



Kapuskasing

2014 to 2019

**ENERGY
CONSERVATION AND
DEMAND
MANAGEMENT PLAN**

Ontario Regulation 397/11 – Energy Conservation and Demand Management Plans 2014 to 2019

Overview

This report provides a brief background and summary of the requirements relating to the Ontario Regulation 397/11 – Energy Conservation and Demand Management Plans. Results from the completion of the Ministry of Energy's (MOE) 2013 Energy Consumption and GHG Emissions template, as well as other relevant energy information for all of the facilities operated by the Town of Kapuskasing are included.

Purpose

The Town of Kapuskasing is committed to keep cost down and build a sustainable future for its community. The energy management plan is a strategic plan that aims to provide a basis for the Town to move forward on implementing improvements to its facilities and operations that reduce energy and water use, their associated costs as well as the environmental effects of the Town's activities.

Background

On January 1st, 2012 the Energy Conservation and Demand Management Plans Regulations (O. Reg. 397/11) came into effect. In 2013, public agencies were required to prepare and publish a summary of their 2011 energy consumption and greenhouse gas emissions. The regulation requires public agencies to report their energy use and Greenhouse Gas (GHG) emissions on an annual basis and to also develop and implement a five year Energy Conservation and Demand (CDM) Plan by July 1st, 2014.

By July 1st, 2014, The Town of Kapuskasing is required to submit:

- Updated energy consumption and GHG Emissions template using 2012 data
- A five year Energy Conservation and Demand Management (CDM) Plan
- Detail costs and estimates savings for proposed Energy Conservation Measures

Vision

The Town of Kapuskasing will reduce energy consumption, related costs and carbon emissions with education, awareness and improving its energy management practices while maintaining an efficient and effective level of service for the general public.

Objectives

1. Training for all employees to help create a culture of conservation within all the Town facilities. All employees will receive proper training to achieve goals set by the Corporation.

Training program will be established in the fall 2014.

2. Implement a policy for energy conservation to include energy efficiency standards and energy management best practices.

Establish a policy by fall 2014 to complement the training

3. Monitor and track energy use and provide employees with the report to support facility managers in decision making.

In 2013, the Corporation implemented LAS Energy Management Tool. This is an on-going report that track energy use in our facilities. As of fall 2014 this report will be presented to the managers for better decision making and budget preparation.

4. Create an Energy Committee to meet quarterly and discuss energy management and explore new ideas and trends.

Energy Committee

The Energy Management Team will meet quarterly with a mandate to ensure that the CDM Plan remains a priority with the Town's facilities and operations.

The Energy Management Team's objectives will be

- To develop strategies within operations to work towards reducing energy consumption
- To integrate best practices into daily operations to reduce energy consumption
- To increase awareness of the consumption of energy within each Department

Baseline Energy Data

The Town of Kapuskasing first completed an energy consumption inventory in 2011. This took into account the electricity and natural gas consumption of Town facilities and water and sewage treatment. The Airport and parks' energy use were not part of the requirement at the time. As of 2013, all electricity and gas consumption that the Municipality may utilize is tracked through the LAS energy management tool.

2011 and 2012 Energy Consumption

	2011 Electricity	2012 Electricity	2011 Gas	2012 Gas
	KwH	KwH	m3	m3
Administrative Buildings	271,239	253,333	95,929	82,753
Firehall	47,961	51,366	25,904	31,941
Recreation facilities	1,179,224	1,283,822	224,873	201,772
Public Works Buildings	169,815	153,783	64,295	62,669
Water treatment	1,156,647	825,793	24,712	29,030
Sewage treatment	1,463,058	1,733,599*	120,107	95,572
Streetlights	1,184,775	1,180,872	-	-
Total usage	5,472,719	5,482,568	555,820	503,736

*Major upgrades and installation of new equipment completed in 2012. For this item, the 2012 amount will be used as a baseline.

Measures of Success

The measures of success will be based on a number of key performance indicators such as:

- Reduction of energy consumption from the 2011 baseline data
- Integration of energy management into daily operation processes and facility based infrastructure decisions
- Energy efficient projects
- Project specific performance indicators dependent on the project

Reduction Targets

The implementation of the process improvements and program implementation initiatives will build the foundation for successful energy management practices along with developing the capacity and awareness within the Town which will contribute towards a 1 to 5% savings in consumption or consumption avoidance per year. Consumption savings attributed to the projects undertaken will be project dependent.

Incentive funding

To ensure that the Town takes advantage of all funding and grants available related to energy efficient programs and projects, the Town will liaise with representatives from local utility providers. Staff and utility representatives are in a unique position to review current and future process improvements, program implementations and projects that can meet future funding requirements.

