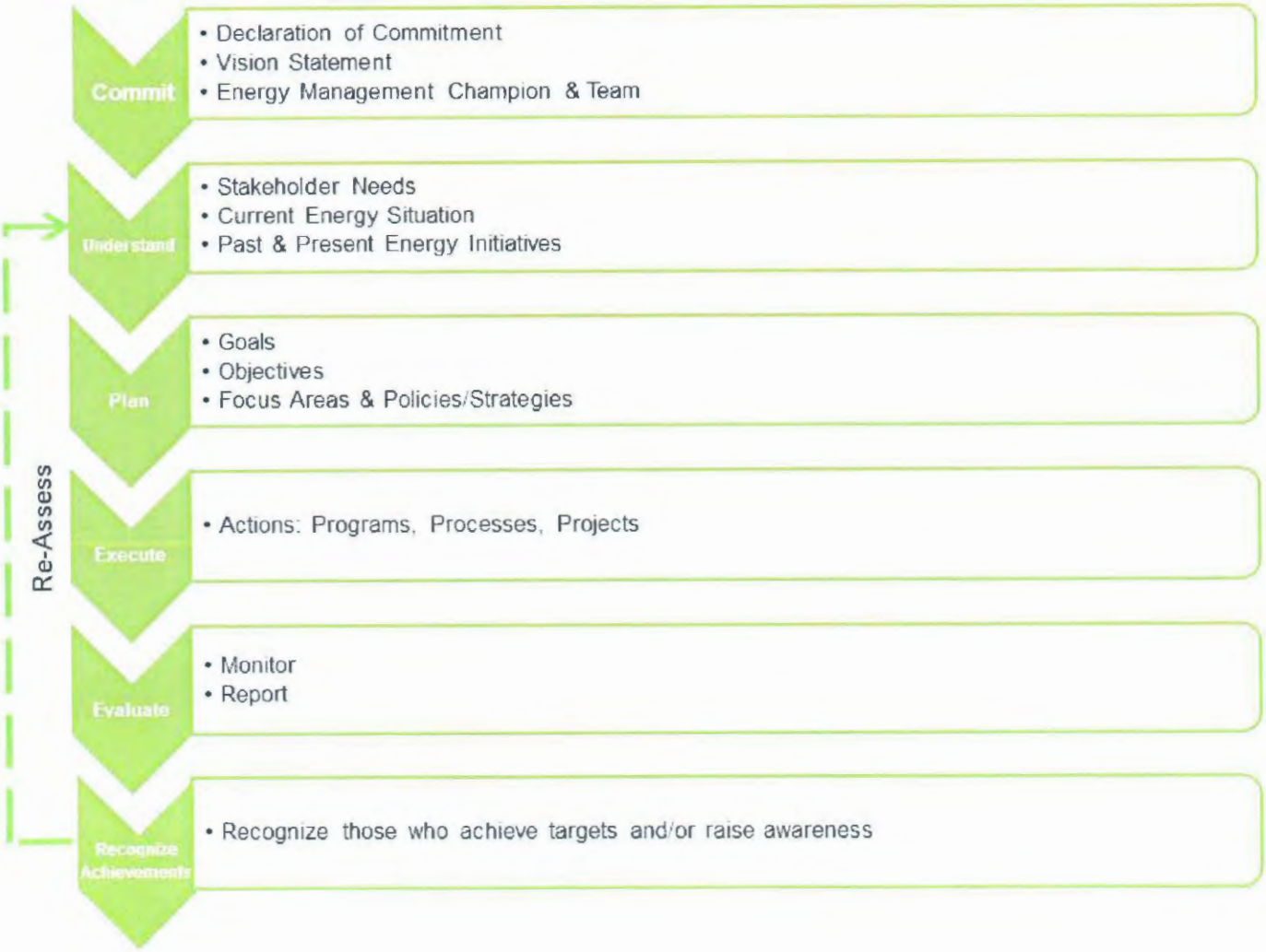
TOWNSHIP OF MELANCTHON

CONSERVATION AND DEMAND MANAGEMENT PLAN

(2014-2019)

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 Melancthon will use existing resources and will access outside agencies where appropriate to develop and implement a strategic Energy Management Plan. Council supports energy planning as it will help avoid cost increases, reduce our energy consumption and be aware of the environmental impact. 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.

