Winchester District Memorial Hospital

Ontario Regulation 397/11 – Energy Conservation and Demand Management Plans
Winchester District Memorial Hospital

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 (for the period of 2011), as well as other relevant energy information for all of the facilities operated by the Winchester District Memorial Hospital, are also included.

Background

On January 1st, 2012 the Energy Conservation and Demand Management Plans Regulation (O.Reg. 397/11) came into effect. In 2013, public agencies are 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 usage and Greenhouse Gas (GHG) emissions on an annual basis and to also develop a Five Year Energy Conservation and Demand Management (CDM) Plan by July 1, 2014. The requirements include:

By July 1, 2013 public agencies are required to submit:

- Energy Consumption and GHG Emissions template using 2011 data

By July 1, 2014 public agencies are 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 estimated savings for all proposed Energy Conservation Measures
- Benchmark facilities
- Updated building characteristics
- Option to report on previous energy conservation initiatives

In summary, an updated version of the Energy Consumption and GHG Emissions template must be submitted every year, on or before July 1st, starting 2014. Completed CDM Plans are due July 1, 2014 and every five years thereafter.

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Discussion

A first step in developing a CDM Plan is to establish baselines. As required by regulation 397/11, the initial baseline consists of 2011 energy consumption and GHG emissions information. Table 1 below provides a Corporate Description of the facilities that are included in the Energy Consumption and GHG Emissions template that was completed for the Ministry of Energy. Table 2 below contains a summary of Winchester District Memorial Hospital's energy consumption for January 2011 to December 2011. The table is broken down by facility for Winchester District Memorial Hospital and is further subdivided by type of operational use (Administrative use or Hospital use). The table outlines the electricity, as well as natural gas consumption, for each site and the total consumption for the organization. It also breaks down the GHG emissions for each site as well as the energy intensity with the average intensity across all sites. Using energy intensity as a variable will assist in the identification of opportunities for future energy efficiency and conservation initiatives.

Table 1: Corporate Sites

Building Name	Operation Type	Address	City	Postal Code	Total Floor Area (m^3)	Average Hours per week
Louise Harvey Dillabough Building	Administrative Offices and related Facilities	550 Louise Street	Winchester	K0C 2KO	855.45	50
Winchester District Memorial Hospital	Administrative Offices and related Facilities	566 Louise Street	Winchester	K0C 2KO	278.67	50
Winchester District Memorial Hospital	Facilities used for hospital purposes	566 Louise Street	Winchester	K0C 2KO	12504.33	168

Table 2: **Energy Consumption Summary**

Site	Total Electricity Consumption (kWh)	Total Natural Gas Consumption (m^3)	GHG Emissions (kg)	Energy Intensity (GJ/m^2)
Louise Harvey Dillabough Building	103,492.00	7,842.00	23,105.66	0.79
Winchester District Memorial Hospital -Admin	83,885.60	15,603.74	36,211.70	3.23
Winchester District Memorial Hospital	3,764,077.40	700,164.26	1,624,875.64	3.23
				Average Intensity
Total	3,951,455.00	723,610.00	1,684,193.00	2.42

Energy Intensity Definition *- a measure of energy efficiency measured by the amount of energy consumed in GJ per square metre of floor space.*

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Figures 1 and 2 below Illustrate the breakdown of electricity and natural gas consumption by facility and operation. From these graphs it can be seen that Winchester District Memorial Hospital (both administration offices and hospital) account for the majority of all electricity and natural gas consumption.

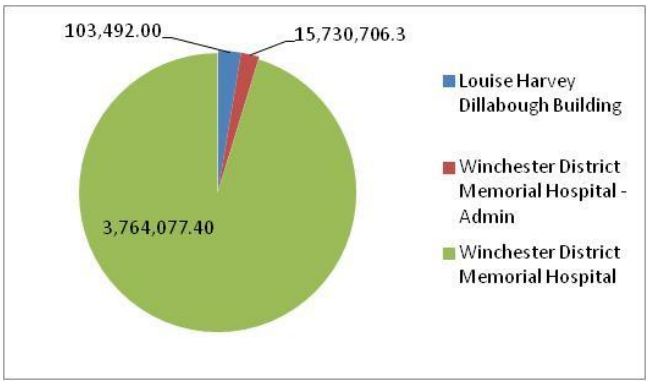

Figure 1: **2011 Electricity Consumption (kWh)**

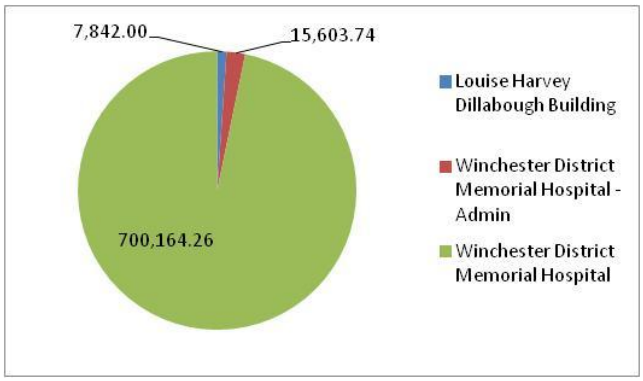

Figure 2: **2011 Natural Gas Consumption (m^3)**

Figures 3 and 4 below illustrate the 2011 aggregate consumption for all sites for electricity and natural gas respectively. Both commodities show a seasonal trend in consumption. For electricity, the peak usage occurs during the cooling season during the summer months from the usage of air conditioning, and natural gas usage is highest in the heating season during the winter months.

