



Village of Oil Springs
Energy Conservation and Demand
Management Plan

July 1, 2014

Table of Contents

Preface	3
1.0 Executive summary	4
1.1 Plan Development	4
1.2 The Result	4
2.0 Background	5
3.0 Process	5
4.0 Measuring Energy Consumption	6
5.0 Energy Management Planning	7
5.1 Energy Management Plan Process and Development	7
5.2 Past Energy Management Activities	7
5.3 Behavioural and Cultural Initiatives	7
5.4 Present Energy Initiatives	8
6.0 Goals for Future Energy Management	8
6.1 Why Set Energy Reduction Targets?	9
7.0 Energy Management Champion	10
8.0 Capital Funding	11
8.1 Fast Out Financing Model	11
8.2 Shared Savings Financial Model	12
9.0 Other Energy Matters	13
9.1 Backup Generation	13
9.2 Renewable Generation	13
10.0 Conclusion	15
Appendix A – Oil Spring’s 2012 Energy Reporting Template	16
Appendix B - Ontario Regulation 397/11.....	17

Preface

The Energy Conservation and Demand Management Plan (hereinafter referred to as the “Energy Management Plan”) was the result of internal reviews by municipal staff with the Village of Oil Springs. Their analysis was facilitated by Bluewater Power. The resulting Energy Management Plan represents a considered and careful plan to understand and manage the energy needs of the municipal corporation for the period from 2014 to 2018. This plan is not a general plan for the community, but a tool for the municipal corporation to manage its energy consumption in order to reduce its carbon footprint and to control its energy costs for heated and cooled facilities.

The Energy Management Plan was presented to the Council of the Village of Oil Springs at its meeting on June 10, 2014.

1.0 Executive Summary

This report outlines the Energy Management Plan (“EMP”) for the Village of Oil Springs (“Oil Springs”) located in Southwestern Ontario.

The EMP will comply with the requirements of the *Green Energy and Green Economy Act*, O.Reg 397/11 (“GEA Regulation” or “GEA”). The first requirement was met on July 1, 2013 with Oil Springs’ submission of baseline energy consumption (electricity, natural gas) for the “heated or cooled” municipal facilities. This exercise involved the tracking and reporting of energy usage for the year 2011.

This report, and the data analysis that took place in compiling this report, represent the second requirement under the GEA Regulation, and is due by July 1, 2014. This report contains a summary of the 2012 energy consumption data which must be filed with the Ministry of the Energy, as well as a five year Energy Management Plan outlining planned activities for the period 2014 to 2018.

The exercise has spawned an interest in a more structured approach to energy management, tracking both consumption and spending, utility rates and project results. Although Oil Springs has been proactive in the past regarding energy efficiency, this initiative provides more structure and format to the on-going activities.

1.1 Plan Development

As part of the initial task in 2013, Oil Springs worked closely with its utility, Bluewater Power. An energy plan blueprint was developed focusing on the largest energy consumers of municipally-owned facilities. This provided a starting point which has been expanded upon over the course of the past year.

In-depth staff interviews and group meetings were conducted. Input has been provided by all staff, from finance to operators to the management team. As a result, the EMP has been brought together as a comprehensive plan that is both practical and achievable.

1.2 The Result

Together with our allies, Oil Springs has been able to identify projects that will ensure the Village maintains the services that are needed, while using energy in the most responsible manner. Our success over the next five years will be measured against a target energy savings of 2% per year (10% reduction by 2018). The Village recognizes that it may not have sufficient opportunities to achieve that 2% target, but the Village is prepared to set that goal to demonstrate leadership and knowing there are no negative consequences to missing the target.

2.0 Background

Oil Springs is located in Southwestern Ontario approximately mid-way between Sarnia and London.

Oil Springs has a population of 704, and occupies a land area of 8.18 km², with a population density of 86.1 / km², and a median age of 41.5. The total number of private dwellings was 302 at the time of the 2011 census. The Village of Oil Springs was incorporated in 1865 after settlers arrived in the late 1850's following James Williams' discovery of oil, which triggered North America's first oil rush. Oil Springs is now home to the Oil Museum of Canada.

Oil Springs has three municipal buildings and two pumping facilities whose total energy costs (electricity, gas and water) in 2012 were just over \$18,000. The 2012 energy costs represent 1.3% of the total municipal budget. The largest energy using facility is the public works building, which uses 48% of the total energy consumed by the five facilities.

Oil Springs is faced with increasing maintenance costs, increasing insurance rates, increasing energy costs and the burden of downloaded provincial costs. As such, Oil Springs must explore all avenues for cost savings, including energy efficiency projects.

