



Township of Amaranth
Energy Conservation and Demand Management Plan
2024-2029

Township of Amaranth Energy Conservation and Demand Management Plan

Introduction & Background

The conservation of energy is important to the Township of Amaranth and its future. We will allocate the necessary resources to develop an Energy Conservation and Demand Management plan with efforts to reduce our energy consumption and its environmental impact. To make an impact on energy performance, it requires the application of procedures and measures to reduce energy waste and improve efficiency. The staff at the Township of Amaranth is committed to continually improving our energy performance and therefore creating an efficient environment.

Our Commitment

Declaration of Commitment and Council Resolution

The Township of Amaranth will allocate the necessary resources to develop and implement an Energy Conservation and Demand Management Plan as required. Ontario Regulation 507/18 requires municipalities to report annually on their energy usage and greenhouse gas emissions. The regulation also requires municipalities to update their energy conservation and demand management (ECDM) plan every 5 years. This ECDM fulfills the regulatory requirement and presents a path forward to achieving a full optimized energy management program within the Township of Amaranth with a goal to reduce utility consumption and the corresponding costs.

Vision

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

Policy

The Township of Amaranth will incorporate energy efficiency into all areas of our activity including our organizational and human resources management, facility operations and maintenance and financial management and investment decisions. This will involve a collaborative effort to increase the education, awareness and understanding of energy management within the municipality. Energy costs will be factored into the lifecycle cost analysis, asset management analyses and policies of the municipality.

Goals

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

Objectives

- Improve awareness of climate change and greenhouse gas emissions
- Better analyze energy costs and look for savings opportunities. This will include looking at energy commodity procurement options and taking advantage of 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 investigate renewable energy generation opportunities

Our Understanding (The Current State)

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.

Stakeholder needs:

The Township of Amaranth 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, goals and targets to clearly communicate the corporate commitment to energy efficiency
- b) Timely, regular reports and information to maintain awareness of energy use
- c) Internal training and support to develop the skills and knowledge required to implement energy management practices and measures

The Township of Amaranth 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
- b) The municipality to reduce the carbon footprint associated with its corporate energy use

Many steps have already been taken to improve our energy usage including ensuring that our energy is managed and monitored on an ongoing basis and improvements within our facilities.

Strategic Planning: The Township identified preparing for impacts of climate change and reduce our emissions in the 2023 Strategic Plan. The initiative includes integrating sustainable asset management and business practices throughout the administration and its operations to ensure long-term viability. Reduce the carbon footprint of the Township operations by implementing measures to reduce energy consumption.

Energy Initiatives

Renewable Energy

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

- The township will investigate all lighting in the municipal building and public works building to LED lighting
- The weather stripping around the public works building eaves and doors to be replaced to help with efficiency
- Township lighting in the recreation hall, the municipal office and public works department shop is turned off when it is unoccupied
- Investigation of solar lighting for subdivisions and areas that are applicable

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 administration office. The data is received via supplier invoices, then tracked and reported using the resources provided by the Ministry of Energy.

- Invoices are entered into the EPT
- Consumption/Trends are analyzed
- Reports are generated

Energy Supply Management

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

- Electricity energy is supplied by Hydro one, on an as needed basis and is priced at the standard rates offered by the provider
- Propane and Gas is supplied by local providers on an as-needed basis and is priced at the standard rate offered by the provider and time of delivery

Energy Use Management

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

Our Plan

Strategic

- **Departmental Responsibilities:** We will include energy budget accountability into our corporate responsibilities
- **Long-term Strategic Issues:** Promote and explore incentives for green building practices for local development (Net zero practices, sustainable materials)
- **Links with Other Municipal Plans and Management Processes:** Collaborate with neighbouring municipalities, businesses, and community groups to share knowledge, resources, and best practices in addressing climate change.

