



**Stone Mills Energy Conservation
&
Demand Management Plan
Ontario Regulation 397/11**

July 2014

Background and Information

According to the Ontario Regulation 397/11 made under the Green Energy Act, 2009, every public agency shall prepare, publish and make available to the public and implement energy conservation and demand management plans. A summary of the public agency's annual energy consumption and greenhouse gas emissions for its operations is required. Also required is a description of previous, current and proposed measures for conserving and otherwise reducing the amount of energy consumed by the public agency's operation and for managing the public agency's demand for energy, including a forecast of the expected results of current and proposed measures.

The Township of Stone Mills is recognized and prescribed as a public agency and are required to record our buildings annual energy consumption. As well, the Municipality has produced this report stating our goals for conserving and reducing energy, proposed energy conservation measures including estimated costs and savings, a description of renewable energy generation facility and the amount of energy produced, as well as how long each proposed measure will be in place for. The Township of Stone Mills will strive to attain many goals and objectives in an effort to conserve and/or otherwise reduce their energy consumption and to monitor and manage our demand for energy.

Declaration of Commitment

Council Resolution: The Township of Stone Mills will apportion the necessary resources to develop and implement an Energy Conservation and Demand Management (ECDM) Plan as required under Regulation 397/11 of the Green Energy Act. Council supports this energy conservation initiative for a number of reasons. Energy planning will help avoid cost increases, improve service delivery and support local expansion while protecting human health and the environment.

Intent

The Township of Stone Mills will strive to constantly reduce our total energy intake and associated greenhouse gases (GHGs) through wise and effective use of energy and resources, while still upholding an efficient and effective level of service for our clients and the general public. This will involve a cooperative effort to increase the education, awareness and understanding of energy management within the municipality. Total energy consumption includes electricity and oil. This vision can be achieved through the integration of energy efficiency facility infrastructure, operational efficiencies and

building the foundation for a culture of energy awareness and knowledge within the municipality. While commitment from Council and Senior Management is crucial, everyone has a role in the wise use of energy and demonstrate leadership within corporate facilities and operations.

Policy

The Township of Stone Mills will incorporate energy efficiency into all areas of our activity including organizational and human resources management procedures, procurement practices, financial management and facility operations and maintenance. As a major component of the operating costs of municipal facilities and equipment, energy costs will factor into policies of the municipality. The goals and objectives of the Energy Conservation and Demand Management Plan will be shared with all municipal departments.

Goals

The Township of Stone Mills Energy Conservation and Demand Management Plan was completed to help achieve the following goals:

- (1) Maximize fiscal resources and avoid cost increases through direct and indirect energy savings.
- (2) Reduce the environmental impact of the municipality's operations.
- (3) Increase the comfort and safety of staff and patrons of the municipality's facilities.
- (4) To create a culture of conservation within the municipality.
- (5) To improve the reliability of the municipality's equipment and reduce maintenance.

Intended accomplishments

The key to a successful long term Energy Conservation and Demand Management Plan vision is a strong energy policy with measurable and achievable targets.

Our energy target will be to reduce our municipal energy consumption (from all facilities, operations and streetlights) by 5% by the end of 2018. Thereafter, the annual target will be to reduce energy consumption by 1% per year in attempt to offset supplier cost increases.

Objectives

The prime objective of the energy plan is to improve the management of the Corporation's energy consumption. With the development of the plan all corporate

Departments will have a roadmap and a forum to ensure energy management is a consideration in all operations and facility based decisions. Staff awareness is critical to move the Corporation towards a goal of reducing energy consumption and GHG emissions.

In order to meet the strategic goals of the ECDM Plan there are a number of actions that can be taken including:

- (1) Ensure energy efficiency is consistent across municipal facilities. Energy audits will be completed on all facilities.
- (2) Monitor and report to Council on energy consumption on a regular basis. Staff will monitor and verify Return on Investment to enable reinvestment in energy projects.
- (3) Better analyze energy costs and look for savings opportunities. This will include taking advantage of all available resources and funding incentives or energy projects.
- (4) Raise staff and Council awareness with respect to energy efficiency. This will include communicating successes to both internal and external stakeholders.
- (5) Investigate partnerships with external stakeholders such as electric and gas utilities.

Our Municipal Needs

The Township of Stone Mills requires reliable, low cost, sustainable energy sources delivering energy to the most efficient facilities and energy consuming technology feasible. At present, we are paying rates that are not sustainable. The Municipality requires intervention to reduce the required financial resources that are presently being allocated for energy use.