3.0 The Process

As part of the preparation of the 2013 submission, a planning exercise began to develop an EMP blueprint. This document served as a framework of activities for the past year. It included input from staff and allies, targeting the larger energy users and identifying viable energy efficiency projects.

Discussion also began regarding target levels for energy reduction, renewable energy options, and a structured approach to energy tracking as well as the measurement and evaluation of project impacts.

With the assistance of a consulting firm, Metatech and Associates, this blueprint and a Level 1 energy audit was completed one year ago at the youth centre.

For the past 12 months staff has participated in numerous activities to drill deeper into the topic and determine specific areas to be included in the EMP.

These steps included:

- Meetings with neighbouring municipal stakeholders
- Surveys of past and future activities

- Interviews with key staff

This process has contributed to the building of a common vision with respect to energy, has enhanced staff understanding of the costs and impact of energy on the Village finances and has identified practical steps to move forward.

4.0 Measuring Energy Consumption

This report contains a summary of the data filed by Oil Springs in compliance with O.Reg 397/11 of the Green Energy Act for Ontario as Appendix “A”. The data demonstrates that utility and energy related costs are a significant part of overall operating costs:

- Total Utility costs in 2011 were just over \$18,000
- The Municipality’s Energy Use Indices (EUI) was 15.1 ekWh/ft² (*The Municipal Energy Use Indices (EUI) is a measurement standard enabling a client to benchmark their facilities against similar sites. The natural gas commodity is converted to equivalent kWh so as to develop a common energy measuring unit, which is made more uniform by dividing by the square footage of the building. The lower the ekWh/ft² the better the facility is performing from an energy perspective*)

In the year 2012, Oil Springs spent in excess of \$18,000 on natural gas and electricity for its heated and/or cooled facilities and pumping stations. Total energy costs spent by the municipality are higher, as the amount presented for heated and/or cooled facilities does not include items such as outdoor ballpark lighting or street lights.

It can be difficult to compare energy costs year over year due to the impact of weather on air conditioning and heating load. However, it is typical for municipalities to see an increase in energy costs as they expand existing facilities or add new services.

Overall, the energy intensity of Oil Springs and its facilities appears to be in the lower than average range of municipal facilities.

5.0 Energy Management Planning

The heart of the Oil Springs's Energy Management Plan is to promote good stewardship of our environment and community resources. In keeping with our core values efficiency and financial responsibility, Oil Springs's EMP program will reduce operating costs and enable the municipality to provide improved returns when spending taxpayers' dollars.

5.1 Energy Management Plan Process and Development

The EMP is meant to serve as a basis for energy and utility-related decisions in the coming years. The main goal is to outline the strategies for implementing improvements to facilities and operations that reduce energy costs and affect positive environmental changes.

5.2 Past Energy Management Activities

Oil Springs has historically been very active and aware of energy and sustainability initiatives.

The five-year Energy Management Plan represented in this report provides an excellent opportunity to both reflect upon past successes and develop plans for future initiatives.

The GEA O.Reg 397/11 requires the year 2011 or 2012 to be the baseline upon which a municipality is measured for achieving further targeted energy savings. This creates an artificial starting point and can have the effect of downplaying the significance of prior energy efficiency efforts. It is important to point out, therefore, that the Village of Oil Springs has been active in pursuing energy efficiency in 2012 or years prior. A list of completed projects that were specifically implemented to lower energy costs include:

- Energy efficient appliance installed at Youth Centre
- Energy efficient programmable air conditioner installed at the Community Hall
- Two new energy efficient air conditioners at the Youth Centre
- Retrofitted lighting – upgrade to energy efficient lights at Municipal Office and Youth Centre

5.3 Behavioural and Cultural Initiatives

Often lost in a more technical analysis of energy needs are the “soft” initiatives that involve behavioural change. As with the “Culture of Conservation” the Province of Ontario is attempting to achieve, the Village of Oil Springs has always been cognizant of the need to conserve energy. A list of the types of actions that have led to tangible, but difficult to quantify savings are as follows:

- Staff routinely turn off lights in unused areas
- Efforts are made to consider energy use in all aspects of day to day operations
- Municipal Council has played a lead role by clearly demonstrating its interest in innovation, energy efficiency and maximizing the use of energy resources.

