

Schedule “A” – Forming Part of By-Law Number 1045-2014

Town of Cochrane
Energy Management Plan
2014-01-01 to: 2018-12-31

Commitment

- **Declaration of Commitment:** We 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:** We will strive to reduce our energy consumption through the wise and efficient use of resources, while still maintaining an efficient and effective level of service for our citizens. This will involve a collaborative effort to increase the education, awareness, and understanding of energy management within the municipality. Total energy consumption includes electricity, natural gas, and oil. This vision can be achieved through integration of energy efficient facility infrastructure, operational efficiencies, and building the foundation for a culture of energy awareness and knowledge within the municipality.
- **Policy:** The Town of Cochrane 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:** 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:** We will make all reasonable effort to reduce our overall municipal energy consumption (from all facilities and streetlights) by 8% from 2011 baseline data, over the next five years.
- **Objectives:** The Town of Cochrane has the following strategic objectives:
 1. Demonstrate leadership within the Corporation and community via the commitment to energy management
 2. Improve the energy efficiencies of our facilities by utilizing best practices and new technologies to reduce our operating costs, energy consumption and greenhouse gas emissions
 3. Create a culture of conservation
 4. Strengthen partnerships with external stakeholders such as electric and gas utilities.
 5. Identify and seize renewable energy generation opportunities.

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. It is essential for the Municipality 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, 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:

- THREATS
 - Energy costs continue to increase and are forecast to increase further
- WEAKNESSES
 - Internal reporting has historically been limited to total annual costs, instead of units, unit costs and trends.
 - Facilities have been subject to conventional metering, thus limited opportunity to monitor and assess timing of usage
- STRENGTHS
 - Over the past few years, departments and staff have developed an increased awareness of energy management and conservation and are eager to identify and implement energy management initiatives.
 - The Town of Cochrane has already pursued many measures to improve the energy efficiency of municipal equipment. For example we have participated in the Ontario Power Authorities (OPA's) "Small Business Lighting" at a number of facilities, and the OPA's Process and Systems funding program to obtain an energy audit at the wastewater plant. We have also engaged in a streetlight LED retro fit project and a major lighting retro fit project at the recreation centre is underway as well.
- OPPORTUNITIES
 - Over the past year the Town of Cochrane has performed energy audits on two of its major energy consuming facilities.
 - The Town of Cochrane is reporting monthly facility consumption to its departments on a quarterly basis and is monitoring seasonal trends
 - Smart meters have recently been installed at our major energy consuming facilities allowing us to monitor and assess hourly usage patterns.
 -

- 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 (Finance), and department managers (operations and maintenance).

- Energy Data Management - Our municipal energy data is managed through Corporate Services (Finance) and until last year was booked as a total cost measure only. In 2013, monthly consumption data is being logged in a spreadsheet and communicated quarterly to the departments.
- Energy Supply Management - Our municipal energy is supplied as follows: Electricity - Northern Ontario Wires Inc. or Hydro One, depending on location Natural Gas - Union Gas
- Energy Procurement - The Town of Cochrane has been procuring its energy through Local Authority Services for the past number of years.

- Renewable Energy Utilized or Planned: The Town of Cochrane fully supports the development of renewable energy systems and has endeavored over the last few years to participate in the FIT/micro FIT programs. However grid capacity constraints have put two planned rooftop FIT projects on the backburner. Furthermore recent changes to Micro-FIT rates have made two planned rooftop Micro-FIT Projects less feasible. With the rise in electricity prices, it is expected that renewable energy generation will be both economically and socially justifiable in 2016. Renewable energy generation projects will be selected based on overall benefit to the municipality.

Planning

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, preventative maintenance plans, environmental management plan, and the overall asset management plan.

Structure Planning

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

- **Consideration of energy efficiency for all projects:** We will incorporate life cycle cost analysis into the design procedures for all capital projects as well as procurement decisions for equipment and other municipal assets. Life cycle cost analysis is a technique to assess environmental impacts associated with all the stages of a product's life from cradle to grave. This requirement will also be extended to contracted entities.

Resources Planning

- **Energy Leader:** The Director of Corporate Services has been designated the energy leader with overall responsibility for corporate energy management.

- **Energy Team:** The designated energy leader is actively working with all department managers in developing and driving the plan. The energy team will ultimately be expanded to include all employees in driving an energy conservation culture, seeking ideas and feedback and providing training as required.

- **External Consultants and Suppliers:** We will assess the need and suitability of external consultants and partners in the development and implementation of this plan. Our energy goals and objectives will play a major factor in our selection of external consultants. They will furthermore be an integral part of our procurement process.

Procurement Planning

- **Energy Purchasing:** We will continue to utilize and assess the use of purchasing groups and/or cooperatives to procure diesel, gas, natural gas and electricity.

- **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

- **Building Standards:** The Town of Cochrane will incorporate energy performance factors into the design and/or acquisition of new buildings. The use principles embedded in performance standards such as LEED and the Model National Energy Code for Buildings which provide a framework for constructing green/energy efficient buildings will be a key measure.

Investment Planning

- Internal Funding Sources:

- 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)
- Budgetary resources for energy projects - Energy projects will be integrated into our capital planning and budget development procedures.

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:** The first step in implementing an energy management program is the completion of energy audits for our facilities. The Town of Cochrane is well underway in this regards and we will continue to work with utilities, affiliates and any other outside agencies that may provide assistance. Staff will commit to re-examine key facilities on a regular basis, assessing technological change and available resources.

Evaluation

Review

- **Energy Plan Review:** The results of our energy management plan will be evaluated by monitoring our progress towards our targeted performance, and by reporting the findings to Council. Our evaluation will include a review and update of the energy plan as necessary but at least every 5 years as required by the provincial regulation.

