



## **The Corporation of the Municipality of Neebing Energy Conservation and Demand Management Plan**

### **Background**

Ontario Regulation 397/11 under the Green Energy Act, 2009 requires public agencies, including Municipalities, to report annually on their energy consumption and greenhouse gas emissions, beginning in 2013. The 2013 reporting related to 2011 total energy use. In 2014, public agencies were also required to develop and implement an “Energy Conservation and Demand Management Plan” (referred to in this document as the “Plan”).

The purpose of the Plan is to help the Municipality of Neebing reduce its energy consumption. It is directed to the corporate municipality, and not to individual residents. Reducing energy consumption for climate change purposes is a solid policy in itself, but if done properly, it will also result in cost savings.

The Regulation sets out certain elements that must be included in the Plan. These are:

- Information on the Municipality’s annual energy consumption during the last year for which complete information is available
- The Municipality’s goals and objectives for conserving and otherwise reducing consumption and managing its demand for energy
- The Municipality’s proposed measures under the Plan, the cost and saving estimates for these proposed measures and the estimated length of time these measures will be in place
- Adoption of ground source heat pump technology, thermal water technology or thermal air technology in the future
- Confirmation that the Municipality’s senior management has approved the Plan.

The types of operations that are covered under the Plan are based on Ontario Regulation 397/11 and include:

- Administrative offices and related facilities including council chambers
- Community centres
- Fire stations and associated offices and facilities; and
- Storage facilities where equipment or vehicles are maintained, repaired or stored.

Where a public facility is used by more than one operation, such as the municipal office (shared with Neebing Emergency Services), a breakdown of the energy consumption for each area needs to be undertaken.

The Plan for Neebing Municipality will need to demonstrate that it was approved by senior management.

### **Energy Consumption**

The reports on the energy consumption for Municipal facilities for 2011, 2012 and 2013 are appended to this Plan as Schedules “A”, “B” and “C”, respectively. An additional Schedule will be added annually, by July 1<sup>st</sup>, at the same time as the Municipality is required to file and report on the relevant year’s energy consumption. This will allow the public to track the progress towards achieving the goals and objectives laid out in the Plan.

### **Goals and Objectives of the Plan**

Goals and objectives for conserving and otherwise reducing energy consumption and for managing demand for energy are addressed in the Plan. These will act as a guide, and will provide focus and direction for the Plan. As recommended, the goals are ambitious (providing something to strive for) while remaining realistic and achievable.

The following recent renovations were undertaken with a goal, at least in part, to reducing energy consumption:

- Replacement of the furnace at Blake Hall (in 2014)
- Renovations to Fire Hall door frames (in 2014)
- Re-construction of the Municipal garage after the fire in November of 2013 (2014-2015 construction)
- Replacement of windows in municipal office complex (2012-2013)
- Removable window seals over fans in washrooms at municipal office complex (2013)

Vehicle upgrades and renewal of the municipal fleet (all departments) is being undertaken as affordability allows and in accordance with the Asset Management Plan. Newer vehicles have better fuel consumption statistics and have better pollution control systems.

Another significant achievement, which has occurred on an annual basis for several years, is the chip-seal program to improve municipal roads. Each year, subject to budget approval, Council provides for additional kilometers of road to be hard-surfaced through a process known as “chip-sealing”. Hard surfacing the road decreases energy (fuel) use as follows:

- Elimination of the requirement to grade the road;
- Elimination of the requirement to patch potholes in the road as frequently; and
- Elimination of the need to apply dust control products to the road (formerly at least an annual requirement).

To date, 62 kilometers of Road have been chip-sealed. Plans are in place to add more kilometers annually.

It is the goal of Council to continue to monitor energy usage in all Municipal buildings and to implement cost saving initiatives whenever renovations are required or funding sources identified. Some future cost savings could include:

- timers on the ceiling fans;
- programmable thermostats;
- alternative heating sources such as ground source heat pumps; and
- alternative energy sources such as solar or wind power.

Although these alternative sources of heat and power are an objective that Council will keep in mind, they must be dependent upon funding from sources in addition to (or instead of) the municipal tax base. When and if that funding becomes available, it will be applied for. At present, however, these technologies remain unaffordable.

This Plan has been reviewed by the Fire Chief, the Roads Foreman and the Solicitor-Clerk. Each has been made aware of the responsibility to keep energy consumption reduction and greenhouse gas emission reduction in mind when making recommendations to Council on any subject or project applicable.

All staff, as well as volunteers, have been educated informally on energy conserving habits, such as meeting during the day when possible, turning lights off in unused rooms, manually reducing thermostat settings at night; keeping blinds drawn, turning off computer equipment, etc. These habits will continue to be encouraged and supported. Being a small, rural municipality, our staff and volunteers are a cohesive group with the best interests of the municipality uppermost in their minds. Monitoring of good conservation habits is undertaken as a “best practice”, but is, more often than not, unnecessary.

