



Energy Consumption and Demand Management Plan

Town of Smooth Rock Falls

From: 2014-01-01 to: 2018-12-31

Section 1: Commitment

- **Declaration of Commitment: Council Resolution:** The Town of Smooth Rock Falls will allocate the necessary resources to develop and implement a strategic energy management plan as required under Regulation 397/11 of the Green Energy Act that will reduce the Town's energy consumption and its related environmental impact. Staff and council will ensure that the objectives presented in this plan are achieved and that progress towards those objectives is monitored on an ongoing basis. The plan will be updated as required under the regulation or any subsequent legislation.

- **Vision:** We will strive to continually reduce our total energy consumption and associated greenhouses gases (GHGs) 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. This will involve a collaborative effort to increase the education, awareness, and understanding of energy management within the municipality. Total energy consumption includes electricity and natural gas. This vision can be achieved through the integration of energy efficient facility infrastructure, operational efficiencies, and building the foundation for a culture of energy awareness and knowledge within the municipality. While commitment from Council and Senior Management is crucial, everyone has a role in the wise use of energy and to showcase appropriate leadership within the corporate facilities and operation.

- **Policy:** 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.

- **Goals:** The Town of Smooth Rock Falls energy conservation and demand management (CDM) plan was completed to help achieve the following goals:

1. Maximize fiscal resources and avoid cost increases through direct and indirect energy savings;
2. Reduce the environmental impact of the municipality's operations;
3. Increase the comfort and safety of staff of the municipality's facilities;
4. To create a culture of conservation within the municipality;
5. To improve the reliability of the municipality's equipment and reduce maintenance.

- **Overall Target:** The key to a successful long term energy conservation and demand management vision is a strong energy policy, with measurable and achievable targets. The Town of Smooth Rock Falls will reduce its consumption of fuels and electricity between all municipal operations by an overall average of 5% per year between now and 2020.

- **Objectives:** In order to meet the strategic goals of the CDM plan, there are a number of goals and objectives that align with its development and implementation:

1. Ensure energy efficiency consistency across municipal facilities;
2. Monitor and report on energy consumption annually. Staff will monitor and verify return on investment (ROI) to enable reinvestment in energy projects and report on energy consumption annually;

3. Better analyze energy costs and look for savings opportunities. This will include looking at energy commodity procurement options and taking advantage of all available resources and funding for energy projects;
4. Raise staff and council awareness around energy efficiency. This will include communicating successes to both internal and external stakeholders;
5. Strengthen partnerships with external stakeholders such as electric and gas utilities;
6. Identify and seize renewable energy generation opportunities.

Section 2: Organizational Understanding

- **Our Municipal Energy Needs:** The Town of Smooth Rock Falls requires 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.

- **Municipal Energy Situation:** Our assessment of organizational capacity for energy management with respect to energy policy; organizational structure; employee awareness, skills and knowledge; energy information management; communications; and investment practices indicates the following issues:

1. Energy use and costs continue to increase and are forecasted to increase further;
2. Energy is not visible to municipal decision makers such as council, senior management, front-line staff, and members of the public. This leads to a lack of understanding of the costs of energy and the opportunities for energy efficiency;
3. Occasional efforts are made to raise general staff awareness about energy;
4. Additional municipal responsibilities and services have had an important impact on existing facilities and several of these facilities can no longer operate under the existing physical conditions;
5. The requirement for this CDM plan provides an opportunity to build upon current initiatives such as the master plan and asset management plan.

- **How We Manage Energy Today:** 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 Treasurer. The data is received via supplier invoices, then tracked and/or monitored using the LAS Energy Planning Tool (EPT): Invoices are entered into the EPT, consumption/trends are analyzed, and 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 and natural gas by Union Gas on an as needed basis and is priced at the rates provided by Summitt Energy.

The municipality went through a request for proposal in 2012 for the electricity and natural gas programs and the successful proponent was Summitt Energy. A review of the programs will be revisited near the end of the 4 years term for the natural gas program and 5 years for the electricity program. To aid in our efforts to track and reduce energy use, the Town of Smooth Rock Falls utilizes the EPT in an ongoing manner to generate and share reports as required.

- **Summary of Current Energy Consumption, Cost and GHGs:** The current energy usage by building is detailed in Appendix A. Our energy usage is updated annually in the EPT and reported to the Ministry of Energy.