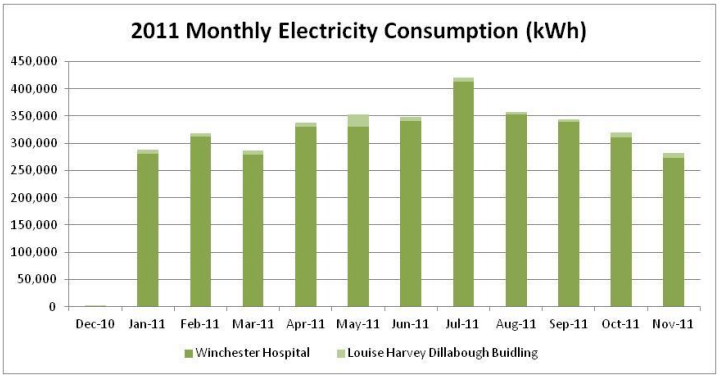

Figure 3: **2011 Electricity Usage by Month**

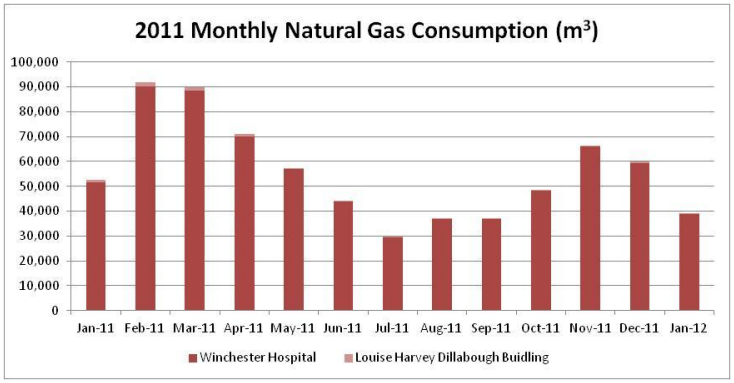

Figure 4: **2011 Natural Gas Usage by Month**

Figure 5 below illustrates the GHG emissions for all sites and identifies the Winchester District Memorial Hospital operations as the largest producer of GHG, primarily due to the large square footage of the site relative to the other site.

Figure 6 below illustrates that the Hospital has much higher energy intensities than the Louise Harvey Dillabough Building. Energy intensity is less a function of the size of the building and more a function of the efficiency of energy consumption.

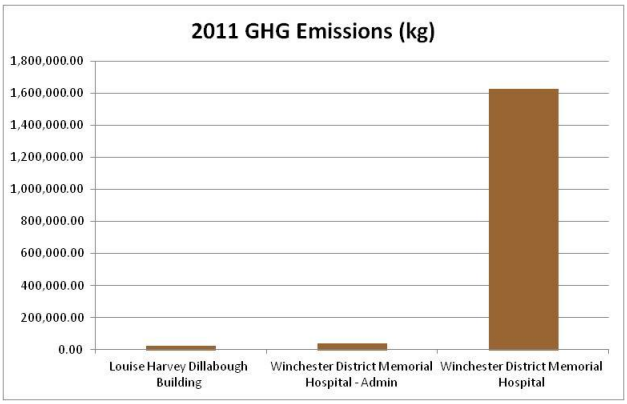

Figure 5: **2011 GHG Emissions**

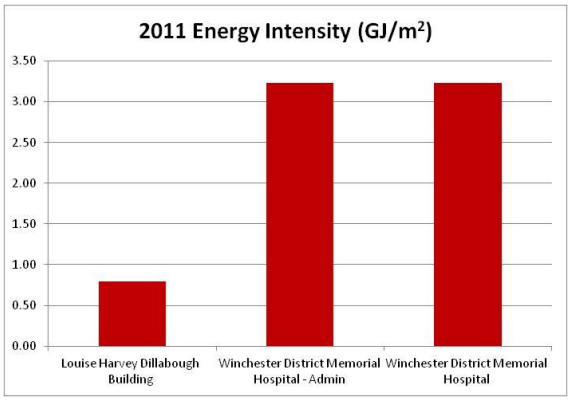

Figure 6: **2011 Energy Intensity**

Summary

All of the completed work outlined above and the subsequent submission of Winchester's 2013 Energy Consumption and GHG Emissions template ensures that Winchester District Memorial Hospital is in compliance with Regulation 397/11 and also helps position our organization to complete the 2014 CDM plan. The CDM plan will be a fundamental component of Winchester's overall energy management strategy moving forward.