Vision

We will strive to continually reduce our total energy consumption 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 consumables include electricity, oil, propane, gas and diesel. This vision can be achieved through operational efficiencies and encouraging energy awareness and knowledge within the municipality.

Our Goals

- Improve the energy efficiency of our facilities by utilizing best practices to reduce our operating costs, energy consumption and greenhouse gas emissions
- Implement an energy management program to reduce consumption, achieve cost savings, and meet greenhouse gas emission targets
- Create a culture of conservation
- Increase the comfort and safety of staff and patrons of the Township of Melancthon's facilities
- Improve the reliability of the Township of Melancthon'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 throughout municipal facilities
- 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
- To identify and seize renewable energy generation opportunities
- Energy Management will form part of the Township's operational decision making process

Our Understanding (Current State)

Stakeholder Needs – Internal and External

The Township of Melancthon 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 commitment to energy efficiency.
b) 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 will do their best to minimize the costs where possible.

Current Municipal Energy Situation

Energy Consumption and Demand

The current energy usage (2012) by building is detailed in Appendix A. Our energy usage is reported annually to the Ministry of Energy. Note: Not yet completed

Energy Initiatives

Renewable Energy

Renewable energy is energy which comes from natural sources such as sunlight, wind, and geothermal heat.

- The Township of Melancthon applied to participate in a Solar Energy FIT contract which was deemed not to be feasible at that time – See attached correspondence
- Install new weather stripping around the public works building doors and re-insulate areas to prevent heat loss through eaves and roof to help with efficiency
- Installed new glass entrance doors in the Administration Offices which allow a substantial amount of natural lighting

- Installed sun tunnels in new addition which allows a substantial amount of natural lighting
- Installed new Light Filtering Window Shades
- Security glass was removed which allows for better air circulation through the administration office. Security glass filtered a lot of natural lighting
- Programmable thermostats – peak and non-peak times (heating and air conditioning)

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 annually.

- 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 on an as needed basis and is priced at the standard rates offered by the provider at the time of delivery
- 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
- Natural Gas is supplied by Enbridge on an as needed basis and is priced at the standard rates offered by the provider at the time of deliver
- Diesel / Gas is supplied by local fuel providers on an as needed basis and is priced at the standard rates offered by the provider at the time of deliver

Energy Use Management

Energy use is monitored on an ongoing basis as part of the monthly accounts payable procedure. These figures are used as part of the annual budget process. The consumption figures reported on these billings form part of the submission to the Ministry of Energy, Regulation 397/11 under the *Green Energy Act, 2009*.

Our Plan

Strategic

- **Long-term strategic issues:** We will develop and implement energy policies, develop the required skills and knowledge, manage energy information, communicate with our stakeholders, and invest in energy management measures.

- **Departmental responsibilities:** We will incorporate energy budget accountability into our Municipal responsibilities.

Energy management Leader and Team

Resources

- **Energy Leader/Team:** The Treasurer and identified staff members have been designated as our energy Leader/Team with overall responsibility for energy management.
- **Staffing Requirements and duties:** Energy efficiency will be standard operating procedure. Use of common sense will be expected in all areas of Energy Efficiency.
- **External consultants and energy suppliers:** Our current Procurement Policy By-law provides for the selection of external consultants and energy suppliers based on our energy goals and objectives.

Staff Training and Communication

- **Communication programs:** Communication strategy that creates and sustains awareness of energy efficiency as a priority among all employees and conveys our commitment and progress to our stakeholders.
- **Energy Awareness Training**: Develop and deliver training focused on the energy use and conservation opportunities associated with employees' job functions wherever possible.
- **Energy Skills Training**: 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.

Development of Energy Projects

- **Staff suggestions:** Implement a standard process for submitting and processing staff suggestions for energy efficiency improvements.
- **Energy audits:** As necessary when incentive programs are available to help with the cost.