- **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. Development of standard operating procedures incorporating energy efficiency optimization;
2. Enhancement of preventative maintenance procedures;
3. The municipality has applied through the saveONenergy retrofit program for possible savings with the purchase and installation of the arena condenser.

- **Renewable Energy Utilized or Planned:** The Town of Smooth Rock Falls 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, The Town will investigate the potential to develop solar projects.

Section 3: Strategic Planning

- **Links with other municipal plans:** The Town of Smooth Rock Falls will develop and implement energy policies, organize for energy management, develop the required skills and knowledge, manage energy information, communicate with our stakeholders, and invest in energy management measures. As an integral component of the management structure, the CDM Plan is to be coordinated with the municipality's budget planning, strategic plan, purchasing policy, preventative maintenance plans, asset management plan, and the policy development process.

Structure Planning

- **Staffing requirements and duties:** The Town of Smooth Rock Falls will incorporate energy budget accountability into our corporate responsibilities. We will incorporate energy efficiency into standard operating procedures and the knowledge requirement for operational jobs.

- **Consideration of energy efficiency for all projects:** The municipality will incorporate life cycle cost analysis into the design procedures for all capital projects. Typically equipment to be considered for this process includes:

1. HVAC equipment (e.g. boilers, chillers, pumps, motors etc.)
2. Lighting and controls
3. Building envelope (e.g. roofs, insulation. windows and doors etc.)
4. Water use (e.g. pools, toilets, water reclaim etc.)
5. BAS (building automation system) controls
6. Process improvements
7. Back-up generators
8. Any other energy consuming device

These types of projects generally follow 4 steps:

1. Project Identification and Feasibility - Energy Audits, Feasibility Analysis or through detailed Condition Assessments.
2. Planning and Budgeting - Project Financing, Incentives, Business Case and Approvals.
3. Implementation - Tender, Project Execution, Project Management, Commissioning.

4. Monitoring and Verification - Measure and Verify Results, Reporting Achievements.

The intent is to make CDM plan part of the Town's normal course of business for all facility and operational retrofits, including capital renewal and life cycle replacements projects. Success means incorporating the CDM plan 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:** The Public Works Superintendent has been designated as our energy leader with overall responsibility for corporate energy management.
- **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.
- **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:** To incorporate energy management training into employee orientation and future training opportunities offered through Human Resources. Energy management training opportunities are:
 1. Integrated into Corporate training courses for new staff
 2. Integrated into ongoing staff training
 3. Designed to allow for the internal capacity building necessary to ensure that staff are making informed decision and reducing the need for costly external assistance
 4. Supportive of existing software and other tools that support energy management

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 design procedures 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.

Investment Planning

- **Internal Funding Sources:** The Town will develop and/or clarify as necessary the financial indicators that are applied to investment analysis and prioritization of proposed projects, taking due consideration of the priority given to energy efficiency projects versus other investment needs (life cycle versus simple payback). Energy and operating costs savings, physical asset renewal, improved employee comfort and service delivery, and enhanced environmental protection are all quantifiable benefits of energy conservation and demand management and will be factored in accordingly.
- **Creative Approaches:** The Town's staff will investigate, document, and communicate funding sources for energy projects, including government and utility grants and incentives.

Implementation Planning

- **Business Procedures:** We will carry out a comprehensive review of all business processes and modify them as necessary in order to incorporate energy efficiency considerations.

Section 4: Projects Execution

- **Municipal Level:** The administration and implementation of this plan will be the responsibility of the Treasurer. Since we all use energy in our daily activities, it will also be the responsibility of all Town staff to be aware of their energy use and work towards a culture of conservation. Through staff training and web based energy management tools, staff will be able to see the results of their efforts, and benchmark between corporate facilities and with industry standards.

- **Asset Level:** In order to sustain a corporate culture of conservation, staff must be engaged in an effective awareness and education program. Although, the Public Works Superintendent has the lead responsibility in ensuring facilities operate efficiently, all municipal staff should be familiar with and utilize energy efficient measures where possible. The first step in implementing an energy management program is the completion of energy audits for corporate facilities. Audits involve a technical review of a facility and its operations, the development and analysis of a baseline energy profile for the facility and identification of energy management opportunities and savings. Audits have been conducted on municipal facilities as part of this initial planning exercise and should continue to occur on a regular schedule in the future for new and existing facilities.