Stakeholder Needs

Internal stakeholders (Council, Committees of Council, CAO, staff) need to:

- (a) Clearly communicate the corporate commitment to energy efficiency and to develop the skills and knowledge required to implement energy management practices and measures.
- (b) Implement regular reports and information to maintain awareness of energy use.
- (c) Ensure training and support is provided so as to implement energy management best practices and measures.

External stakeholders (the Province, Stone Mills citizens, and community groups) expect the municipality to be accountable for energy performance and to minimize the energy component of the costs of municipal services.

Municipal Energy Situation

An assessment of the organizational structure and current practices suggests the following:

- Energy use and costs continue to rise and are forecast to increase further.
- Data relating to energy consumption and costs need to be more prominent to municipal decision makers such as Council and senior management. This is imperative to identify opportunities for efficiency.
- Increased efforts must be made to raise general staff awareness about energy.

The requirement for an Energy Conservation and Demand Management Plan provides an opportunity to build upon current initiatives such as the Official Plan and Asset Management.

How Energy Use and Consumption Is Presently Monitored

Cost management is a responsibility of the management team by way of budgeting. Data is received via supplier invoices and reviewed prior to authorization for payment.

The Treasurer maintains an Excel Spreadsheet which tracks both energy consumption and energy costs for each municipal facility. This data forms the basis of our Energy Consumption and GHG annual report to the Ministry of Energy, pursuant to Ontario Regulation 397/11. Consumption trends can now be analyzed and deviations are immediately noted and reported to the C.A.O for remedial action

Our municipal energy is supplied by a number of providers as outlined below:

- Electricity supplied by Hydro One
- Furnace oil, natural gas and propane is provided by local suppliers
- Fuel – Diesel or gasoline for Municipal transportation fleet

Summary of Current Energy Consumption, Cost and Green House Gas Emissions

Attached as Schedule "A", is the Energy Consumption and Greenhouse Gas Emissions Report for the 2011 operational year. This document was submitted to the Ministry of Energy prior to July 1, 2013, as mandated. The report is available on the Township of Stone Mills website and by hard copy at the Township Municipal Offices. The annual report for the 2012 operations will be filed prior to July 1, 2014.

Renewable Energy Utilized or Planned

Renewable energy is energy which comes from natural sources such as sunlight, wind and geothermal heat. Utilizing renewable energy can generate a revenue source through the Provincial Feed-in Tariff (FIT) Program or significantly reduce the energy requirements of a building along with the associated greenhouse gases.

The Township of Stone Mills has implemented/installed solar photovoltaic systems on the rooftops of existing corporate facilities and will continue to consider "solar ready" design with new buildings.

Strategic Planning

Links with other municipal plans

The Township will develop and implement plan and procedures to reduce energy consumption, organize for energy management, develop the required skills and knowledge, manage energy information, communicate with our stakeholders and invest in energy management measures. As an integral component of the management structure, the Energy Conservation and Demand (ECDM) Plan is to be coordinated with the municipality's budget planning, strategic plan, procurement policy, and the future policy development process.

Structure Planning

Staffing requirements and duties: The Township of Stone Mills will incorporate energy budget accountability into our corporate responsibilities. We will also include energy efficiency into standard operating procedures and the knowledge requirement for operational jobs. All staff members will be made aware of our energy conservation efforts and why they are important. Staff will be updated on the results of energy audits and suggestions on how to improve are encouraged and will be considered

Consideration of energy efficiency for all projects: The Township of Stone Mills will have regard to life cycle cost analysis with design procedures for all capital projects.

Typically equipment to be considered for this includes:

- HVAC equipment (boilers, chillers, pumps, motors, etc.)
- Lighting and controls
- Building envelope (roofs, insulation, windows, doors, etc.)
- Water use (pools, toilets, water reclaim, etc.)

- BAS (building automation system) controls
- Back-up generators
- Any other energy consuming device

Resources Planning

Energy Leader: The Stone Mills Management team has been designated as the energy leaders of the Municipality with an overall responsibility for the corporate energy management.

Energy Team: The creation of an interdepartmental management team will improve energy monitoring and feedback, interactive energy training and awareness and enhancing current practices. We will identify key staff members from various departments, who carry responsibility for energy performance or who can provide essential input into energy management processes. Energy conservation will become a regular agenda item at departmental staff meetings thereby encouraging discussion.

