

**Municipality of Brooke-Alvinston**

**Municipal Energy Management Plan**

July 1, 2014

***Table of Contents***

Preface 3

1.0 Executive summary 4

 1.1 Plan Development 4

 1.2 The Result 5

2.0 Background 6

3.0 Process 6

4.0 Measuring Energy Consumption 7

5.0 Energy Management Planning 8

 5.1 Energy Management Plan Process and Development 8

 5.2 Past Energy Management Activities 8

 5.3 Behavioural and Cultural Initiatives 9

 5.4 Present Energy Initiatives 9

6.0 Goals for Future Energy Management 10

7.0 Energy Management Champion 11

8.0 Capital Funding 11

 8.1 Fast Out Financing Model 12

 8.2 Shared Savings Financial Model 13

 8.3 Why Set Energy Reduction Targets? 14

9.0 Other Energy Matters 15

 9.1 Backup Generation 15

 9.2 Renewable Generation 15

10.0 Conclusion 17

Appendix A – Brooke-Alvinston’s 2012 Energy Reporting Template 18

Appendix B - Ontario Regulation 397/11 19

***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 Municipality of Brooke-Alvinston. 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 developed by staff and considered by Council at its meeting of June 24, 2014.

***1.0 Executive Summary***

This report outlines the Energy Management Plan for the Municipality of Brooke-Alvinston (“Brooke-Alvinston”) located in Southwestern Ontario.

The Energy Management Plan complies with the requirements of Ontario Regulation 397/11 entitled “Energy Conservation and Demand Management Plans” passed under the Green Energy Act (“GEA Regulation”). The first requirement was met on July 1, 2013 with Brooke-Alvinston’s submission of baseline energy consumption for the Reportable Facilities (as that term is hereinafter defined). 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, represents the second requirement under the GEA Regulation, and is due to be filed by July 1, 2014. This report contains a summary of the 2012 energy consumption data which must be filed with the Ministry of the Environment (“MOE”), as well as a five year Energy Management Plan outlining planned activities for the period 2014 to 2018. In accordance with Subsection 4(2)(2) the plan shall include *“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”.*

The exercise of developing an Energy Management Plan has spawned an interest in a more structured approach to energy management, tracking both energy consumption and energy spending, utility rates and project results. Although Brooke-Alvinston 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, Brooke-Alvinston worked closely with Bluewater Power to understand its baseline energy consumption for both electricity and natural gas. An energy plan blueprint was developed focusing on the largest energy consuming 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 Energy Management Plan has been brought together as a comprehensive plan that is both practical and achievable.

**1.2 The Result**

Together with our partners, the Municipality of Brooke-Alvinston has been able to identify goals, actions and measures that will ensure that Brooke-Alvinston 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 2.0% per year (10% reduction by 2018). In order to achieve that target, this Energy Management Plan identifies opportunities in the form of potential projects that demonstrate a 2.0% annual reduction is attainable for Brooke-Alvinston. Each project will be assessed by Council as part of the normal budget processes, so the inclusion of specific projects in specific years in this plan is for illustrative purposes to provide comfort that the target is achievable.

This Energy Management Plan also addresses two models for using reserve funds to finance energy savings. Each financing tool assumes an annual contribution to the reserve to be determined by Council, with financial savings from energy reductions either reinvested entirely in the reserve fund (“fast out” model) or shared between the reserve and current operating costs to deliver immediate tax reductions (“shared savings” model). This plan does not recommend one model over the other, but provides Council with the freedom to choose on a project-by-project basis. What this Energy Management Plan does demonstrate is that utilizing either funding model, the cost of achieving a 2% annual reduction requires new capital in the range of $35,351 to $42,461 in total over five years, where energy savings are used to finance new capital. The cumulative result of energy savings at the end of the five-year period is forecast to be approximately $14,805, which Brooke-Alvinston can choose to use in the year 2018 (and after) to reduce taxes or reinvest in further energy saving projects.

This Energy Management Plan is intended to serve as a guide for staff and Council during its capital planning and budgeting process. The results of Brooke-Alvinston’s efforts will be reflected in the energy data required to be filed with the MOE each July 1st of this plan. The role of monitoring progress will fall upon an Energy Management Champion of staff to be appointed by Council from time-to-time. That champion will ensure that both the capital projects and behavioural changes outlined in this Energy Management Plan are maintained on a continuing basis because managing energy costs is important to both environmental and financial good stewardship.

***2.0 Background***

Brooke-Alvinston is located in Southwestern Ontario approximately mid-way between Sarnia and London. Brooke-Alvinston has a population of 2,548 (2011 census) and occupies a land area of 311.3 km2, with a population density of 8.2 / km2, and a median age of 39.9. The total number of private dwellings was 1,034 at the time of the 2011 census. The Municipality of Brooke-Alvinston was formed in 2001 with the amalgamation of the former Village of Alvinston and the Township of Brooke.

