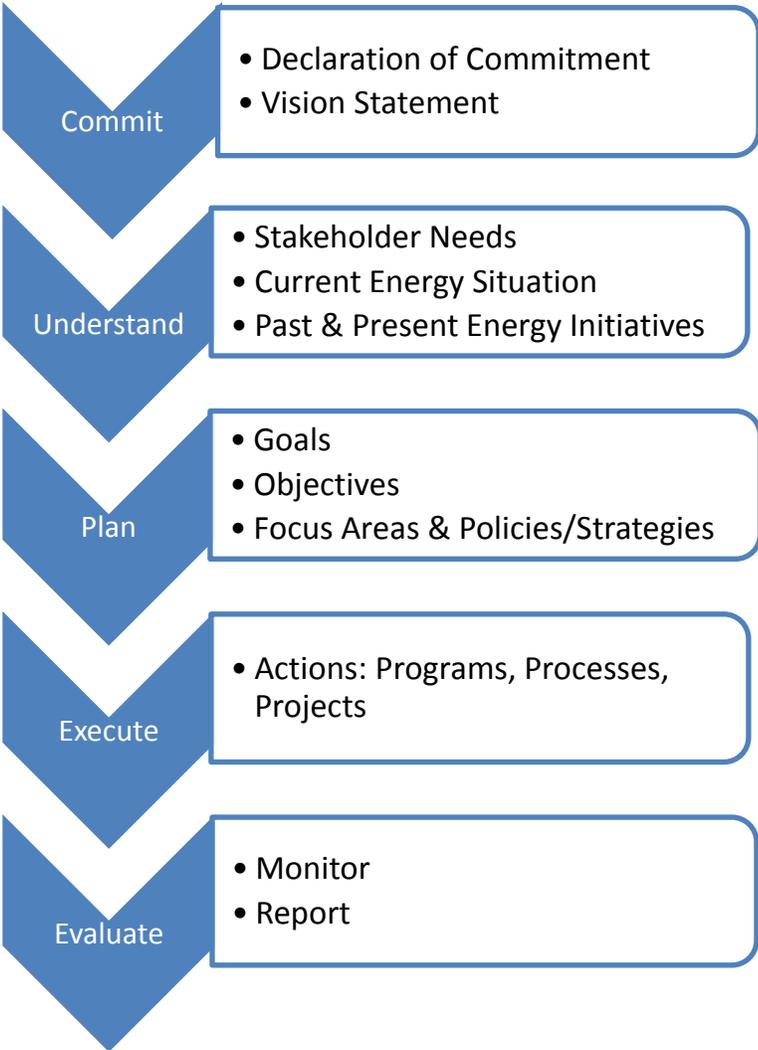


# Township of Severn – Energy Management Plan

Figure 1: Energy Management Plan Framework



## Introduction & Background

Successful energy management depends on the integration of energy efficient practices into the “business as usual” conduct of the organization, is based on a regular assessment of energy performance, and requires the implementation of procedures and measures to reduce energy waste and increase efficiency. The common element of successful energy management is the allocation of staff and resources to continually improve energy performance.

## **Our Commitment**

### **Declaration of Commitment and Council Resolution**

The Township of Severn will use existing resources and leverage outside agencies where appropriate to develop and implement a strategic energy management plan that will reduce our energy consumption and its related environmental impact.

### **Vision**

We will strive to continually reduce our total energy consumption and associated carbon footprint through wise and efficient use of energy and resources, while still maintaining an efficient and effective level of service for our clients and the general public.

## **Energy Management Leader and Team**

### **Resources**

- **Energy Leader:** The Deputy Treasurer has been designated as our energy leader with overall responsibility for corporate energy management.
- **Energy Team:** We will identify staff members and personnel from our critical service providers who carry significant responsibility for energy performance or who can make essential input to energy management processes.
- **Staffing Requirements and duties:** We will incorporate energy efficiency into standard operating procedures and the knowledge requirement for operational jobs.
- **External consultants and energy suppliers:** We will establish criteria in our Township Procurement Policy based on our energy goals and objectives for the selection of external consultants and energy suppliers.

### **Staff Training and Communication**

- **Communication programs:** We will place on the Township website, information that will report on the Township's progress to our stakeholders.
- **Energy Awareness Training:** We will develop and deliver training focused on the energy use and conservation opportunities associated with employees' job functions wherever possible.
- **Energy Skills Training:** We will utilize skills training for operators, maintainers and other employees that have "hands-on" involvement with energy consuming systems in order to improve the team's ability to achieve energy efficiency improvements.
- **Business Procedures:** We will carry out a review of all business processes and modify them as necessary in order to incorporate any energy efficiency considerations.

## Development of Energy Projects

- **Internal assessments:** We will develop a methodology for the internal assessment of energy performance of municipal facilities and their energy loads.
- **Staff suggestions:** We will implement a process for submitting and processing staff suggestions for energy efficiency improvements.
- **Energy audits:** We will establish the criteria for energy audits for the requirement and frequency of municipal facility energy audits. The energy audits will be carried out based budget resources.