5.4 Present Energy Initiatives

The GEA O.Reg 397/11 focusses on heated or cooled municipal facilities and, therefore, does not include consideration of measures related to outdoor lighting. Nevertheless, most forward thinking municipalities are tackling the challenge of streetlights. This includes the Village of Oil Springs, whose current plans for 2014 include a major investment for the replacement of all high intensity discharge street lights with new LED units. While it is understood this initiative is outside of the scope of the present EMP, this initiative alone will reduce the electrical costs of the Village's street lighting by approximately 60% to 70%. The projected savings will represent significant financial savings including energy savings and maintenance costs. The project will also be facilitated by one-time capital incentives from the Ontario Power Authority, facilitated by Bluewater Power.

6.0 Goals for Future Energy Management

Oil Springs has set a five-year target of a 10% energy reduction, to be achieved through an annual goal of a 2% energy reduction. The goal is based on a list of potential projects that have been identified; considering the fact that implementation of these projects is dependent upon funding, which has a finite limit.

A list of possible energy efficient projects is set out in the table below. The three projects identified and considered high priority have been proposed for the middle three years of the five year plan. No projects have been proposed for the first and last years, but Oil Springs intends to monitor the progress of technology and continuously evaluate opportunities.

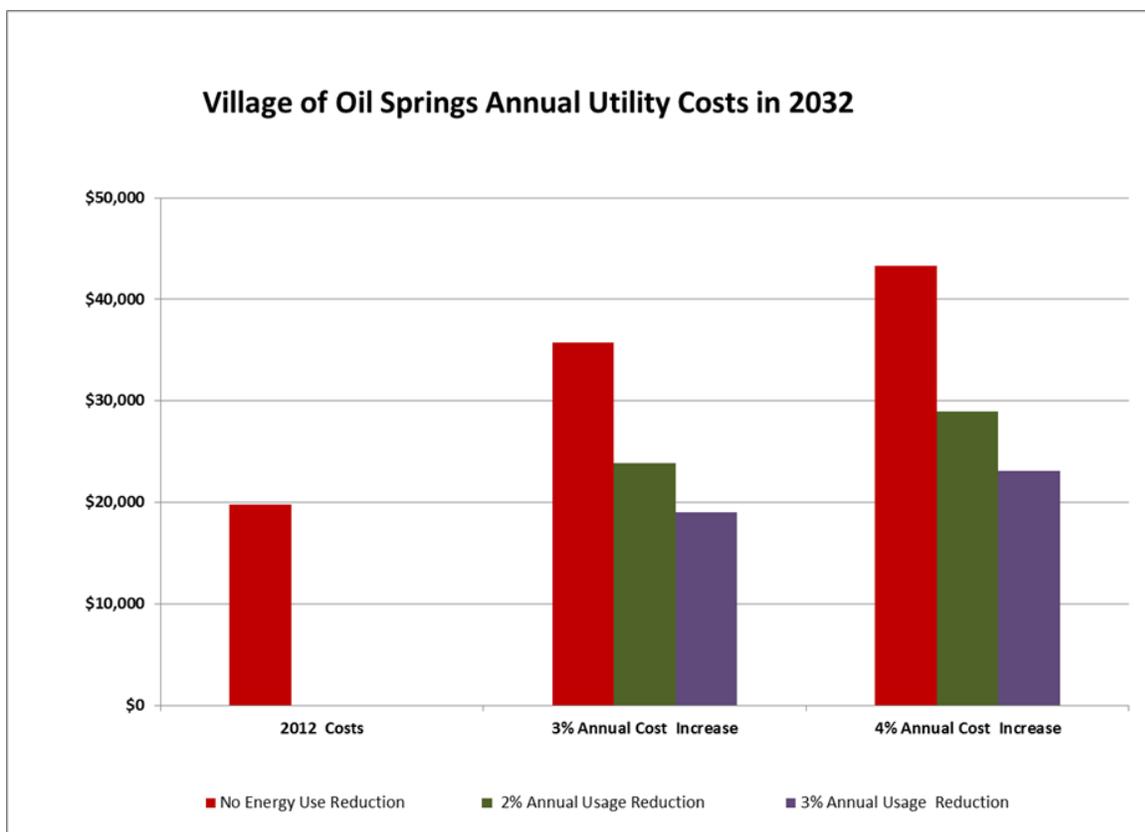
Project	Cost	Incentives	ekWhs saved	Cost Savings	2014	2015	2016	2017	2018
Youth Centre Lighting	\$ 8,000	\$ 4,000	8,000	\$ 1,200		X			
Municipal Office Lighting	\$ 2,500	\$ 400	4,000	\$ 520			X		
Public Works Shop Lighting	\$ 7,000	\$ 2,000	10,000	\$ 1,300				X	

The projects noted above are considered "proposed" and each is subject to Council approval through the normal capital budgeting process of the municipality. Oil Springs does not have funds available in hydro and water reserves that could be utilized to fund capital projects to improve energy efficiency. Capital funds are limited and, hence, each project will require council approval based upon detailed costing and analysis of the pay-back period.

