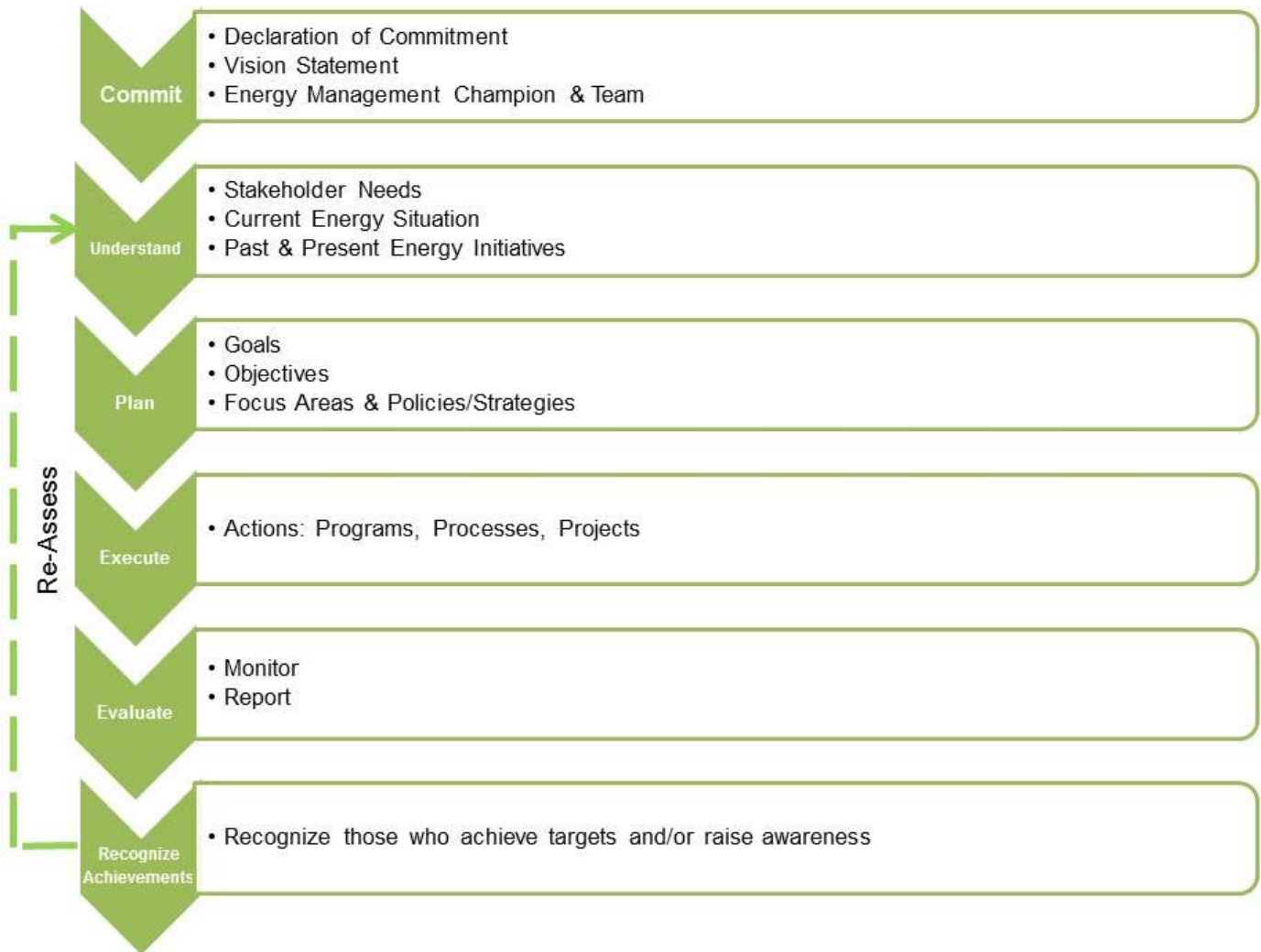




**CONSERVATION AND DEMAND MANAGEMENT  
PLAN  
(2019-2024)**

**Township of Mulmur  
Conservation and Demand 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. Regardless of the size of the municipality, 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 Mulmur will allocate the necessary resources to develop and implement an Energy Conservation and Demand Management Plan as required under Ontario Regulation 507/18 of the *Electricity Act*. Council supports energy planning because it will help avoid cost increases, reduce our energy consumption and its related environmental impact. Our Energy Conservation and Demand Management Plan will reduce our energy consumption and its related environmental impact as outlined in our overall target. Council and staff will ensure that the objectives presented in this plan are achieved and that progress towards those objectives is monitored on an ongoing basis. Council and staff will update the plan as required under Ontario Regulation 507/18 of the *Electricity Act* or any subsequent legislation.

