy sensors in buildings where practical.	2016-12-31	Pending
Street Lighting Retro-fit	New streetlight installations will take into account new technologies and industry trends. On-going maintenance of street lights when repaired or replaced will be upgraded with LED lighting.	2018-12-31	Ongoing
Upgrade Heating & Cooling Systems	Upgrade heating and cooling systems with more energy efficient models when the existing units require replacement.	2018-12-31	Ongoing