In this current age of low interest rates and low yields on bonds and investments, energy efficiency projects offer an extremely attractive financial proposition. Reviewing the above table, the majority of the proposed projects offer annual returns in the 20% range.

6.1 Why Set Energy Reduction Targets?

This report sets a reduction target of 2% annually for the first five years. If that targeted reduction can be maintained for 20 years, the graph below demonstrates the potential financial reward of forward-thinking energy reduction. The graph shows the differences in the total annual cost of energy in 20 years' time, assuming annual energy rate increase of 3% and 4%, respectively. The graph compares those projected costs with, and without, achieving the energy reduction target set out in this report. Even assuming a 4% annual increase in the cost of energy, the difference in total cost of energy in 20 years between zero conservation and 2.0% annual conservation is the difference between energy costs increasing by 119% over 20 years or increasing by 46% over 20 years. If we look to the more conservative 3% annual increase in the cost of energy, we see that an aggressive 3% annual reduction in energy consumption is able to largely offset the increase in energy prices over 20 years.



7.0 Energy Management Champion

The Village of Oil Springs will appoint an Energy Management Champion to create and maintain a methodical focus on energy costs. The champion will be a key staff person who will track energy budgets, update energy related projects and develop accountability for achieving energy reduction targets. The champion will have the lead responsibility and accountability for monitoring and achieving energy reduction targets.

The specific mandate for the proposed champion will be established by Oil Springs Council, based generally on the following:

- Track energy spending by department, quarterly
- Analyze and prioritize projects for consideration by Council on an annual basis
- Identify potential projects to consider in the future
- Developing a corporate strategy for back-up generators
- Creation of an energy awareness strategy for Village staff
- Reporting and tracking all utility incentives

Participation and education will be solicited from utility partners, both electrical and gas suppliers, to ensure up to date information on incentive programs, energy rates and other available assistance. Active participation from these partners will make the champion's efforts that much more effective.

8.0 Capital Funding

Some municipalities have capital reserve fund accounts that can be utilized to effectively “borrow” capital funds to pay for energy efficiency projects. Oil Springs does have a small Energy Reserve Fund specifically for energy efficiency projects. Each proposed project is scrutinized by senior staff and Council to ensure it is a viable and will deliver a fair return over the long term.

Bluewater Power, through the OPA’s “saveONenergy” conservation programs provides capital incentives for undertaking capital projects that reduce electrical consumption. Similarly, Union Gas has certain programs to manage demand for natural gas. The three capital projects proposed in the above table could attract in excess of \$6,000 in capital incentive rebates from the OPA alone.

There are three types of potential capital projects listed above. Each of the projects has a return on investment within typical municipal payback expectations. These projects could reduce Oil Spring’s energy consumption by 7% over five years should they be implemented as proposed. Therefore, in order to achieve the target of 10% over five years, further projects will need to be identified through continuous monitoring of opportunities. In other words, achieving the target will require careful shepherding by the Energy Management Champion. The projects noted above are considered “proposed” and those projects, as well as any others identified, each are subject to Council approval through the normal capital budgeting process of the municipality.

Municipalities that have reserve fund accounts can utilize capital funds from these accounts to effectively self-finance energy efficiency projects with “capital loans” from reserves. It is important for these “capital loans” to be paid back to the reserve fund utilizing the cost savings or avoided energy costs that result from the energy efficiency upgrades. The question remains whether those funds are to be returned to the reserve entirely so that they can finance future capital investments (“fast out” basis) or shared between the reserve fund and current budget so that savings partially finance future capital and partially reduce taxes (“shared savings” basis).

8.1 “Fast out” basis: All savings are paid back into the reserve in order to replenish the reserve for future capital projects and ensure the pay-back period is minimized. The tables below illustrate how the “fast out” option could materialize if the projects highlighted above are the only projects implemented. If additional projects are added for consideration, Oil Springs could expect the payback periods to be comparable.