### **Vision**

Mulmur Township operates in an energy efficient manner to reduce greenhouse gases, to have a positive impact on climate change.

### **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 meet greenhouse gas emission targets.
- To create a culture of conservation.
- To increase the comfort and safety of staff and patrons of the Township of Mulmur's facilities.
- To improve the reliability of the Township of Mulmur's equipment and reduce maintenance.

## Objectives

In order to meet the strategic goals of the Energy Conservation and Demand Management Plan, there are a number of goals and objectives that align with its development and implementation:

- Ensure energy efficiency consistency across municipal facilities.
- Monitor and report on energy consumption in quarterly intervals. Staff will monitor and verify ROI to enable reinvestment in energy projects and report on energy consumption four times per year.
- Better analyze energy costs and look for savings opportunities. This will include looking at energy commodity procurement options and taking advantage of all available resources and funding for energy projects.
- Raise staff and Council awareness around energy efficiency. This will include communicating successes to both internal and external stakeholders.
- Identify and seize renewable energy generation opportunities.
- Imbedding energy management in the Township's capital and operations decision-making process.

## Our Understanding (Current State)

### Stakeholder Needs

The Township of Mulmur understands that its' stakeholders need:

- a) An up-to-date and relevant energy management plan with clear vision, goals and targets in order to clearly communicate the corporate commitment to energy efficiency;
- b) Timely, regular reports and information to maintain awareness of energy use;
- c) Training and support to develop the skills and knowledge required to implement energy management practices and measures;
- d) The municipality to be accountable for energy performance and to minimize the energy component of the costs of municipal services; and

- e) 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 Appendix A. Our energy usage is updated monthly in the annual spreadsheet and reported annually to the Ministry of Energy.

### **Energy Initiatives**

#### **Renewable Energy**

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.

- In 2009 the Township installed geothermal energy to heat and cool the administrative building which has significantly helped to reduce its carbon footprint and annual electricity costs.
- The Township of Mulmur installed roof top solar panels through the Solar Energy FIT program in 2015 which produces green energy, brings in revenue to help pay for our other utility costs.
- The roof and insulation over the arena's ice surface were replaced with a high efficiency options to help keep the arena cool in the summer and warmer in the winter months allowing the compressors to work more efficiently in order to maintain the ice surface. The lights over the ice surface were also replaced with high efficiency lights to improve energy efficiency for the facility.
- The weather stripping around the public works building eaves and doors were replaced to help with efficiency.

- The water heater in the downstairs washroom of the administration building has been turned off since it is not needed on a regular basis.

## 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 Treasury department. The data is received via supplier invoices, then tracked and/or monitored on an annual spreadsheet

- Invoices are entered into the annual spreadsheet.
- Consumption/trends are analyzed.
- Reports are generated.

### Energy Supply Management

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

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

### Energy Use Management

Energy use is managed through the monthly tracking of usage which allows the review of energy usage on an ongoing basis.

## Our Plan

### Strategic

- **Long-term strategic issues:** We will develop and implement energy policies, organize for energy management, develop the required skills and knowledge,

manage energy information, communicate with our stakeholders, and invest in energy management measures.

- **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, asset management plan and the policy development process.
- **Departmental responsibilities:** We will incorporate energy budget accountability into our corporate responsibilities.

## Energy management leader and team

### Resources

- **Energy Leader:** The Treasurer has been designated as our energy leader with overall responsibility for corporate energy management.
- **Energy Team:** We have identified 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 have incorporated energy efficiency into standard operating procedures and the knowledge requirement for operational jobs.
- **External consultants and energy suppliers:** We will establish criteria in our 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 develop a communication strategy that creates and sustains awareness of energy efficiency as a corporate priority

among all employees and conveys our commitment and 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 develop and deliver 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 comprehensive 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. In addition, a process will be developed for identifying and cataloguing energy efficiency improvement.
- **Staff suggestions:** We will implement a dynamic process for submitting and processing staff suggestions for energy efficiency improvements.
- **Energy audits:** We will do energy audits as necessary when incentive programs available to help with the cost.