Consideration of Energy Efficiency for all Projects

The Township of Amaranth will incorporate life cycle cost analysis into the design procedures for all capital projects. Typical equipment to be considered for this project would include:

- Lighting and Controls
- Water use
- HVAC Equipment (e.g. boilers, chillers, pumps, motors etc.)
- Process Improvements
- Back-up generators
- Any other energy consuming device

Energy Management Leader and Team

Resources:

- **Energy Leader:** The CAO/Clerk 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 into energy management processes
- **Internal Resources:** We will develop criteria for determining whether internal resources can be utilized for the implementation of energy projects
- **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 Energy Training and Communication

The Township of Amaranth will develop and deliver energy training for relevant staff and Council Members.

- Internal training will be focused on the energy use and conservation opportunities and will be utilized whenever possible
- Energy management will be incorporated into employee orientation and future training opportunities

- We will develop a communication strategy that creates and sustains awareness of energy efficiency as a corporate priority wherever possible
- We will carry out a comprehensive review of all business processes and modify them as necessary to incorporate any energy efficiency considerations

Development of Energy Projects

- **Internal Assessments:** A process will be developed for identifying and cataloguing energy, as well as an internal assessment of energy performance within municipal facilities, and their energy loads.
- **Energy Audits:** We will establish the criteria for energy audits for the requirement and frequency of municipal facility energy audits
- **Staff Suggestions:** We will implement a dynamic process for submitting and processing staff suggestions for energy efficiency improvements

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.
- **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 investigate all other forms of 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 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.

Vision/Goals	Action	Owner	Target Date
Awareness	Add energy awareness to management meetings	CAO/Clerk	Ongoing
Training	As part of Orientation Program – provide new staff with energy management information	CAO/Clerk	Ongoing

Vision/Goals	Action	Owner	Target Date
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Awareness	<p>Improve staff education and awareness.</p> <p>Make use of visual displays in lunchrooms to demonstrate to staff the implications of poor behaviors</p>	Administration Department	Ongoing
Awareness	<p>Communicate to the organization the name of the Energy Leader and distribute the Energy Management Plan</p>	Administration Department	Ongoing
Energy Efficiency	<p>Run dishwashers on mid-peak or low-peak hours</p>	All Staff	Ongoing
Energy Efficiency	<p>Turn off all electronic devices such as coffee makers, printers, calculators, phone chargers etc. at night and on weekends</p>	All Staff	Ongoing
Energy Efficiency	<p>Enhance Building Envelope—window replacement program, weather-stripping, and insulation.</p>	Roads Superintendent	Ongoing
Energy Efficiency	<p>Ensure all lighting and electrical is updated in recreation hall</p>	Roads Superintendent	Ongoing
Procurement	<p>Fleet Procurement – Selecting vehicle engines with better fuel economy under our operating conditions</p> <ul style="list-style-type: none"> - Specifying transmissions that improve fuel efficiency - Setting specifications so that the equipment is the right size for the work 	Roads Superintendent	Ongoing

Vision/Goals	Action	Owner	Target Date
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	Ongoing
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	Ongoing
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	Ongoing
Energy Efficiency	Explore potential for day lighting in areas with high sun exposure. Shut some office lights off where natural light available.	Administration and Roads Department	Ongoing

Our 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 critical feedback that leads to continuous improvement.

Review & Reporting

- 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 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, as we update our Strategic Plan.

Effective Date July 1, 2024

This ECDM Plan has been approved by the CAO/Clerk and presented to Council as information.

APPENDIX A: Current Municipal Energy Situation (2023)

Township of Amaranth

Operation Name	Floor Area sq ft	Avg hrs/wk	Annual Flow (Mega Litres)	Energy Type			Total		
				Electricity	Natural Gas	Propane	GHG Emissions (Kg)	Energy Intensity (ekWh/sqft)	Energy Intensity (ekWh/Mega Litre)
				kWh	CUBIC METERS	litres			
Municipal Office	4,796	65	N/A	57,694	4,077	N/A			-
Shop	10,704	65	N/A	32,761	N/A	14,234			-
Waldemar Pump house	150	168	29.6	52,706	N/A	N/A			-
Well # 1	N/A	168	20.0	5,998	N/A	N/A			-
Well # 2	N/A	168	0	.98	N/A	N/A			-
Well # 3	N/A	168	11.6	3,933	N/A	N/A			-