Fast Out option						
	2014	2015	2016	2017	2018	5 Year Total
Total Project Spend	\$3,200	\$3,200	\$3,200	\$3,200	\$3,200	\$16,000
Incentives	\$0	\$500	\$500	\$500	\$500	\$2,000
Operating Savings	\$0	\$603	\$1,229	\$1,881	\$2,558	\$6,271
Net New Capital	\$3,200	\$2,098	\$1,471	\$819	\$142	\$7,729
Incentives	\$500	\$500	\$500	\$500	\$500	\$2,500
Incremental Annual Energy Savings	\$603	\$627	\$652	\$678	\$705	\$3,263
Cumulative Annual Energy Savings	\$603	\$1,229	\$1,881	\$2,558	\$3,263	\$3,263
Energy Reduction (ekwhs)	5,493	5,493	5,493	5,493	5,493	27,465
% Reduction	2%	2%	2%	2%	2%	10%

By transferring the annual utility savings and the capital incentives back into the energy reserve account to use for future capital expenditures, the amount of new capital necessary over five years to achieve \$16,000 of capital energy project spending is only \$7,729. The result of directing \$7,729 in reserve fund capital to energy reduction projects would reduce total energy consumption by approximately 2% per year, resulting in estimated financial savings of \$3,263 per year by 2019 that could be used either use to reduce taxes or reinvest in further energy saving projects.

8.2 “Shared savings” basis: Financial energy savings are shared between the current year to reduce O&M with the effect of reducing the current tax levy, with the remainder being returned to the reserve for future capital projects. The percentage of savings can vary based on the desire to balance current taxes and future capital needs. The tables below illustrate how the “shared savings” option could work using a 75/25 sharing between reserve/ratepayer and the capital projects identified above.

Shared savings option						
	2014	2015	2016	2017	2018	5 Year Total
Total Project Spend	\$3,200	\$3,200	\$3,200	\$3,200	\$3,200	\$16,000
Incentives to reserve	\$0	\$500	\$500	\$500	\$500	\$2,000
Operating Savings from Reserve	\$0	\$452	\$922	\$1,411	\$1,919	\$4,703
Net New Capital	\$3,200	\$2,248	\$1,778	\$1,289	\$781	\$9,297
Incentives	\$500	\$500	\$500	\$500	\$500	\$2,500
Incremental Annual Energy Savings	\$603	\$627	\$652	\$678	\$705	\$3,263
Cumulative Savings to Reserve	\$452	\$922	\$1,411	\$1,919	\$2,448	\$2,448
Cumulative Savings Shared with Ratepayers	\$151	\$307	\$470	\$640	\$816	\$816
Energy Reduction (ekwhs)	5,493	5,493	5,493	5,493	5,493	27,465
% Reduction	2.0%	2.0%	2.0%	2.0%	2.0%	10%

Under this scenario, the amount required from capital reserve funds increases from \$7,729 to \$9,297 over five years; however the annual energy reduction also delivers approximately \$816 of cumulative savings back to the Oil Springs ratepayers over the five years of the plan.

This EMP does not seek to choose one financing model over another. Each project will be evaluated individually to determine whether savings are used exclusively to finance future capital (“Fast-out” model), or shared with ratepayers (“Shared-Savings”) model.

9.0 Other Energy Matters

The “*Guide to Preparing Conservation and Demand Management Plans*” recommends a municipality to turn its mind beyond energy reduction targets and to address other matters related to energy. In the case of Oil Springs, two matters are worth addressing related to backup generation and renewable energy generation.

9.1 Backup Generation

Currently Oil Springs has backup power at the Youth Centre for emergency shelter purposes; the Municipal Office, main pumping station, and fire hall for avoidance of business interruption. There may be an opportunity to utilize these assets to participate in the Demand Response (“DR3”) initiative with the Ontario Power Authority. Although this initiative is currently in transition, there may be opportunities if responsibilities are transferred to the Independent Electrical System Operator (“IESO”) within the next year. Some capital investment and time from municipal staff would be required to change the Certificate of Approval - Air (“CofA”), as would slight modifications to the equipment itself. At such times as there is greater certainty, the payback should be evaluated and this could represent an opportunity for further consideration in later years of the five year plan activity.

Should there be an opportunity to work with Bluewater Power and other neighbouring municipalities, Oil Springs would likely need to consider being part of an aggregated pool of generators that could be bid into a program such as the present Demand Response “3” initiative.

9.2 Renewable Generation

The GEA O.Reg.397/11 states specifically that “*Within the five year plan, the municipality will provide*

- *A description of any renewable generation facility operated by the public agency and the amount of energy produced on an annual basis by the facility.*
- *A description of the ground source energy harvested, if any, by ground source heat pump technology operated by the public agency.*
- *The solar energy harnessed, if any, by thermal air technology or thermal water technology operated by the public agency.*
- *The PROPOSED PLAN, if any, to operate heat pump technology, thermal air technology or thermal water technology in the future.”*

Oil Springs currently has zero renewable energy projects, with no projects using renewable power nor any renewable energy generation projects planned for the future.