Energy conservation is not a new concept for the Town of Kapuskasing. In 2013, many energy audits were conducted in our facilities. The audits were performed for our Airport Terminal, Maintenance Garage, Hangar and Airport Water Treatment Plant. They were also performed for the Public Works office, Maintenance Garage, Storage Garage and Electrical shop. Other energy audits were conducted at the Waste Water Treatment Plant, Pool, Arena and Civic Center.

Outlined below are capital projects that are underway or will be undertaken in the near future. These projects were designed to implement new energy efficient technology to reduce the energy consumption.

Energy Conservation Plan

Plan development by priority

Streetlights

Description	To change 1050 streetlights from HPS to LED
Goals and Objective	Reduce energy and maintenance costs for streetlights
Timeline	Start date May 2014 to November 2014
Responsibility	This project is overseen by the General Manager of Public Works

Highway 11 Golf Lift Station

Description	Installation of a new lift station and force main
Goals and Objective	The objective is to build a new energy efficient lift station and to eliminate a total of three lift stations that are not energy efficient. The elimination of the lift stations also eliminates old pumps. This will eliminate the energy consumption of three pumps
Timeline	To eliminate two lift stations by December 31, 2014 and the third by 2018
Responsibility	This project is overseen by the General Manager of Public Works

Waste Water Treatment Plant Energy Use Audit

Description	To hire consultants to prepare an energy use audit
Goals and Objective	Plan and implement upgrades to the Waste Water Treatment Plant based on the results of the audit and reduce energy
Timeline	Work to start in spring 2015
Responsibility	This project is overseen by the General Manager of Public Works

Lagoon Study

Description	To redirect lagoon waste water effluent from the lift station to the creek
Goals and Objective	To Reduce the lift station pumping hours and reduce energy
Timeline	Work to be undertaken by 2015
Responsibility	This project is overseen by the General Manager of Public Works

Lemurier Lift Station

Description	This project is an extension of the Highway 11 lift station project. Complete dismantle of the lift station
Goals and Objective	To reduce the number of pumping stations
Timeline	Work to be undertaken in 2018
Responsibility	This project is overseen by the General Manager of Public Works

Airport Upgrades

Description	Upgrade the HVAC system at the Airport Terminal
Goals and Objective	Reduce energy cost at the Airport Terminal
Timeline	Project design in 2014 and work to be undertaken in 2015
Responsibility	Airport Manager and General Manager of Public Works

Donat Brousseau Pool Upgrades

Description	Upgrade to building envelope, such as new roof, and insulation on outside walls. New HVAC system, electrical upgrade, and new pool equipment (pumps,)
Goals and Objective	To reduce energy costs
Timeline	Design in 2015 with work to be undertaken in 2016
Responsibility	General Manager of Finance and Recreation and General Manager of Public Works

Sports Palace Upgrades

Description	New insulated roof, Lighting fixtures, and electrical upgrade
Goals and Objective	To create an energy efficient building
Timeline	Electrical upgrade design in 2014 with work to be undertaken in 2015
Responsibility	General Manager of Finance and Recreation and General Manager of Public Works

Arena Equipment Upgrades

Description	To replace old compressor, dehumidifier and hot water tank with new energy efficient equipment
Goals and Objective	To reduce energy costs
Timeline	Equipment to be purchased by September 1, 2014
Responsibility	Recreation Director

Renegotiate Union Contracts

Description	To meet with union representative to renegotiate contracts that would permit off peak plant operations
Goals and Objective	To reduce operations during peak hours
Timeline	Contract end date is August 2014
Responsibility	Chief Administrative Officer with support staff

Motion sensors

Description	To change all lighting fixtures where it is cost effective from light switches to motion sensors
Timeline	On-going
Responsibility	This project is overseen by the General Manager of Public Works

Public Works Building

Description	The Public Works building was built in the 1950s.
Goals and Objective	To relocate to a building that was renovated in the year 2000. This would reduce the energy use
Timeline	To move in by 2016
Responsibility	This project is overseen by the General Manager of Public Works

Civic Center retrofit

Description	Eliminate electrical heat
Goals and Objective	Retrofit heating system to eliminate the electrical heat and save on energy and reduce energy costs
Timeline	Study to be undertaken in 2018
Responsibility	General Manager of Public Works

In addition to the Energy Conservation and Management Plan, The Town of Kapuskasing will be tracking all of our municipal energy use in order to measure our target goals. By modifying our operational behavior and relying more on renewable energy sources, which are part of our strategies to conserve energy, we will mitigate climate change and save money.