## Investment in Energy Projects

- **Investment criteria:** We will develop and/or clarify as necessary the financial indicators that are applied to investment analysis and prioritization of proposed energy projects, taking due consideration of the priority given to energy efficiency projects versus other investment needs (life cycle versus simple payback).
- **Consideration of energy efficiency for all projects:** Life cycle cost analysis will be incorporated into the design procedures for all energy projects.
- **Budgetary resources for energy projects:** Energy projects will be integrated into our capital planning and budget development procedures.
- **Other sources of funds for energy projects:** The Energy Team will be mandated to investigate, document, and communicate funding sources for energy projects, including government and utility grants and incentives.

## Procurement

- **Energy purchasing:** We will continue to tender our diesel and gas purchases through our tendering process. Opportunity to jointly procure other energy commodities will be investigated. This investigation will include the analysis of cost considerations, available energy services, energy quality and reliability and other performance factors.
- **Consideration of energy efficiency of acquired equipment:** Our Procurement Policy will be modified as required to incorporate energy efficiency into the criteria for selection and evaluation of materials and equipment.
- **Standards for new buildings:** We will develop criteria for the design and/or acquisition of new buildings that include energy performance factors and that use as appropriate the principles embedded in performance standards such as LEED and the Model National Energy Code for Buildings, where possible.

## Our Understanding (the Current State)

### Stakeholder Needs:

***The Township of Severn understands that its' internal stakeholders (Council, Committees of Council, CAO, staff) need:***

- a) An up-to-date and relevant energy management plan with clear vision, and goals in order to clearly communicate the corporate commitment to energy efficiency,
- b) Training and support to develop the skills and knowledge required to implement energy management practices and measures.

***The Township of Severn understands that its' external stakeholders (residents, community organizations, businesses, Province) need:***

- a) The municipality to be accountable for energy performance and to minimize the energy component of the costs of municipal services; and
- b) The municipality to reduce the carbon footprint associated with its corporate energy use.

**Current Municipal Energy Situation:**

**Energy Consumption and Demand:**

The current energy usage by building is detailed in the attached spreadsheet – (Appendix A: 2013 energy consumption, cost and Greenhouse Gas emissions).

**Energy Initiatives:**

**How Energy is Currently Managed:**

The management of our energy is a combination of energy data management, energy supply management, and energy use management.

Energy Data Management: Our municipal energy data is managed through the Deputy Treasurer. The data is received via supplier invoices, then tracked and/or monitored using the AMO/LAS – Energy Planning Tool:

- Invoices are entered into the Energy Planning Tool (EPT)
- Consumption/trends are analyzed
- Reports are generated

**Energy Supply Management:**

Our municipal energy is supplied by Ontario Hydro:

- Electricity is supplied by Hydro One on an as needed basis and is priced at the standard rates offered by the provider.
- Natural gas is supplied by Enbridge Gas and Union Gas on an as needed basis and is priced at the standard rates offered by the providers.
- Propane is supplied by local propane providers on an as needed basis and is priced at the standard rate offered by the provider at the time of delivery.

- The Township of Severn purchases their vehicle fuel through competitive tender process annually.

### **Energy Use Management:**

Day to day management of energy has been primarily the responsibility of facility managers. Energy consumption is reviewed on a monthly basis by staff. To aid in our efforts to track and reduce energy use, the Township of Severn uses LAS' Energy Management Tool (EMT) and Energy Planning Tool (EPT).

## **Our Plan**

### **Goals**

- To improve the energy efficiency of our facilities by utilizing best practices to reduce our operating costs, energy consumption and greenhouse gas emissions.
- To implement a comprehensive corporate energy management program to reduce consumption, achieve cost savings, and helps lower greenhouse gas emissions.
- To create a culture of conservation.
- To increase the comfort and safety of staff and patrons of the Township of Severn facilities.
- To improve the reliability of the Township of Severn's equipment and reduce maintenance.

### **Objectives**

- Improve awareness of climate change and greenhouse gas emissions.
- Complete energy audits on two municipal buildings in the Township.
- Improve the efficiency of energy use through low-cost opportunities by implementing the following:
  - Sound operating and maintenance practices.
  - Employee training, and staff awareness.
  - Monitoring and tracking system.
  - Energy procurement through fixed rate contracts, where available and appropriate.

### **Strategic**

- **Links with other municipal plans and management processes:** As an integral component of the management structure, the energy management plan is to be coordinated with the municipality's budget planning, strategic plan, purchasing policy, and the asset management plan.
- **Departmental responsibilities:** We will incorporate energy budget accountability into our corporate responsibilities.