Solar options exist to lease rooftop space and remove the performance risk from Oil Springs and put it onto the solar developer. This option provides guaranteed payments for 20 years and requires absolutely no investment from Oil Springs. However, larger rooftops such as community centres or arenas are generally ideal, neither of which are part of the Village so cannot be investigated as options.

Oil Springs may decide to investigate options for the implementation of other renewable technology projects at its facilities. The initiatives may take a variety of forms from ground source heat pump to solar thermal systems retrofitted into existing sites. Technology such as solar thermal may be viable for the larger water consuming facilities. Oil Springs will be mindful of such opportunities when considering capital projects for existing sites that are in need of a replacement for its heating/cooling system.

10.0 Conclusion

The Village of Oil Springs is a corporate entity with significant assets and an overall energy budget in excess of \$20,000 annually. Oil Springs recognizes that energy prices, both natural gas and electricity, will increase over the next five to ten years and create pressure on the Village's finances. The most efficient way for municipalities to tackle these price increases, without lowering municipal service levels, is to decrease the amount of energy used.

Through this Energy Management Plan, the Village of Oil Springs declares that it will proactively manage its energy costs by setting a target of reducing energy by 10 % over the next five years. A number of preliminary energy studies have already been undertaken and a list of potential projects has been developed. They demonstrate that the energy reduction target of 2% annually will be a stretch for the municipality, but the Village is prepared to set a lofty goal. The goal may not be achievable due to a lack of opportunities, but the Village is prepared to set that goal to demonstrate leadership and knowing that there are no negative consequences to missing the target. The key to reaching the lofty target will be the availability of capital to complete projects in a planned manner and through a financing tool that permits savings to be returned, in full or in part, to the reserve fund from which the capital was funded. In this manner, the Village will build upon its energy efficiency successes over the next five years of this plan.

Monitoring progress toward the energy reduction target will be the responsibility of the Energy Management Champion to be established under this Energy Management Plan. The Champion will ensure accountability within each department for energy budgets, prioritize energy efficiency projects for capital spending, as well as monitor and report progress on the achievement of the 2% annual energy reduction target.

APPENDIX A

Energy Consumption and Greenhouse Gas Emissions Reporting - for 2012												
Press TAB to move to input area												
Confirm consecutive 12-month period (mth-yr to)	January 2012 to December 2012											
Sector												
Agency Sub-sector												
Organization Name	Village of Oil Springs	Please fill in the mandatory fields indicated in red, in addition to submitting data on your energy usage.										
Operation Name	Operation Type	Address	City	Postal Code	Total Floor Area	Unit	Avg hrs/wk	Annual Flow (Mega Litres)	Energy Type and Amount Purchased and Consumed in Natural Units			
									Electricity		Natural Gas	
								Quantity	Unit	Quantity	Unit	
Stephenson Building	Administrative offices and related facilities, including municipal council chambers	2160 Yonge Street	Toronto	M7A 2G5	135,034.00	Square meters	70	23516.00224	2,181,065.00000	kWh	125,300.00000	Cubic meter
Pumping Station	Facilities related to the pumping of water	2658 Oil Heritage Rd	Oil Springs	NON 1P0		Square feet	4	23.90000	4,422	kWh		
Pumping Station	Facilities related to the pumping of water	2601 Frederick Street	Oil Springs	NON 1P0		Square feet	18	89.13000	16,489	kWh		
Public Works shop	Storage facilities where equipment or vehicles are maintained, repaired or stored	4596 Oil Springs Line	Oil Springs	NON 1P0	2,100	Square feet	40		30,639	kWh	9,336	Cubic Meter
Municipal office	Administrative offices and related facilities, including municipal council chambers	4591 Oil Springs Line	Oil Springs	NON 1P0	6,400	Square feet	46		19,583	kWh	2,661	Cubic Meter
Youth Center	Gyms and indoor courts for playing tennis, basketball or other sports	4517 Victoria Street	Oil Springs	NON 1P0	7,320	Square feet	16		19,126	kWh	4,208	Cubic Meter
Fire hall	Fire stations and associated offices and facilities	4589 OIL SPRINGS L	Oil Springs	NON 1P0	1,600	Square feet	40		2,440	kWh	795	Cubic Meter

APPENDIX B

ONTARIO REGULATION 397/11

made under the

GREEN ENERGY ACT, 2009

Made: August 17, 2011

Filed: August 23, 2011

Published on e-Laws: August 25, 2011

Printed in *The Ontario Gazette*: September 10, 2011

ENERGY CONSERVATION AND DEMAND MANAGEMENT PLANS

Definitions

1. In this Regulation,

“municipal service board” means,

- (a) a municipal service board or joint municipal service board established or continued under the *Municipal Act, 2001*,
- (b) a city board or joint city board established or continued under the *City of Toronto Act, 2006*, or
- (c) a joint board established in accordance with a transfer order made under the *Municipal Water and Sewage Transfer Act, 1997*; (“commission de services municipaux”)

