Energy Management Plan

Town of South Bruce Peninsula

From: July 1, 2019 – December 31, 2023

Commitment

- **Declaration of Commitment:** Council Statement: The Town of South Bruce Peninsula is committed to energy management as a key component of its operations. We understand the social, environmental and financial implications of energy management and are striving to deliver improvements in a responsible way. We will continue to improve the allocation of the necessary resources to develop and implement a strategic energy management plan that will reduce our energy consumption and its related environmental impact. Senior staff will develop a strategic comprehensive energy management program that will reduce energy consumption and its related environmental impacts.

- **Vision:** We will strive to reduce our energy consumption through the wise and efficient use of finite resources, while still maintaining an efficient and effective level of service for our citizens. This will involve a collaborative effort to improve education, awareness and understanding of energy management within the Town.

- **Policy:** The Town of South Bruce Peninsula will work towards incorporating energy efficiency into all areas of activity including our organizational and human resources management procedures, procurement practices, financial management and investment decisions, and facility operations and maintenance.

- **Goals:** We will continuously improve the energy efficiency of our facilities and processes to reduce our operating costs, our energy consumption and the associated greenhouse gas emissions. We will provide our staff with the equipment and training required to reduce energy consumption and demand in the facilities they manage. We will continue to implement energy saving retrofits in facilities where it makes sense. We will ensure that renovation and construction projects embody best practices in energy efficient design.

- **Overall Target:** The primary objectives of the Energy Management Plan are to meet the requirements of 507/18: *Broader Public Sector: Reporting and Conservation and Demand Management Plans* and to improve energy management and performance within the Town. We will promote sustainable energy use by exploring the use of renewable energy in the form of solar panels. This is measurable by generating 5% of the Town's electricity consumption through renewable sources by 2023. We believe that a consistent reduction of our consumption of fuels and electricity in all municipal operations by an average of 1% per year between 2019 and 2023 from the 2016 levels is achievable through the replacement of vehicles and equipment with more modern and efficient products. We will continue to report annually on energy consumption.

- **Objectives:**
    - i) To implement energy audits on all municipal facilities during the next five years;
    - ii) To reduce total energy consumption in municipal facilities, normalized to weather conditions, by 3% over the next three years.
    - iii) To build a Town-wide energy management program that consists of best practices and education of staff and users of our facilities.

Organizational Understanding

- **Our Municipal Energy Needs:** We need reliable, low-cost, sustainable energy sources delivering energy to the most efficient facilities. It is essential for the Town to do its utmost to reduce energy consumption and consider cleaner sources of generation whenever possible to minimize the economic, environmental and social outcomes of this energy use.

- **Stakeholder Needs:** Internal stakeholders (Council, Chief Administrative Officer, Staff) need to be able to clearly communicate the corporate commitment to energy efficiency, and to develop the skills and knowledge required to implement energy management practices and measures. External stakeholders (the Province, Community Citizens and Groups) need the municipality to be accountable for energy performance and to minimize the energy component of the costs of municipal services.

- **Municipal Energy Situation:** The Town of South Bruce Peninsula recognizes that energy management is essential for the effective and efficient operation of our facilities and service delivery. We currently utilize electricity, natural gas and propane to power and heat our facilities, operate outdoor lighting and treat and transport wastewater. Electricity is provided by Hydro One; Natural gas is provided by Union Gas. Most municipally owned buildings have one meter for electricity and one for gas except for certain facilities that house commercial tenants. For these, there may be multiple meters to track and allocate usage. Energy consumption can vary from year-to-year and from building-to-building depending on weather, occupancy and condition. It is important to understand that progress must be measured on energy consumed over cost savings, as energy costs are continually rising. Rising costs of electricity are mitigated by the Town's participation in a hedging (purchasing) agreement with Local Authority Services (LAS). LAS was formed by the Association of Municipalities of Ontario to investigate bulk purchasing programs for all Ontario municipalities. The Town has been a member of the LAS hedge program since 2009.

- **How We Manage Energy Today:** The management of energy consumption and the energy performance of our facilities and equipment are the responsibilities of Corporate Services (cost management), Public Works, Community Services and Emergency Services (maintenance). Day to day management of energy has historically been unplanned. To aid in our efforts to track and reduce consumption, the Town utilizes an energy planning tool (EPT) developed by Local Authority Services (LAS). The EPT will be updated annually to assist with required reporting and for internal analysis.

- **Summary of Current Energy Consumption, Cost and GHGs:** As of the 2016 reporting date, the total annual energy consumption in reportable municipal operations is x 2,148,404 kWh, at a cost of $576,000 per year and GHG emission of 107 tonnes/year eCO2.

- **Trends in Energy Consumption:** The Town of South Bruce Peninsula, like most Ontario municipalities, is challenged with budgetary pressures due to reduced operational funding and increasing costs. Energy pricing trends and how quickly pricing will increase over the coming years are unknown so the Town will continue to manage volatility through hedge agreements where appropriate. The reality is that energy costs are globally-driven rather than locally-

driven. With the increasing focus on global warming and climate change, there is a growing demand for technology to produce clean and green energy at a reasonable cost.

- **Summary of Current Technical Practices:** Our assessment of operations and maintenance practices, facility and equipment condition, and energy performance indicators establishes the following priorities:

  1) The development of standard operating procedures incorporating energy efficiency optimization.
  2) Enhancement of preventative maintenance procedures.
  3) Ongoing retrofit of lighting system in recreation facilities and municipal buildings.

- **Renewable Energy Utilized or Planned:** While energy conservation and improving energy efficiency are the main focus of the Energy Management Plan, The Town of South Bruce Peninsula aspires to show leadership in the promotion and development of renewable energy systems that are compatible with our asset management and land use planning objectives. As a result, we will investigate technologies such as passive heating and cooling systems, ground source heat pumps and solar water heating, solar air heating and solar photovoltaic options.

