



## Energy Conservation & Demand Management Plan July 1, 2014 – June 30, 2019

### Commitment

**Declaration of Commitment:** Council Resolution \_\_\_\_ -14

**BE IT RESOLVED THAT:** Report, Reference No. PL-2014-52 dated May 6, 2014 prepared by Rebecca Francis, Sustainability Coordinator and Brian Crozier, Property Manager regarding “**Energy Conservation and Demand Management Plan**” be received;

**AND FURTHER THAT:** The Energy Conservation and Demand Management Plan be approved, as amended, and submitted for compliance with Ontario Regulation 397/11;

**AND FURTHER THAT:** Council will allocate the necessary resources to develop and implement a strategic energy management plan that will reduce our energy consumption and its related environmental impact.

### **Vision**

Huntsville is a vibrant, welcoming and healthy place in which to live and play as we foster innovation, celebrate arts, culture, heritage, and recreation, develop a strong and resilient economy and follow an ethic of social caring and environmental stewardship.

### **Policy**

Energy Conservation: Huntsville will be a leader in reducing energy consumption and greenhouse gas emissions by promoting sustainable, innovative corporate and community-based energy initiatives. We will incorporate energy efficiency into all areas of our activity including our organizational and human resources management procedures, procurement practices, financial management and investment decisions, and facility operations and maintenance. The corporation will encourage community-based energy initiatives.

### **Goals**

To continuously improve the energy efficiency of our facilities and processes in order to reduce our operating costs, our energy consumption and the concomitant greenhouse gas emissions.

### **Overall Target**

The Town of Huntsville will reduce our consumption of fuels and electricity in all municipal operations by an average of 5% each year between 2014 and 2019, from 2011 levels (baseline year).

### **Objectives**

1. To undertake/implement energy audits on all municipal facilities during the next five years;
2. To reduce total energy consumption in municipal facilities, normalized to weather conditions, by 5% over the next five years;
3. To reduce energy consumption in the municipal recreation complex by 2% during fiscal year 2015;
4. To follow actions as stated in Unity Plan Strategic Direction 2.7:  
(Decrease energy and fossil fuel consumption and reduce greenhouse gas emissions at the municipal level)
  - Reduce building energy demand in all Town facilities
  - Ensure wise energy use in all municipal buildings
  - Continue to audit Town buildings for energy use
  - Allow the private use of micro-power generation, thereby facilitating the sale of power to the grid
  - Conduct a greenhouse gas emission inventory and set reduction targets as part of a climate change adaptation strategy
  - Join *Partners for Climate Protection program* (FCM);
5. To continue to produce solar energy on 6 municipal facilities (10kW systems).

## **Organizational Understanding**

### **Our Municipal Energy Needs**

We need reliable, low-cost, sustainable energy sources delivering energy to the most efficient facilities and energy-consuming technology feasible.

### **Stakeholder Needs**

Internal stakeholders (Council, CAO, 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.

### **How We Manage Energy Today**

The management of energy consumption and the energy performance of our facilities and equipment are the responsibilities of the Public Infrastructure Division with the assistance of the Finance Department and the Sustainability Department.

### **Summary of Current Energy Consumption, Cost and GHGs**

The total annual energy consumption in municipal buildings that are heated and supplied with electricity (2011) is approximately 31,000 GJ/yr, at a cost of approximately \$650,000 per year and GHG emission of approximately 1370 tonnes/year eCO<sub>2</sub>.

**Trends in Energy Consumption:** From 2011-2012, our energy costs in buildings have decreased by 8%, and our total GHG emissions have decreased in buildings by 14.9% over the same time period.

### **Summary of Current Technical Practices**

Our assessment of operations and maintenance practices, facility and equipment condition, and energy performance indicators establishes the following priorities:

- Retrofit lighting in all municipal facilities
- Automation at select municipal facilities
- Demand management at Canada Summit Centre
- Regular building audits
- Implement behavioural changes to manage demand (e.g lights off when not in use)

### **Renewable Energy Utilized or Planned**

The Town Huntsville has shown 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 currently have 6 rooftop solar photovoltaic systems on municipal facilities (each 10kW). We will continue to investigate the potential to develop further solar photovoltaic systems on the rooftops of all corporate facilities with sound, south-facing roofs.

## **Strategic Planning**

### **Links with other municipal plans**

As an integral component of the management structure, the energy management plan is coordinated with the municipality's budget planning process and the Unity Plan.

## **Structure Planning**

### **Staffing requirements and duties**

We will incorporate energy efficiency into standard operating procedures and the knowledge requirements for all jobs.

### **Consideration of energy efficiency for all projects**

We will incorporate life cycle cost analysis into the design procedures for all capital projects.

Energy Efficiency will be considered by staff and signed-off by the responsible Executive Director prior to procurements documents being published for tender. The intent is to make energy management part of the Town's normal course of business for all facility and operational retrofits, including capital renewal and life cycle replacement projects. Success means incorporating energy efficiency options at the initial stages of a project design. This ensures that options for improving energy efficiency are considered, evaluated and quantified in terms of life cycle costing analysis, including cost, maintenance and emission reductions.

## **Resources Planning**

### **Energy Leader**

Senior Management will clearly designate leadership and overall responsibility for corporate energy management.

### **Energy Team**

As of 2014, the following positions will act as energy efficiency team members: Property Manager, Sustainability Coordinator, Engineering Technician, and Executive Director of Public Infrastructure.

### **Key Individuals**

Senior Management 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.

### **Internal Resources**

We will develop criteria for determining whether internal resources can be utilized for the implementation of energy projects.

### **Energy Training**

Senior Management will support training focused on the energy use and conservation opportunities whenever possible.

## **Procurement Planning**

### **Energy Purchasing**

We will develop a procedure for the negotiation of energy purchase contracts that appropriately addresses our cost considerations, available energy services, energy quality and reliability, and other performance factors.

### **Consideration of energy efficiency for all projects**

We will incorporate life cycle cost analysis into the purchase for all capital projects.

**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.

## **Implementation Planning**

### **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**

During the budget process, we will determine whether internal resources can be utilized for the implementation of energy projects.

Council will increase the operational energy budget relative to energy rates.

### **Creative Approaches**

We will 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.

We will create a Continual Energy Improvement Fund. Contributions to the fund will be made through savings from energy conservation projects. For example, once the Town has paid back the capital cost of the energy savings project, the following year's energy savings could be put into the Continual Energy Improvement Fund and be used to fund future energy savings projects.

## **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 time lines within the resources constraints that apply.

### **Asset Level**

We will use department and facility 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.

At least annually, we will:

- Review energy savings opportunities and measures taken across the municipality
- Report to Council on savings
- Identify further savings opportunities:
  - Low/no cost options
  - More complex options
  - Partnership prospects

### **Discussion of Progress**

Council will consider energy management when establishing the corporate direction.

## **Evaluation Progress**

### **Energy Consumption**

Our energy consumption from buildings in 2012 was reduced to 26,800 GJ from our 2011 levels of 32,300 GJ.

### **Green House Gas Emission**

Energy from buildings in 2011 our corresponding greenhouse gas emissions are 17,600 GJ from natural gas consumption and 14,700 GJ from electricity consumption. This represents a 21% reduction in natural gas and 2.8% reduction in electricity over our 2012 levels.

### **Cost**

We have reduced our energy costs from buildings by 8% in absolute terms, in the face of marginal increases in energy prices.