Procurement

- **Energy purchasing:** We will continue to explore and investigate opportunities to procure other energy commodities at a lower cost. This investigation will include the availability of energy services, energy quality and reliability and other performance factors.
- **Consideration of energy efficiency of acquired equipment**: Our current Procurement Policy By-law provides for the selection of external consultants and energy suppliers based on our energy goals and objectives.

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	Awareness	Energy reports to be distributed to Department Heads on a regular basis		Treasurer	Q1–2015

Type	Objective	Action	Cost / Savings Estimate (if applicable)	Owner	Target Date
Program	Awareness	Improve staff education and awareness. Promote use of common sense		Administrative Co-ordinator / All Staff	Q1-2015
Process	Awareness	Communicate to the organization the name of the Energy Leader / Team and distribute the Energy Management Plan		Administrative Co-ordinator	Q3-2014 (July)
Process	Energy Efficiency	Run dishwashers on mid-peak or low-peak hours		All Staff	Q2-2014
Process	Energy Efficiency	Turn off all electronic devices such as coffee makers, printers, calculators, phone chargers etc. at night and on weekends		All Staff	Q2-2014
Project	Energy Efficiency	Enhance Building Envelope – window replacement program, window sealing, caulking, weather-stripping and insulation		Administration Office	Completed 2013

Type	Objective	Action	Cost / Savings Estimate (if applicable)	Owner	Target Date
Process	Energy Efficiency	Explore potential for day lighting in areas with high sun exposure. Shut some office lights off where natural light available.		Administration / All Staff	In progress
Process	Procurement	Fleet Procurement – Selecting vehicle engines with better fuel economy under our operating conditions - Specifying transmissions that improve fuel efficiency - Setting specifications so that the equipment is the right size for the work		Roads Superintendent	In progress
Process	Energy Efficiency	Enhance Building Envelope – Weather-strip doors and windows, insulate eaves and roof to eliminate heat loss		Roads Superintendent	Q4 – 2014
Project	Energy Efficiency	Install additional Sun Tunnels in main office to allow for additional natural lighting		Administration	Q2 - 2016

Type	Objective	Action	Cost / Savings Estimate (if applicable)	Owner	Target Date
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 - Use of inverters rather than generator for small tools		Roads Superintendent	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		Roads Superintendent	In progress

Our Evaluation

Our evaluation will include a review and update of the energy plan as necessary. Our evaluation process is ongoing and will lead to continuous improvement.

Monitoring Progress

- Ongoing monitoring of consumption.

Review & Reporting

- Reporting requirements for the *Green Energy Act, 2009* 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 planned 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.

References

County of Peterborough (Feb 2013) Energy Management Plan

Township of Mulmur (June 2014) Energy Management Plan

UP or DOWN ARROW in column A to	Energy											
Confirm consecutive 12-mth period (mth-yr to mth-yr)												
Sector												
Agency Sub-sector												
Organization Name	**Township of Melancthon**											
				Energy Type and Amount Purchased and Consumed in Natural Units						**Total (calculated in webform)**		
				Electricity		**Natural Gas**		**Propane**				
Operation Name	Total Floor Area	Avg hrs/wk	Annual Flow (Mega Litres)	**Quantity**	**Unit**	**Quantity**	**Unit**	**Quantity**	**Unit**	**GHG Emissions (Kg)**	**Energy Intensity (ekWh/sqft)**	**Energy Intensity (ekWh/Mega Litre)**
Stephenson Building	*135034*	*70*	*23516.00224*	*2181065*	*kWh*	*125300*	*Cubic meter*	*Litre*	*Litre*			
Municipal Office & Council Chambers	2700	45	0	20389.71	kWh	0	Cubic Meter	2439.5	Litre	5717.458216	13.90398108	0
Township Garage	5000	20	0	34564.39	kWh	0	Cubic Meter	18237.81	Litre	31423.73742	32.55726326	0
Horning's Mills Community Hall	4340	15	0	13881.33	kWh	1059	Cubic Meter	0	Litre	3335.336926	5.791738674	0

Appendix A:
Current Municipal Energy Situation 2012