An Energy Management Plan under O.Reg 397/11 focuses on buildings or facilities owned or leased by the municipality that are either heated or cooled, or are related to the treatment or pumping of water or sewage (together defined as “Reportable Facilities”). As such, this plan relates to Brooke-Alvinston’s six municipal buildings that are heated or cooled and three various pumping stations. The total energy costs (electricity and natural gas) in 2012 for these Reportable Facilities were approximately $120,000. Two thirds of the energy is consumed by one location, namely the Brooke-Alvinston-Inwood community center, which contains an arena that is home to a Junior C hockey team, an auditorium, as well as banquet facilities for up to 500 people.

Brooke-Alvinston is faced with increasing infrastructure costs for roads, sewer and water, as well as increasing energy costs affecting all of its facilities. As such, the municipality must explore all avenues for cost savings, including energy efficiency projects. In that sense, this plan represents an important financial tool for Brooke-Alvinston.

***3.0 The Process***

As part of the preparation of the 2013 submission, Brooke-Alvinston began a planning exercise based upon an Energy Management Plan blueprint provided by Bluewater Power, with the assistance of an engineering consulting firm. The blueprint and a Level 1 energy audit served as a framework for activities over the past year.

Discussion began in the fall of 2013 to work toward setting a target level for energy reduction based on an assessment of potential projects and the availability of finances. The GEA Regulation also required discussion of behavioural based approaches to reduced energy consumption, as well as the role for back-up generation and renewable energy.

The Energy Management Plan process represents a structured approach to energy tracking as well as the forecasting of potential project impacts. Brooke-Alvinston staff has participated in numerous activities, including:

* Meetings with fellow municipal stakeholders
* Walk-through audits of selected sites
* 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 use on Brooke-Alvinston’s finances and has identified practical steps to move forward.

***4.0 Measuring Energy Consumption***

This report contains a summary of the data filed by Brooke-Alvinston 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 2012 for Reportable Facilities were approximately $120,000
	+ The Municipality’s Energy Use Indices (EUI) was 24.7 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, Brooke-Alvinston spent in excess of $120,000 on natural gas and electricity for its heated and/or cooled facilities and pumping stations. Accordingly, energy costs for Reportable Facilities represent 1% of the total municipal budget. In fact, total energy costs spent by the municipality are higher, as the amount presented for Reportable 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 Brooke-Alvinston and its facilities appears to be within an acceptable range.

***5.0 Energy Management Planning***

The heart of the Brooke-Alvinston’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, Brooke-Alvinston’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 Energy Management Plan 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**

Brooke-Alvinston 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 Regulation 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 Municipality of Brooke-Alvinston 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 lighting installed in the municipal office and fire hall
* Insulated ceiling tiles, replaced chiller and installed energy efficient lighting at the arena
* Energy efficient rooftop air conditioner installed at the arena
* Energy efficient HVAC system at the municipal office
* New natural gas fired hot water tank and low flow water systems at the arena
* Programmable thermostats and low flow shower heads at all municipal facilities
* Replaced the smart drive at the arena
* Changed the timing of the brine and ice cooling system at the arena to operate mainly during off-peak periods
* Replaced the variable speed drive pumps at the waste-water treatment plant

Brooke-Alvinston has also been active in the year 2013 and a list of recently completed projects that were specifically implemented to lower energy costs include:

* Inwood Library renovation – installed energy efficient HVAC system

**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 in this province, the Municipality of Brooke-Alvinston 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

**5.4 Present Energy Initiatives**

The GEA Regulation focusses on heated or cooled municipal facilities and pumping stations; therefore, it does not include consideration of measures related to outdoor lighting. Nevertheless, most forward thinking municipalities are tackling the challenge of streetlights. This includes the Municipality of Brooke-Alvinston, 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 Municipality’s street lighting by over 50%. The projected savings of 102,539 kWh represents a financial saving of approximately $18,000 per year including energy at current rates and maintenance costs. The project will also be facilitated by one-time capital incentives from the Ontario Power Authority, facilitated by Bluewater Power, of $5,126.

***6.0 Goals for Future Energy Management***

Brooke-Alvinston 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 below, but Brooke-Alvinston is also committed to continue to monitor progress as energy saving technologies change and new opportunities arise. Any target also must have regard to the fact that implementation of projects is dependent upon staff to manage the projects and funding, both of which have a finite limit.

Municipalities generally have limited reserves to fund capital projects to improve energy efficiency. The list of projects set out in the table that follows represents a list of potential projects considered during the development of the Energy Management Plan. The costs, incentives, and energy savings (both ekWhs and financial savings) are estimates based on consideration of the facilities and their current usage, but without the benefit of detailed engineering.

Whether a particular project is pursued by Brooke-Alvinston will be decided by Council as part of its normal budgeting processes. That in mind, the table that follows places a marker in the form of an “X” under the year where each project might be considered. The projects identified are considered high priority and have, therefore, been proposed for the first two years of the five year plan.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Project | Cost | Incentives | ekWhs Saved | Cost Savings | 2014 | 2015 | 2016 | 2017 | 2018 |
| BAI Community Centre Compressor | $15,000 | $8,000 | 30,000 | $3,600 |  | X |  |  |  |
| BAI Community Centre Lighting | $35,000 | $12,000 | 80,000 | $10,000 |  |  | X |  |  |
| Municipal Office Lighting | $4,000 | $1,000 | 6,000 | $700 |  | X |  |  |  |

The projects noted above are considered “proposed” and each is subject to Council approval through the normal capital budgeting process of the municipality. Brooke-Alvinston does have funds available in a hydro and water reserve that could be utilized to fund capital projects to improve energy efficiency. However, such funds are limited and, hence, each project will require Council approval based upon detailed costing and analysis of the pay-back period.

