

Energy Management Plan

County of Bruce

From: 2019-01-01 to: 2023-12-31

Commitment

- **Declaration of Commitment:** Council Resolution: 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 exercise stewardship in our use of finite energy resources to demonstrate leadership, optimize our delivery of services, and enhance the overall quality of life in our communities.
- **Goals:** To continuously improve the energy efficiency of our facilities and processes to reduce our operating costs, our energy consumption and the concomitant greenhouse gas emissions.
- **Overall Target:** To study, and implement when cost-effective, all proposed energy savings projects listed in the County's most recent Five Year ECDM Plan.
- **Objectives:** Examine new capital project plans for opportunities to improve energy efficiencies.

Organizational Understanding

- **Summary of Current Energy Consumption, Cost and GHGs:** Total annual greenhouse gas emissions (kgs.) for the period 2011-2020 for County owned buildings are as follows; 516,000, 408,000, 462,000, 440,051, 422,222, 391,536, 389,536, 389,410, 458,282, 432,477 and 389,803. respectively.
- **Renewable Energy Utilized or Planned:** The County of Bruce aspires to show leadership in the promotion and development of renewable energy systems which is proven by our projects and results identified in the first 5-year EDCM Plan 2014-01-01 to 2018-12-31.

Strategic Planning

- **Links with other municipal plans:** We will strive to coordinate the energy management plan with the County's budget planning process, preventative maintenance plans and the overall asset management plan.

Structure Planning

- **Staffing requirements and duties:** We will incorporate energy efficiency into standard operating procedures and the knowledge requirements for operational jobs.

- **Consideration of energy efficiency for all projects:** The intent is to make Energy Conservation and Demand Management (ECDM) part of the County's normal course of business for all facility and operational retrofits, including capital renewal and life cycle replacements projects. Success means incorporating ECDM 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. Projects will continue to be managed by the department that carries responsibility for operating and maintaining existing or original equipment.

Resources Planning

- **Energy Leader:** Each Department Head is responsible for the energy management of his/her facilities.

- **Energy Team:**

- **Energy Training:**

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:** In order to sustain a corporate culture of conservation, staff must be engaged in an effective awareness and education program. Although facilities staff have the lead responsibility in ensuring County facilities operate efficiently, all County employees 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 County 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. Another important component of an energy management program is the re-commissioning of County facilities. Over the life cycle of a facility, the mechanical building automation and distribution systems are adjusted from day-to-day to suit user room temperature requirements. Moreover, mechanical distribution or building controls instrumentation is sometime over-looked when renovations take place. Re-commissioning involves examining the original mechanical design and operating specification against any building renovations and re-calibrates the settings to suit today's energy efficient standard practices. It also ensures that mechanical operating practices are current and appropriate to maximize building system efficiencies. The use of renewable energy measures can also help reduce overall corporate greenhouse gas emissions by lessening our demand for fossil fuel generated energy (oil, gas or coal). The investment for these types of measures can be significantly greater than conservation initiatives and therefore, should be considered on a case-by-case basis through a cost and environmental benefits analysis.

Review

- **Energy Plan Review:** We will review and evaluate our ECDM plan annually, revising and updating it as necessary within our corporate planning process.