Section 5: Evaluation

Review

- **Energy Plan Review:** As part of any energy management strategy, continuous monitoring, verification, and reporting is an essential tool to track consumption and dollar savings and/or avoidance as the result of implemented initiatives. The Town of Smooth Rock Falls staff will develop an annual progress report with energy consumption data and initiatives undertaken within the calendar year and will report to Council. As part of the Energy Plan, the implemented processes improvements, program implementation and projects will continue to be documented and reviewed annually to update consumption savings. By regularly monitoring and reporting consumption and dollar savings, the outcomes of their participation in energy management initiatives can be demonstrated, and feedback can be obtained for any new ideas. This monitoring and reporting will also align with the requirements of Regulation 397/11 under the Green Energy Act and/or any subsequent legislation related to energy management.

- **Discussion of Progress:** Annual energy performance summary reports will be generated to apprise Council of the progress made towards our corporate energy goals and objectives. The general public will be apprised of energy performance of municipal facilities and the impact of implemented energy management measures where appropriate.

Evaluation Progress

- **Energy Consumption:** We will review and evaluate our energy plan, revising and updating it as necessary, on an annual basis as based on the Energy Consumption Reports that are submitted annually to the Ministry of Energy..

- **Green House Gas Emission:** Governments at all levels are moving to address emissions of greenhouse gases (GHGs), in light of scientific evidence on how human activities are affecting the world's climate. The combustion of fossil fuels in buildings is a major source of GHG emissions that fall under the local government influence. Municipalities can lower emissions by improving energy efficiency of buildings and using more renewable energy. The municipality is committed to both objectives through the development and

implementation of this CDM plan. We will continue to track and report on GHGs as part of our regular reporting on energy consumption and will evaluate progress in this area against our overall reduction target.

Projects

Description	Facility	Contact	Start	End	Status	Cost	Save (ekWh/yr)	Save (\$)	ROI
Energy audit walk-through of water treatment plant	Water Treatment Plant	Yvan Marchand, Treasurer	2014-06-02	2014-06-02	Pending [0%]	0.00	0	0.00	0
Details	The Ontario Clean Water Agency (OCWA) performed an energy audit of the water treatment plant for possible energy efficiency opportunities. Town staff will review the details during the 2015 budget process. For the list of opportunities please refer to the summary in Appendix B.								
Energy audit walk-through of wastewater treatment plant	Sewage Treatment Plant	Yvan Marchand, Treasurer	2014-06-02	2014-06-02	Pending [0%]	0.00	0	0.00	0
Details	The Ontario Clean Water Agency (OCWA) performed an energy audit of the wastewater treatment plant for possible energy efficiency opportunities. Town staff will review the details during the 2015 budget process. For the list of opportunities please refer to the summary in Appendix B.								
LED street lights retrofit	Street Lights	Yvan Marchand, Treasurer	2014-06-02	2014-06-02	Pending [0%]	0.00	0	0.00	0
Details	The Town recently received proposals to upgrade all street lights to LED technology. Town staff will review the details during the 2015 budget process.								
Natural gas heaters in wastewater treatment plant	Water Treatment Plant	Yvan Marchand, Treasurer	2014-06-02	2014-06-02	Pending [0%]	\$9,000.00	0	0.00	0
Details	As part the 2014 budget, one of the approved project was the purchase and installation of natural gas heaters to replace the current electric heaters in the wastewater treatment plant.								
Natural gas heaters in public works garage	PW garage	Yvan Marchand, Treasurer	2014-06-02	2014-06-02	Pending [0%]	\$7,000.00	0	0.00	0
Details	As part the 2014 budget, one of the approved project was the purchase and installation of natural gas heaters to replace the current malfunction heaters in the public works garage.								
Garland report	All facilities	Yvan Marchand, Treasurer	2014-06-02	2014-06-02	Pending [0%]	0.00	0	0.00	0
Details	Garland Canada Inc. inspected the building envelope of all facilities of the town. A report was prepared on August 27 th , 2013 and is attached as Appendix C.								
Arena condenser	Arena	Yvan Marchand,	2014-06-02	2014-06-02	Pending [0%]	0.00	0	0.00	0

		Treasurer							
Details	The purchase and installation of the new condenser at the arena will be completed in the summer of 2014. Potential savings is currently been verified through the saveONenergy retrofit program.								