Evaluation Progress

- **Energy Consumption:** Provincial reporting - Staff will ensure that accurate and timely reporting occurs and the municipality complies with the provincial reporting requirements. Council reporting - Annual Energy Performance summary reports will be generated to apprise Council of the progress made towards our energy goals and objectives.

Programs

Description	Facility	Contact	Date	Status
Employee Awareness, Education and Engagement	ALL	Monika Malherbe, Director of Corporate Services	2014-11-01	Pending
Details	Use of visual displays to remind staff to turn off lights, thermostats and appliances when not in use. Employees will be encouraged to submit ideas for process improvements or projects that will reduce both corporate and personal energy consumption. Information related to the municipal conservation initiatives will be communicated periodically to staff and posted where appropriate.			
Managers Awareness, Education and Engagement	ALL	Monika Malherbe, Director of Corporate Services	2014-07-01	Active
Details	Energy consumption reports, showing monthly energy usage is distributed to directors and managers on a quarterly basis. More detailed consumption reports will be provided and analyzed periodically for Time of Use considerations and shifting of load potential. Department managers will be encouraged to seek out energy conservation initiatives and materials and best practices information will be shared to educate and inform managers of energy conservation opportunities. Energy discussions will regularly be on the agenda for senior level manager meetings.			
Energy Plan Driver	ALL	Monika Malherbe, Director of Corporate Services	2014-07-01	Active
Details	The Director of Corporate Services has been designated the lead for energy efficient municipal initiatives and is responsible for instilling a culture of energy conservation within the workplace, developing strategies and monitoring progress.			

Processes

Description	Facility	Contact	Start	End	Status	Cost	Save (ekWh/yr)	Save (\$)	ROI
Integrate Life Cycle Costing into Procurement Process	ALL	Monika Malherbe, Director of Corporate Services	2015-01-01	2015-01-01	Pending [0%]	0.00	0	0.00	0
Details	Incorporate Life Cycle Costing into Procurement Policy and related processes.								
Commodity Procurement	ALL	Monika Malherbe, Director of Corporate Services	2014-01-01	2018-12-31	Active [90%]	0.00	0	0.00	0
Details	The Town of Cochrane has been hedging its gas and electric costs by participating in the Local Authority Services (LAS) procurement program for a number of years, and will continue to do so. Fleet fuel consumption is competitively procured as well.								
Reporting	ALL	Monika Malherbe, Director of Corporate Services	2014-01-01	2018-12-31	Active [50%]	0.00	0	0.00	0
Details	Energy consumption reports will be distributed to department managers quarterly. This reporting will be enhanced to include time of use information with the recent install of smart meters in a number of facilities.								
Energy Audits	ALL	Monika Malherbe, Director of Corporate Services	2014-01-01	2016-07-01	Active [50%]	0.00	0	0.00	0
Details	Energy Audits have been performed or will be performed on our corporate facilities. 2013 - Tim Horton Event Centre 2014 - Wastewater Plant Optimization Study/Energy Audit Other facilities to be scheduled								

Projects

Description	Facility	Contact	Start	End	Status	Cost	Save (ekWh/yr)	Save (\$)	ROI
Energy Audits	ALL	Monika Malherbe, Director of Corporate Services	2014-01-01	2015-07-01	Active [50%]	0.00	0	0.00	0
Details	The Town of Cochrane will perform or obtain Energy Audits on all of its facilities. To date the following facilities have been audited and/or are in the process of being audited - Tim Horton Event Centre (Main recreation building - Arena, Pool, Fitness, Hall) Energy Audit performed via LAS in 2013 and key recommendations form a number of the projects listed in this plan - Wastewater Treatment Plant - Energy Audit of this facility, funded through the OPA, was awarded in early 2014 and is in progress.								
Arena Lighting Upgrade	THEC - Tim Horton Event Centre	Monika Malherbe, Director of Corporate Services	2014-06-01	2014-09-30	Active [5%]	45000.00	42000	5482.00	5
Details	The energy audit of the THEC facility (Tim Horton Event Centre) identified lighting upgrades as a key energy efficient upgrade. In May 2014 the municipality issued an RFP for the conversion of the existing (18) MH 1000W lights to LED technology fixtures. This project was included in the 2014 budget.								
Pool Lighting Upgrade	THEC - Tim Horton Event Centre	Monika Malherbe, Director of Corporate Services	2014-06-01	2014-09-30	Active [5%]	40000.00	13500	1750.00	10
Details	The energy audit of the THEC facility (Tim Horton Event Centre) identified lighting upgrades as a key energy efficient upgrade. In May 2014 the municipality issued an RFP for the conversion of the existing (21) HPS/MH 250W lights to LED technology fixtures. This project was included in the 2014 budget.								
Convert Streetlights to LED	Streetlights	Monika Malherbe, Director of Corporate Services	2014-01-01	2014-09-30	Active [25%]	300000.00	230842	45000.00	6
Details	The municipality is converting all of its streetlights to energy efficient LED's.								
Small Business Lighting Program	ALL	Monika Malherbe, Director of Corporate Services	2014-01-01	2016-01-01	Active [25%]	0.00	0	0.00	0
Details	Participate where applicable in the OPA's small business lighting program. While the municipality has participated in this program for a number of facilities, there may be a few where the opportunity was missed.								
Enhance Building Envelope	ALL	Monika Malherbe, Director of Corporate Services	2016-01-01	2016-12-31	Pending [0%]	0.00	0	0.00	0

Details	Audit facilities for opportunity to improve caulking, weather stripping and insulation, possibly windows and doors replacements.
----------------	--