COUNTY OF BRUCE

Energy Conservation & Demand Management Plan

January 1, 2019 to December 31, 2023

Description	Facility	Contact	Start	End	Status	Cost	Save (ekWh/yr)	Save (\$)	ROI	Details
Retrofit Exit signs with LED lights	Court house	Environmental Services Manager	2019-05-01	2019-12-31	Completed (100%)	\$300	0	0	0.00	Replace existing lights in exit signs with more energy efficient LED lights
Lighting Retrofit	Court House	Environmental Services Manager	2019-07-01	2019-12-31	Completed (100%)	\$20,000	0	0	0.00	Retrofit fluorescent tubes T8's 32w bulbs with LED's> Include available incentives from Westario Power in costing. Rebate approx.. \$1,000
Controls Installation	Court House	Environmental Services Manager	2019-01-01	2019-06-28	Completed (100%)	\$12,790	0	0.00	0	Changing controls on hot water heating system. Installation of the controls reduces water temperatures based on outside air temperatures within the heating system. Review in 2020 Union Gas invoices for savings.
Standby Generator	Lucknow Patrol Garage	Operations Manager	2019-01-01	2020-12-31	Completed (100%)	\$50,000	0	0.00	0	Install a back-up generator. Require electrical engineer to develop specs. Provides owners with a means of emergency support during blackout events. Investigate incentive or rebate prior to installation.
Install Occupancy Sensors	Paisley Patrol Garage	Operations Manager	2020-01-01	2021-12--31	Pending (0%)	\$1,200	0	0.00	0	Install occupancy sensors in common rooms. Apply for incentives.
Retrofit Lighting	Paisley Patrol Garage	Operations Manager	2020-01-01	2021-12-31	Pending (0%)	\$4,000	0	0.00	0	Upgrade Exterior Lighting (HID flood lights, cobra head fixtures) to LED technology. Apply for incentives.
Install Occupancy Sensors	Walkerton Patrol Garage	Operations Manager	2020-01-01	2021-12-31	Pending (0%)	\$1,500	0	0.00	0	Install occupancy sensors in common rooms. Apply for incentives.
Retrofit Lighting	Walkerton Patrol Garage	Operations Manager	2020-01-01	2021-12-31	Pending (0%)	\$6,000	0	0.00	0	Upgrade exterior lighting (HID wall packs and flood lights) to LED technology. Apply for incentives.

Description	Facility	Contact	Start	End	Status	Cost	Save (ekWh/yr)	Save (\$)	ROI	Details
Fuel Management Program	Lucknow Patrol Garage	Operations Manager	2019-09-01	2019-12-31	Pending (100%)	\$18,000	0	0.00	0	Add Lucknow Patrol Shop to the Fuel Master Management Program to help better understand fuel usage. Lucknow will be the last shop to be added.
Appliance Upgrade	Paisley Patrol Garage	Operations Manager	2019-07-01	2019-12-31	Pending (0%)	\$1,500	0	1,400	1	Replace fridge with energy star unit.
Carpet Replacement	Court House	Environmental Services Manager	2019-09-01	2019-12-31	Pending (0%)	\$7,500	0	0.00	0	Replace with Interface carpet tiles. All interface modular carpet sold in NA is third party verified climate neutral cool carpet. Cool Carpet zeros out all GHG emissions associated with the entire lifecycle of the carpet. 1,100 sqf.
Carpet Replacement	Administration Building	Environmental Services Manager	2019-09-01	2019-12-31	Pending (0%)	\$33,500	0	0.00	0	Replace with Interface carpet tiles. All interface modular carpet sold in NA is third party verified climate neutral cool carpet. Cool Carpet zeros out all GHG emissions associated with the entire lifecycle of the carpet. 3,500 sqf.
Backup Generator	Bruce County Museum	Museum Maintenance Supervisor	2020-01-01	2021-12-31	In-Progress (0%)	\$50,000	0	0.00	0	The BCM&CC has been identified as the alternate Emergency Operations Centre.
EV Charging Station	Bruce County Museum	Museum Maintenance Supervisor	2020-12-01	2021-12-31	Completed (100%)	0.00	0	0.00	0	This will be a single station that can supply two cars at a time. Encouraging and enabling the use of hybrid and electric vehicles helps to reduce and/or eliminate greenhouse gas emissions linked to global warming. There is no savings expected for this measure. Identified as a project for the Federal Gas Tax funding – one time top up.
EV Charging Station	Wiaraton Peninsula Hub	Purchasing Manager	2019-07-01	2019-12-31	Completed (100%)	\$25,000	0	0.00	0	This will be a single station that can supply two cars at a time. Encouraging and enabling the use of hybrid and electric vehicles helps to reduce and/or eliminate greenhouse gas emissions linked to global warming. There is no saving expected for this measure.

Description	Facility	Contact	Start	End	Status	Cost	Save (ekWh/yr)	Save (\$)	ROI	Details
EV Charging Stations	Kincardine Penetangore Hub	Purchasing Manager	2022-01-01	2022-12-31	Completed (100%)	\$25,000	0	0.00	0	This will be two single stations that can supply two cars at a time. Encouraging and enabling the use of hybrid and electric vehicles helps to reduce and/or eliminate greenhouse gas emissions linked to global warming. There is no saving expected for this measure.