## Our Execution – Action List

All work completed on the plan to date culminates in the development of actions for execution. Generally, the action can be classified as a program, process, or project. In addition, all actions are linked back to particular objectives developed earlier in the plan in order to ensure that they support the objectives, which in turn supports the goals, which in turn will move the Township's towards its vision.

| Type    | Objective                          | Action  | Owner               | Target Date |
|---------|------------------------------------|---|---------------------|-------------|
| Program | Awareness                          | Add energy awareness to management meetings<br><br>Review opportunities for energy saving   | CAO                 | Q3 – 2014   |
| Program | Training                           | As part of Orientation Program – provide new staff with energy management training  | CAO and HR-OH&S     | Q4 – 2014   |
| Program | Awareness                          | Improve staff education and awareness<br><br>Make use of visual displays in lunchrooms to demonstrate to staff the implications of current behaviours | Deputy Treasurer    | Q2 – 2015   |
| Program | Awareness                          | Communicate to the organization the name of the Energy Leader and distribute the Energy Management Plan   | Deputy Treasurer    | Q3 – 2015   |
| Process | Energy Efficiency                  | Vacuum back of all vending machines and refrigerator in municipal facilities  | Facilities Managers | Q3 – 2014   |
| Process | Energy Efficiency<br><br>Awareness | Use power bars on all computers – place on desks for awareness  | IT                  | Q4 – 2014   |
| Process | Energy Efficiency                  | Turn off all electronic devices such as coffee makers, printers, calculators, phone chargers, etc. at night and on weekends                           | Deputy Treasurer    | Q2 – 2015   |
| Project | Energy Efficiency                  | Investigate the implementation of programs like <a href="http://www.localcooling.com">www.localcooling.com</a> to automatically shut down PCs at      | IT                  | Q3 – 2014   |

|         |                                    |   |                                |                |
|---------|------------------------------------|---|--------------------------------|----------------|
|         |                                    | night   |                                |                |
| Project | Energy Efficiency                  | Enhance Building Envelope – window replacement program, window sealing in winter, caulking, weather-stripping and insulation as budget relents  | Deputy Treasurer/CBO           | Q4 – 2015      |
| Project | Energy Efficiency                  | Ensure all lighting is updated  | Deputy Treasurer/CBO           | Q4 – 2015      |
| Program | Awareness                          | Employee participation program: Identification of improvements  | Deputy Treasurer               | Q4 – 2015      |
| Program | Awareness                          | Have different staff walk through facilities  | Deputy Treasurer/<br>Directors | Q1 – 2016      |
| Project | Energy Efficiency                  | Identify unnecessary plug loads   | Directors                      | Q4 - 2015      |
| Project | Energy Efficiency                  | Talk to all major vendors regarding equipment efficiencies and collect their ideas for improvement  | Directors and Facility Manager | Q2 – 2015      |
| Project | Energy Efficiency                  | Street Lighting Streetlight<br><br><b>New Installations</b> will take into account new technologies and industry trends<br><br><b>On-going Maintenance</b> – all street/traffic lights when repaired or replaced shall upgrade to LED lighting            | Director of Public Works       | In progress    |
| Project | Energy Efficiency                  | Upgrade heating and cooling systems   | Facility Managers              | 2015-2016 year |
| Process | Procurement                        | Fleet Procurement<br>-Selecting vehicle engines with better fuel economy under our operating conditions<br><br>-Specifying transmissions that improve fuel efficiency<br><br>-Setting specifications so that the equipment is the right size for the work | Director of Public Works       | In progress    |
| Program | Energy Efficiency<br><br>Awareness | Fleet Preventative Maintenance<br>-Program to schedule routine maintenance and inspection<br><br>-Operator awareness/training   | Public Works, Utilities and    | In progress    |

|  |  |  |  |  |
|--|--|--|--|--|
|  |  | -Equipment idling procedures<br>-Use of LED lighting for vehicles and equipment<br>-Use of inverters rather than generator for small tools |  |  |
|--|--|--|--|--|

**Our Evaluation**

The results of our energy management plan will be evaluated by monitoring our progress, and by reporting the findings to our various stakeholders. In addition, our evaluation will include a review and update of the energy plan as necessary. The evaluation process is ongoing and provides the critical feedback that leads to continuous improvement.

**Monitoring Progress**

- Ongoing monitoring of consumption: An energy monitoring and targeting (M&T) system will be implemented and maintained as an integral component of our management information system.
- Measurement and verification of energy products: Standard methods for savings verification will be adopted and a measurement and verification (M&V) plan will be incorporated into all energy projects.

**Review & Reporting**

- Reporting for the GEA: Reporting requirements for the Green Energy Act and other pertinent provincial legislation will be factored into our reporting procedures.
- Reports to Council: Annual energy performance summary reports will be generated to appraise Council of the progress made towards our corporate energy goals and objectives.
- Reports to stakeholders (community): The general public will be apprised of energy performance of municipal facilities and the impact of implemented energy management measures where appropriate.
- We will review and evaluate our energy plan, revising and updating it as necessary.