“post-secondary educational institution” means a university in Ontario, a college of applied arts and technology in Ontario or another post-secondary educational institution in Ontario, if the university, college or institution receives an annual operating grant; (“établissement d’enseignement postsecondaire”)

“public hospital” means,

- (a) a hospital within the meaning of the *Public Hospitals Act*, or
- (b) the University of Ottawa Heart Institute/Institut de cardiologie de l’Université d’Ottawa; (“hôpital public”)

“school board” means a board within the meaning of the *Education Act*. (“conseil scolaire”)

Application

2. Sections 4, 5 and 6 apply only to public agencies prescribed by section 3.

Public agencies

3. The following are prescribed as public agencies for the purposes of the Act:

- 1. Every municipality.
- 2. Every municipal service board.

3. Every post-secondary educational institution.
4. Every public hospital.
5. Every school board.

Energy conservation and demand management plans

4. (1) A public agency shall prepare, publish, make available to the public and implement energy conservation and demand management plans or joint plans in accordance with sections 6 and 7 of the Act and with this Regulation.

(2) An energy conservation and demand management plan is composed of two parts as follows:

1. A summary of the public agency's annual energy consumption and greenhouse gas emissions for its operations.
2. A description of previous, current and proposed measures for conserving and otherwise reducing the amount of energy consumed by the public agency's operations and for managing the public agency's demand for energy, including a forecast of the expected results of current and proposed measures.

Summary of annual energy consumption and greenhouse gas emissions

5. (1) Subject to subsection (2), a summary of the public agency's annual energy consumption and greenhouse gas emissions must include a list of the energy consumption and greenhouse gas emissions for the year with respect to each of the public agency's operations that are set out in Table 1 of this Regulation for the type of public agency to which the public agency belongs and that are conducted in buildings or facilities the public agency owns or leases that,

- (a) are heated or cooled and in respect of which the public agency is issued the invoices and is responsible for making the payments for the building or facility's energy consumption; or
- (b) are related to the treatment or pumping of water or sewage, whether or not the building or facility is heated or cooled, and in respect of which the public agency is issued the invoices and is responsible for making the payments for the building or facility's energy consumption.

(2) If only part of a building or facility where an operation is conducted is heated or cooled, the public agency's summary referred to in subsection (1) must only include energy consumption and greenhouse gas emissions for the part of the building or facility where the operation is conducted that is heated or cooled.

(3) The public agency's summary referred to in subsection (1) must be prepared using the form entitled "Energy Consumption and Greenhouse Gas Emissions Template" that is available from the Ministry and must include the following information and calculations for each of the public agency's operations:

1. The address at which the operation is conducted.
2. The type of operation.
3. The total floor area of the indoor space in which the operation is conducted.

4. A description of the days and hours in the year during which the operation is conducted and, if the operation is conducted on a seasonal basis, the period or periods during the year when it is conducted.
5. The types of energy purchased for the year and consumed in connection with the operation.
6. The total amount of each type of energy purchased for the year and consumed in connection with the operation.
7. The total amount of greenhouse gas emissions for the year with respect to each type of energy purchased and consumed in connection with the operation.
8. The greenhouse gas emissions and energy consumption for the year from conducting the operation, calculating,
 - i. the annual megawatt hours per mega litre of water treated and distributed, if the operation is a water works,
 - ii. the annual megawatt hours per mega litre of sewage treated and distributed, if the operation is a sewage works, or
 - iii. per unit of floor space of the building or facility in which the operation is conducted, in any other case.

(4) If a public agency conducts, in the same building or facility, more than one operation set out in Table 1 of this Regulation for the type of public agency to which the public agency belongs, it shall make a reasonable allocation of the amount of energy purchased and consumed for the year among each of those operations.

(5) In preparing its annual Energy Consumption and Greenhouse Gas Emission Template, a public agency may exclude its energy consumption and greenhouse gas emissions relating to its temporary use of an emergency or back-up generator in order to continue operations.

(6) On or before July 1, 2013, every public agency shall submit to the Minister, publish on its website and intranet site, if it has either or both, and make available to the public in printed form at its head office the public agency's Energy Consumption and Greenhouse Gas Emission Template for operations conducted in 2011.

