

CORPORATION OF THE TOWNSHIP OF MADOC

Energy Conservation and Demand Management Plan 2014 to 2019

COMMITMENT

The Township of Madoc will allocate the necessary resources to develop and implement an *Energy Conservation and Demand Management Plan* as required under Regulation 397/11 of the Green Energy Act. Council supports strategic energy management which will reduce energy consumption and its related environmental impact.

VISION

The Township of Madoc will strive to reduce the total energy consumption of municipal buildings and equipment through wise and efficient use of energy and resources, while maintaining an efficient and effective level of service for the taxpayers and the general public. Total energy consumption for Madoc Township purposes is electricity and oil.

GOALS

This *Energy Conservation and Demand Management Plan* will help to achieve the following goals:

- Reduce the environmental impact of the municipality's operations through the wise use of resources.
- Maximize fiscal resources and avoid cost increases through direct and indirect energy savings.
- Demonstrate energy management leadership and commitment within the community and create a culture of conservation.
- Demonstrate sound operating and maintenance practices and improve the reliability of the municipality's equipment.
- Provide a forum for discussion within the township and with neighbouring townships on energy management.

OVERALL TARGET

The Township of Madoc will reduce consumption of fuels and electricity in all operations by 5% from 2014 to 2019.

COMPLETED ENERGY INITIATIVES

- Installation of Solar Panels which utilize renewable energy while generating a revenue source through the Provincial FIT Program.
- Insulation upgrades to Recreation Centre North Wall
- Roof replacement Recreation Centre
- Replacement of Recreation Centre Air Conditioning system, including a programmable thermostat.

RECOMMENDATIONS

1. Madoc Township staff will monitor and manage energy consumption across its operations, including the reviewing of the utility bills on a monthly basis and compare them to the energy usage of the same period from the previous years' data.
2. Madoc Township Council and staff should take into account the proposed energy conservation measures and the estimated payback periods in future budget allocations to ensure the success and continuity of the new energy conservation and demand management plan.
3. Madoc Township staff will investigate the cost and effectiveness of the following upgrades to the Municipal Building: lighting efficiency upgrades throughout the building, replacement of older appliances in the kitchen area, upgrade heating system (boiler replacement), upgrades to the office area including air conditioning and thermostats; upgrade to the back-up generator, future upgrades to the "building envelope" such as roof, insulation, windows and doors.
4. Madoc Township staff will investigate the cost and effectiveness of retrofitting the streetlights (Concession 7 Lot 3), and the municipal parking lot lights.
5. Madoc Township staff will ensure regular planned maintenance by experienced licenced technicians is carried out on all mechanical and electrical equipment within the building in order that it may operate in a safe and efficient manner.
6. Madoc Township staff will ensure the proper care and maintenance of all equipment that consumes fossil fuels (Roads and Fire Department vehicles, and equipment) .
7. Madoc Township should encourage and train its stakeholders and facility users to help the Township in its goal to reduce energy consumption.

PROJECTS EXECUTION

The administration and implementation of the *Energy Conservation and Demand Management Plan* will be the responsibility of the Clerk Administrator, however, it will be the responsibility of all Municipal staff to be aware of their energy use and work towards conservation. In order to sustain a corporate culture of conservation, staff must be engaged in an effective awareness and education program. In addition, any municipal facility or equipment requiring rehabilitation, renewal and/or replacement will incorporate energy saving strategies where possible.

REVIEW


Senior Management will review and evaluate Madoc Township's energy plan, revising and updating it as necessary, on an annual basis.

EVALUATION PROCESS

Madoc Township will compare the energy consumption for the periods 2011, 2012 and 2013 (used as the benchmark) to consumption from year 2014 on. By improving the energy efficiency of buildings and equipment, Madoc Township will help to reduce Green House Gas Emissions. Staff will continue to track and report on GHGs as part of the regular reporting on energy consumption, and will evaluate progress in this area against the overall reduction target.

APPROVAL

This is confirmation that I have reviewed and approve Madoc Township's *Energy Conservation and Demand Management Plan 2014 to 2019*.



William Lebow, Clerk Administrator



Date

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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 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 mega watt hours per mega litre of water treated and distributed, if the operation is a water works,
 - ii. the annual mega watt 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 green house 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
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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.

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