Strategic Planning

- **Links with other municipal plans:** The Town has several plans that provide overall guidance and direction. The Energy Management Plan has been developed to align with the goals and objectives outlined in the Town's strategic and asset management plans. As an integral component of the management structure, the energy management plan will be coordinated with the municipality's budget planning process, preventative maintenance plans and any environmental management plans.

Structure Planning

- **Staffing requirements and duties:** Currently, the Town has limited staff and financial resources to implement the Energy Management Plan. The Town, however, is dedicated to meeting the requirements of 507/18: *Broader Public Sector: Reporting and Conservation and Demand Management Plans* and to improving energy performance overall. We will incorporate energy efficiency into standard operating procedures and the knowledge requirements for operational jobs to the extent that resources are available.

- **Consideration of energy efficiency for all projects:** Energy efficiency will be considered by staff and procurement processes for design and construction of capital projects will be updated to reflect this consideration. The intent is to make energy management part of the Town's normal course of business with facility and operational retrofits, capital replacements and asset lifecycle considerations and doing so at the initial stages of project design is the most effective strategy.

Resources Planning

- **Energy Leader:** We have clearly designated leadership and overall responsibility for corporate energy management to the Senior Management Team members who operate as a committee internally.

- **Energy Team:** To achieve the goals and objectives of this plan and integrate energy management as a priority across the corporation, we will work towards appointing additional employees to act as departmental energy efficiency team members.

- **Key Individuals:** 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. The Senior Management Team (SMT) has the responsibility of implementing the Energy Management Plan (EMP). This includes all issues related to energy education and awareness, monitoring and verification, supply management, and conservation and demand management. The SMT will ensure that the Town is meeting all energy related regulatory requirements. This will require the SMT to work closely with Council and staff on all energy related operations and capital decisions. The SMT will be the primary point of contact for Council, staff, and residents with energy related inquiries. Lastly, the SMT will be responsible for staying current on all municipal energy related topics and building relationships with utility companies and other Municipal Energy Conservation groups throughout Ontario.

- **Internal Resources:** We will develop criteria for determining whether internal resources can be utilized for the implementation of energy projects.

- **External Consultants and Suppliers:** We will establish criteria based on our energy goals and objectives for the selection of external consultants and energy suppliers.

- **Energy Training:** We will develop and deliver energy training for relevant staff and Council members. This training will not be limited to operators with "hands-on" involvement with energy consuming equipment but will also include other staff members since they also make energy consumption decision in their daily work. Training focused on the energy use and conservation opportunities associated with employees' job functions will be utilized whenever possible.

Procurement Planning

- **Energy Purchasing:** In addition to the conservation of energy, the procurement of energy is equally important. We will continue to negotiate energy purchase contracts that appropriately address our cost considerations, available energy services, energy quality and reliability, and other performance factors.

- **Consideration of energy efficiency for all projects:** We will continue to improve life cycle cost analysis and incorporate this into the design procedures for capital projects where feasible.

- **Consideration of energy efficiency of acquired equipment:** Our purchasing procedures will be modified as required to incorporate energy efficiency into the criteria for selection of materials and equipment. We will continue to improve policy language to ensure that energy efficient equipment is given a priority in purchasing decisions for appliances, water heaters and other water heating equipment, furnaces and other space heating equipment, lamps and other lighting products, motors and transformers and electronic equipment. This will be done by modifying the purchasing policy guidelines to include using products with the Energy Star rating where possible.

Implementation Planning

- **Building Standards:** We will develop criteria for the design and/or acquisition of new buildings that includes energy performance factors and that use, as appropriate, the principles embedded in performance standards such as LEED (Leadership in Energy and Environmental Design) and the Model National Energy Code for Buildings.

- **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.

Investment Planning

- **Internal Funding Sources:** We will continue to assess whether internal resources (reserves, reserve funds and current year budgets) can be utilized for the implementation of energy projects.

- **Creative Approaches:** The past several years the Town has been converting streetlighting to more efficient LED fixtures. The conversion has already resulted in cost savings exceeding $30,000 per year in electricity costs. We will continue to investigate and document options for the implementation of energy projects that utilize public-private partnerships, creative financing arrangements including energy performance contracting, and other creative approaches.

Implementation Planning

- **Business Procedures:** We will continue to review of all business processes and modify them as necessary to incorporate energy efficiency considerations.

Projects Execution

- **Municipal Level:** We will carry out the required development of business procedures and communication programs and implement them methodically according to the planned timelines within the resources constraints that apply.

- **Asset Level:** All staff will be encouraged to be familiar with and utilize energy efficient measures where possible. It is our goal to perform energy audits on appropriate corporate facilities to continue to identify opportunities for savings. We will use energy team representatives to facilitate the implementation of facility-level business procedures and communication initiatives, including energy performance reporting.

Review

- **Energy Plan Review:** We will review and evaluate our energy plan, revising and updating it as necessary, on an annual basis within our corporate planning process.

- **Discussion of Progress:** We will continue to improve correlation of our progress towards corporate goals and objectives and update those goals and objectives accordingly.

Evaluation Progress

- **Energy Consumption:** Our reported energy consumption in 2016 was reduced to 2,148,404 kWh from previous levels.

- **Green House Gas Emission:** In 2016 our corresponding greenhouse gas emissions are 185 tonnes from natural gas consumption and 107 tonnes from electricity consumption. This represents a reduction over previous levels.

- **Cost:** Based on 2016 reported figures, we have reduced our energy costs by $30,000 in absolute terms, in the face of marginal increases in energy prices.