Energy Management Training

The Township of Stone Mills will support energy management training for relevant staff and members of Council. Training focused on the energy use and conservation opportunities associated with employees' job functions will be utilized whenever possible. Training will be incorporated into employee orientation and integrated into ongoing staff training.

Procurement Planning

Energy purchasing: In addition to energy conservation, the procurement of energy is equally as important. Proper energy procurement includes: rate optimization, supplier choice and evaluation, supply reliability and quality. The Township of Stone Mills will be mindful of these considerations when purchasing energy.

Consideration of energy efficiency of acquired equipment: Our purchasing procedures will give consideration to energy efficiency in the criteria for selection of materials and equipment.

Implementation Planning

Building Standards: The Township of Stone Mills will have regard to energy efficiency with the design and/or acquisition of new buildings and when undertaking major renovations of Township owned facilities.

Communication Program: the Township of Stone Mills staff will implement a communication directive that creates and sustains awareness of energy efficiency as a corporate priority among all employees and conveys our commitment and progress to our stakeholders. Activities could include circulating reminders to turn off the lights, putting up energy conservation displays, hosting education sessions and including articles within the staff correspondence.

Investment Planning

We will develop and/or clarify as necessary the financial indicators that are applied to investment analysis and prioritization of proposed energy projects. Energy and operating costs savings, physical asset renewal, improving employee comfort and service delivery are all quantifiable benefits of energy conservation and demand management and will be factored accordingly. Municipal staff will investigate, document and communicate funding sources for energy projects, including government and utility grants and incentives.

Project Execution

Municipal Level: The administration and implementation of this Energy Conservation and Demand Management Plan will be the responsibility of the Management team. Since all facilities and municipal operations use energy in our daily activities, it will be the responsibility of all municipal staff to be aware of their energy use and work towards a culture of conservation. Through training and the sharing of information, staff will be able to see the results of their efforts.

Asset Level: In order to sustain a corporate culture of conservation, staff must be engaged in an effective awareness of what measures they can take to help out. Although facilities staff has the lead responsibility in ensuring facilities operate efficiently, all staff should be familiar with and utilize energy efficiency measures where possible.

The first step in implementing an energy management program is the completion of energy audits of corporate facilities. Audits involve a technical review of a facility and its operations, the development and analysis of a baseline energy profile for the facility and identification of energy management opportunities and savings. As part of the initial planning exercise, audits have been conducted on some of the municipal facilities and should continue in the future.

The Energy Consumption and GHG report that was submitted to the Ministry of Energy in 2013, detailed the 2011 operational year. These annual reports provide the baseline data for energy consumption for each municipal facility.

Township of Stone Mills staff should be made aware of the energy audits and their results. All staff members will then have the opportunity to submit recommendations in terms of improving our efficiencies. Therefore, it is imperative to ensure everyone understands the benefits of energy conservation. We must remind ourselves that every contribution will have a significant impact on the overall picture.

Review

Energy Plan Review: As part of our energy management strategy, continuous monitoring, verification and reporting is an essential tool to track consumption and dollar savings and/or avoidance as a result of implemented initiatives. Township staff will develop an annual progress report with energy consumption data and initiatives undertaken within the calendar year. Staff will ensure Council is kept informed on progress.

By regularly monitoring and reporting consumption and dollar savings and/or avoidance to Departments, the outcomes of their participation in energy management initiatives can be demonstrated and feedback can be obtained for any new ideas. This monitoring and reporting will also align with the requirements of Ontario Regulation 397/11 under the Green Energy Act.

Energy performance summary reports will be generated to apprise Council of the progress made towards our corporate energy goals and objectives.

Evaluation Progress

Energy Consumption: We will review and evaluate our energy plan, revising and updating it as necessary, on an annual basis as required on the Energy Consumption Reports that are submitted to the Ministry of Energy pursuant to Ontario Regulation 397/11.

The Energy Consumption and GHG Emissions Report for the 2011 operational year, represents the first detailed summary for Township of Stone Mills facilities. Therefore, it must be recognized we have no previous baseline to which we can compare our findings.

Green House Gas Emissions: The Township of Stone Mills is committed to tracking our GHG emissions. By improving the energy efficiency of our buildings and operations through the development of an ECDM Plan, we are targeting a reduction of GHG emissions.