***7.0 Energy Management Champion***

The Municipality of Brooke-Alvinston 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 Brooke-Alvinston 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 Brooke-Alvinston 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***

In this current age of low interest rates and low yields on bonds and investments, a 20% or higher return on investment is an attractive proposition. Reviewing the above table the majority of the proposed projects represent a very attractive simple Return on Investment in the range of approximately 20% annually.

In addition, Bluewater Power can assist the municipality to access the OPA’s “saveONenergy” conservation programs to provide capital incentives for undertaking capital projects that reduce electrical consumption. Similarly, Union Gas has certain programs to manage demand for natural gas. The capital projects proposed in the above table could attract approximately $21,000 in capital incentive rebates from the OPA alone.

It is also important to remember that energy-efficiency upgrades can often be complementary to normal needs driven by assets failing or reaching end of life. Boilers, rooftop HVAC units, and pumps of any kind can represent the type of efficiency projects where the capital plan might call for the replacement of the equipment regardless, but by upgrading the equipment to an energy efficient model, it becomes an energy efficiency project. Only the incremental capital required to upgrade to an efficient model over the base case model needs to be attributed to the energy project payback. Due diligence in the procurement stage is necessary though, to ensure that only proposals for an efficient replacement are considered in awarding the project to a successful bidder.

There are three potential capital project listed above, and others will be considered over the life of this five year plan. The projects noted above are considered “proposed” and each is subject to Council approval through the normal capital budgeting process of the municipality. In addition, other opportunities can be explored as technologies change and those are addressed by the Energy Management Champion.

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 and achieve the 2.0% annual reduction target using numbers representative of the types of projects that will be considered spread evenly over the five year period.



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 $75,000 of capital energy project spending is only $35,351. The result of directing $35,351 in reserve fund capital to energy reduction projects would reduce total energy consumption by approximately 2% per year, resulting in estimated financial savings of $14,805 per year by 2018 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 numbers representative of the types of projects that will be considered spread evenly over the five year period.



Under this scenario, the amount required from capital reserve funds increases from $35,351 to $42,463 over five years; however the 2% annual energy reduction also delivers approximately $3,701 of cumulative savings back to Brooke-Alvinston ratepayers over the five years of the plan.

This Energy Management Plan does not seek to choose one financing model over another. Whether savings are used exclusively to finance future capital under the “Fast-out” model, or shared with ratepayers under the “Shared-Savings” model, will be decided on a project-by-project basis. The availability of either tool, however, is important to the achievement of the goals of this Energy Management Plan in a sustainable manner.

**8.3 Why Set Energy Reduction Targets?**

This report sets a reduction target of 2.0% annually. The graph below demonstrates the potential financial reward to the municipality for forward-thinking energy planning. The graph shows the differences in the total annual cost of energy in 20 years’ time, using a variety of annual energy rate increases of 3% and 4%, respectively. The graph compares those projected costs with, and without, achieving the energy reduction target of 2% each year over 20 years (for illustrative purposes, the graph also shows a 3% energy reduction target).

What the graph demonstrates is that it is possible to manage energy costs through aggressive energy conservation. 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 120% over 20 years or increasing by 45% 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.

***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 the Brooke-Alvinston, two matters are worth addressing related to backup generation and renewable energy generation.

**9.1 Backup Generation**

Currently Brooke-Alvinston has backup power at all of its municipal facilities. First, the Brooke-Alvinston Fire Hall and Community Centre is backed up for life safety and would permit the use of the Community Centre as an emergency shelter. This site has partial backup, using diesel as the fuel. Priority loads are covered, allowing priority operation in an emergency. Second, the Municipal Office is also backed up to avoid service 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, Brooke-Alvinston 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 Regulation 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.”*

Brooke-Alvinston 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 Brooke-Alvinston and put it onto the solar developer. This option provides guaranteed payments for 20 years and requires absolutely no investment from Brooke-Alvinston. Larger rooftops such as the community centre could be investigated as options.

Brooke-Alvinston 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. The Municipality 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***

Brooke-Alvinston is a corporate entity with significant assets and an overall energy budget in excess of $120,000 annually. Brooke-Alvinston recognizes that energy prices, both natural gas and electricity, will increase over the next five to ten years and create pressure on the Municipality’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, Brooke-Alvinston 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. Both demonstrate that the energy reduction target is achievable. The key to hitting these targets 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, Brooke-Alvinston 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. That committee 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***



***APPENDIX B***

**ONTARIO REGULATION 397/11**

made under the

**GREEN ENERGY ACT, 2009**

Made: August 17, 2011
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**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 abuilding 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.**