(7) On or before July 1 of each year after 2013, every public agency shall submit to the Minister, publish on its website and intranet site, if it has either or both, and make available to the public in printed form at its head office the public agency's Energy Consumption and Greenhouse Gas Emission Template for operations conducted in the year following the year to which the last annual Template related.

(8) The following information, if applicable, must also be submitted, published and made available to the public with every Energy Consumption and Greenhouse Gas Emission Template:

1. If the operation is a school operated by a school board,
 - i. the number of classrooms in temporary accommodations at the school during the year, and
 - ii. whether there is an indoor swimming pool in the school.
2. If the public agency is a public hospital, whether a facility operated by the public hospital is a chronic or acute care facility, or both.

Energy conservation and demand management measures

6. (1) On or before July 1, 2014, every public agency shall publish on its website and intranet site, if it has either or both, and make available to the public in printed form at its head office,

- (a) the information referred to in subsection 6 (5) of the Act with respect to each of the public agency's operations set out in Table 1 of this Regulation for the type of public agency to which the public agency belongs;
- (b) the information referred to in paragraph 2 of subsection 4 (2) of this Regulation with respect to each of the public agency's operations set out in Table 1 of this Regulation for the type of public agency to which the public agency belongs; and
- (c) the following information:
 - (i) information on the public agency's annual energy consumption during the last year for which complete information is available for a full year,
 - (ii) the public agency's goals and objectives for conserving and otherwise reducing energy consumption and managing its demand for energy,
 - (iii) the public agency's proposed measures under its energy conservation and demand management plan,
 - (iv) cost and saving estimates for its proposed measures,
 - (v) a description of any renewable energy generation facility operated by the public agency and the amount of energy produced on an annual basis by the facility,
 - (vi) a description of,
 - (A) the ground source energy harnessed, if any, by ground source heat pump technology operated by the public agency,
 - (B) the solar energy harnessed, if any, by thermal air technology or thermal water technology operated by the public agency, and
 - (C) the proposed plan, if any, to operate heat pump technology, thermal air technology or thermal water technology in the future,
 - (vii) the estimated length of time the public agency's energy conservation and demand management measures will be in place, and
 - (viii) confirmation that the energy conservation and demand management plan has been approved by the public agency's senior management.

(2) In addition to publishing and making available the required information with respect to the operations mentioned in clauses (1) (a) and (b), a public agency may also publish information with respect to any other operation that it conducts.

(3) On or before July 1, 2019 and on or before every fifth anniversary thereafter, every public agency shall publish on its website and intranet site, if it has either or both, and make available to the public in printed form at its head office all of the information that is required to be published and made available under subsection (1), the Energy Consumption and Greenhouse Gas Emission Template that is required to be submitted and published on or before July 1 of that year and the following information:

1. A description of current and proposed measures for conserving and otherwise reducing energy consumption and managing its demand for energy.
2. A revised forecast of the expected results of the current and proposed measures.
3. A report of the actual results achieved.
4. A description of any proposed changes to be made to assist the public agency in reaching any targets it has established or forecasts it has made.

(4) If a public agency initiated energy conservation measures or energy demand management measures before July 1, 2014, the public agency may also include in its first plan information on the results of those measures.

TABLE 1

Column 1	Column 2	Column 3
Item	Type of public agency	Operation
1.	Municipality	1. Administrative offices and related facilities, including municipal council chambers.
		2. Public libraries.
		3. Cultural facilities, indoor recreational facilities and community centres, including art galleries, performing arts facilities, auditoriums, indoor sports arenas, indoor ice rinks, indoor swimming pools, gyms and indoor courts for playing tennis, basketball or other sports.
		4. Ambulance stations and associated offices and facilities.
		5. Fire stations and associated offices and facilities.
		6. Police stations and associated offices and facilities.
		7. Storage facilities where equipment or vehicles are maintained, repaired or stored.
		8. Buildings or facilities related to the treatment or pumping of water or sewage.
		9. Parking garages.
2.	Municipal service board	1. Buildings or facilities related to the treatment or pumping of water or sewage.
3.	Post-secondary educational institution	1. Administrative offices and related facilities.
		2. Classrooms and related facilities.
		3. Laboratories.
		4. Student residences that have more than three

		storeys or a building area of more than 600 square metres.
		5. Student recreational facilities and athletic facilities.
		6. Libraries.
		7. Parking garages.
4.	School board	1. Schools.
		2. Administrative offices and related facilities.
		3. Parking garages.
5.	Public hospital	1. Facilities used for hospital purposes.
		2. Administrative offices and related facilities.

Commencement

7. This Regulation comes into force on the later of January 1, 2012 and the day it is filed.