### 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:** Lifecycle 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.
- **Capital:** Savings and incentives from previous energy efficiency projects will be incorporated into our annual capital planning procedures as a separate envelope.
- **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 utilize geothermal energy, explore the possibility of more solar energy and investigate opportunities to procure other energy commodities at a lower cost. 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.

### 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 towards its vision.

Type	Objective	Action	Cost / Savings Estimate (if applicable)	Owner	Target Date
Program	Training	As part of Orientation Program – provide new staff with energy management information		Treasurer	In progress
Program	Awareness	Communicate to the organization the name of the Energy Leader and distribute the Energy Management Plan		Treasury Assistant	In progress

Type	Objective	Action	Cost / Savings Estimate (if applicable)	Owner	Target Date
Program	Awareness	Improve staff education and awareness through training, staff meetings and discussions.		All Staff	In progress
Process	Energy Efficiency	Set outside lights on a timer		Director of Public Works	In progress
Process	Energy Efficiency	Set the dishwasher on a timer to only be used on off-peak hours		All Staff	In progress
Process	Energy Efficiency	Turn off all electronic devices such as, printers, calculators, phone chargers etc. at night and on weekends		All Staff	In progress
Project	Energy	Enhance Building		Director of	In

	Efficiency	Envelope—new front doors, window replacement program, and high efficiency lighting.		Public Works	progress
Project	Energy Efficiency	Install an electric car charging station in the parking lot of the administration building		Director of Public Works	In progress
Project	Energy Efficiency	Install rooftop solar panels on the Honeywood Arena through the Solar Energy FIT Program.		Director of Public Works	In progress
Process	Energy Efficiency Awareness	Regularly track, monitor and analyze energy consumption in facilities to identify consumption, irregularities and take corrective action in a timely manner.		All Staff	In progress
Process	Procurement	Fleet Procurement – Selecting vehicle engines with better fuel economy under our operating conditions <ul style="list-style-type: none"> <li>- Specifying transmissions that improve fuel efficiency</li> <li>- Setting specifications so that the equipment is the right size for the work</li> </ul>		Director of Public Works	In progress

Type	Objective	Action	Cost / Savings Estimate (if applicable)	Owner	Target Date
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Program	Energy Efficiency Awareness	Fleet Preventative Maintenance - Program to schedule routine maintenance and inspection - Operator awareness/training - Equipment idling procedures - Use of LED lighting for vehicles and equipment		Director of Public Works	In progress
Process	Energy Efficiency	Fleet Replacement Plan – long term planning to ensure useful life of vehicle - Assign appropriate equipment for intended use - Consider alternate uses for equipment		Director of Public Works	In progress

**Evaluation**

The results of our energy management plan will be evaluated by monitoring our progress towards our targeted performance, 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.

## **Review & Reporting**

- Reporting for the GEA: Reporting requirements for the *Electricity 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 apprise 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, when we update our Strategic Planning process.

## APPENDIX A: Current Municipal Energy Situation (2016)

Operation Name	Floor Area sq ft	Avg hrs/wk	Annual Flow (Mega Litres)	Energy Type			Total			Comments
				Electricity kWh	Oil litres	Propane litres	GHG Emissions (Kg)	Energy Intensity (ekWh/sqft)	Energy Intensity (ekWh/Mega Litre)	
Town Hall	4,368	40		45,465	-	-	1,616	10.41	-	Geothermal heating and cooling
Public Works Building	11,624	40		54,297	27,974	-	78,442	30.61	-	
Mansfield Water Pumping Station	729	168	37.17	43,751	-	-	1,555	60.01	1,176.92	
Mulmur Melancthon Fire Hall	6,750	5		28,884	-	7,193	12,110	11.77	-	
North Dufferin Community Centre	13,984.50	45		29,040	11,145	-	31,516	10.67	-	Seasonal - only operates during winter season
North Dufferin Community Centre Ice Surface	12,197.50	45		290,880	1,354	-	14,044	25.04	-	Seasonal - only operates during winter season