## **Measures**

The Plan is required to encompass the following:

- Proposed measures;
- The cost and savings estimate for these proposed measures; and
- The estimated length of time these measures will be in place.

Administration has been trained in energy management finance. Where a new project is proposed, the cost outlay can be compared to the cost savings-over-time in order to determine a “pay back” period. After that period, the project should have a positive financial impact on the Municipality’s budget.

Our measures at present for various energy consumption include:

- Kilowatt hours of hydro consumed in various buildings;
- Volumes of diesel and “regular” fuel consumed in vehicles; and
- Volumes of fuel consumed by furnaces in various buildings.

No other proposed measures are available based on the types of energy utilized in the municipality.

Cost savings are measured based on reductions in consumed energy and fuel. Variables will be involved which will impact these measurements – such as fluctuations

in price of the energy/fuel in question, air temperatures, etc. Accordingly there may not actually be a cost saving realized, even in circumstances where demand is reduced. All of these variables need to be kept in mind when comparing year over year data. As an example, one significant issue relates to the extra charges on Hydro One bills. A recent Hydro bill for one of the fire halls showed energy consumption costs of \$3.54, however the bill totalled \$48.60.

The Municipality will always strive to find the best possible reductions in greenhouse gas emissions and energy demands and these measures will be in place permanently. If funding becomes available to assist the municipality with installations of ground source heat or solar and wind power, it is expected that greater savings could be found once the cost of installation is fully amortized.

No new buildings are being planned for the Municipality's inventory in the near future.

Administration will report annually on the progress of this plan.

The guidelines provide that measurement processes should define the "preferred state", identify the "current state", identify measures and document results. For Neebing's purposes, a target percentage reduction in usage will be identified, with an understanding, of course, that the target will never equal zero and, at some point, energy conservation will reach a maximum achievable level. The percentage reduction will be an over-all goal rather than an annual one.

The energy use reduction target from 2014 to 2015 is identified at three (3%) percent.

The Municipality will be pro-active in making energy-saving changes wherever possible and affordable.

### **Renewable Energy**

The Municipality of Neebing does not presently utilize renewable energy in municipal operations. While it is desirable to undertake renovations in that regard for future, without assistance, Neebing cannot afford any of the capital outlay that would be required to transfer from traditional sources to renewable energy.

Adopting renewable energy in or for future projects will be dependent upon budgetary constraints and/or alternative sources of funding. Administration and Council will be mindful of these concerns when making relevant recommendations to Council for approval.

Council has announced its intention to work with Orion Eco Solutions Inc. on an energy-from-waste project in the municipality. Pending approvals from senior orders of government and/or utility entities, it is proposed that this project will be able to generate sufficient energy for its own operations. The project will reduce the burden on the Municipality's two landfill sites. Landfill sites are known sources of methane gas, which contributes to greenhouse gas emissions. Reducing reliance on landfill will reduce greenhouse gas emissions in Neebing.

## **Plan Implementation**

It is the intent of the Plan to be a document that is going to be used by Council to better manage the energy use and to reduce energy consumption. It is important that the Plan include tools to aid with the implementation of the Plan such as:

- Prioritize the measures
- Develop timelines for the measures
- Assign responsibility for the measures
- Link the Plan to other corporate activities or goals

Council continues to rely on its staff and volunteers to assist with energy conservation. Other measures, such as programmable thermostats will be implemented when funding allows or renovations are occurring. Every available method or product which assists to reach the reduction target is considered important and will be reviewed. Where possible, changes will be implemented immediately. The staff and volunteers will be tasked with taking responsibility for these measures in their relevant workplaces. Other corporate activities or goals such as economic development and expansion shall have regard for these goals and objectives when in the planning stages. As the Municipality of Neening is a small, rural municipality, with a small workforce, Council feels that each employee (and volunteer) will be able to implement the measures and track any cost savings without a detailed plan.

This Plan will be linked to the Municipality's Asset Management Plan.

## **Monitoring and Evaluation**

Ontario Regulation 397/11 requires that the Municipality report on the Plan at the end of a 5 year planning period. Reporting will require that an Energy Consumption and Greenhouse Gas Emissions template be submitted by July 1, 2019. The template will include the results of current and proposed conservation measures, a revised forecast of the expected results of the current and proposed measures, a report on the actual results achieved and a description of any proposed changes to be made.

## **Administration**

Ontario Regulation 397/11 requires that the energy Conservation and Demand Plan be made publically available by publishing it on the Municipality's website and making it available, upon request, in printed form.

This Plan was adopted by resolution of Council on July 15, 2015.