



Staff Report

Infrastructure and Public Works

Report To: Committee of the Whole
Meeting Date: February 4, 2019
Report Number: CSPW.19.014
Subject: Corporate Energy Conservation and Demand Management Plan
Prepared by: Jeffery Fletcher, Manager of Solid Waste and Special Projects

A. Recommendations

THAT Council receive Staff Report CSPW.19.014, entitled "Corporate Energy Conservation and Demand Management Plan" for their information.

B. Overview

The Town is required by provincial regulation to update the corporate Energy Conservation and Demand Management Plan (ECDM Plan) every five years. The corporate targets will use a baseline from 2005 and targets established in the 2010 Sustainable Path and as follows: a 40% reduction in Greenhouse Gas (GHG) from 2005 emissions by 2025 and carbon neutrality by 2050.

C. Background

The Green Energy Act created a regulation in 2011 that required municipalities to track annually facility energy use, develop an energy conservation plan and update the plan every five years. The Green Energy Act has been repealed by the Province however the regulation requiring tracking and planning has been moved to regulation 507/18 as part of the Electricity Act.

The Town conducted a corporate and community wide GHG emissions audit in 2007 which focused on energy use and other activities as a basis for quantifying emissions. The final report established a baseline for corporate emissions related to Town operations. The final report also forecasted 2016 emissions in a business as usual projection and established a goal of reducing emissions to 20% below 2005 levels by 2016.

In response to the requirements of the Green Energy Act, Town Staff developed a Corporate ECDM Plan in 2014. Attachment #1 is a list of proposed conservation opportunities developed for the 2014 ECDM Plan. All of the projects in the attached list have been completed or completed in-part since that time. The 2019 ECDM Plan will review the status of the conservation opportunities and programs in further detail and propose new opportunities and programs.

Updating this ECDM Plan will provide an opportunity to re-evaluate the status of corporate emissions and understand how corporate emissions have changed compared to the original baseline, as well as provide a short-term and long-term business-as-usual forecast, with and without planned energy reduction initiatives, in order to compare to corporate targets.

A request for proposal was issued late in 2018 and a consultant has been retained by the Town to assist with completing an update to the Town's 2014 ECDM Plan.

D. Analysis

In 2007 GHG reduction targets were proposed based on the corporate and community emissions audit. These targets were adopted by the Community Sustainability Plan and included in the 2010 Sustainable Path Document. In 2005 the Town's corporate operations produced an estimated emissions of 2098 tonnes of carbon dioxide equivalents (CO₂e). A target of 20% below that was set for 2016 or reducing emissions to 1678 tonnes CO₂e. The 2019 ECDM Plan project will conduct an overview of the Town's emissions related to that target and future targets.

The ECDM Plan will also summarize the conservation and emission reduction initiatives the Town has taken since the initial ECDM Plan. The plan development will use this information to inform the workshop participants made up of Town Staff. Other outcomes of the ECDM planning process will included the following:

- Review of leading municipal actions;
- Model energy and emissions to project future emissions and develop strategies;
- Identify 2 specific business cases for reductions in Town owned facilities that could be implemented in the next 5 years and funding opportunities;
- Use feedback gained in the workshops to outline a communications strategy; and
- Include recommendations and findings in a final report.

Next Steps

During January and February visioning, action planning and plan review workshops will be held with Town Staff. A draft corporate ECDM Plan will be presented to Council and the public for review and feed-back and a final report will be presented to Council for approval and adoption this spring or early summer.

E. The Blue Mountains Strategic Plan

Energy reduction goals can assist in guiding how municipal facilities are renovated or developed, this work relates to the Town strategies as outlined below:

- Goal #5: Ensure Our Infrastructure is Sustainable
Objective #1 Develop a Long-Term Asset Management Plan for the Maintenance, Renewal
 and Replacement of Existing Infrastructure

F. Environmental Impacts

Developing a plan to reduce energy use and switch to more passive facility design and redevelopment will offer a local contribution to global climate change mitigation by reducing GHG emissions.

G. Financial Impact

This is an approved 2018 capital budget project totaling \$34,983. Costs for this work will be supported by a 2018 rollover and there is no 2019 budget impact at this time.

H. In Consultation With

None

I. Public Engagement

The topic of this Staff Report has not been subject to a Public Meeting and/or a Public Information Centre as neither a Public Meeting nor a Public Information Centre are required. Comments regarding this report should be submitted to Jeffery Fletcher, managersolidwaste@thebluemountains.ca

J. Attached

- 1) Summary of Energy Conservation Opportunities, The Blue Mountains EDMP 2014

Respectfully submitted,

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Table 14 Summary of Energy Conservation Opportunities

Project #	Facility / Operation	Energy Conservation Opportunity Description	Estimated Savings (ekWh/year)	Estimated Project Cost	Estimated Operational Savings (annual)	Simple Payback Period (Years)	Year of Implementation
1	L.E. Shore Memorial Library	Lighting Retrofit	34,412	\$20,000	\$4,129	4.8	2014
2		HVAC Replacement & Thermostat Upgrades	Unknown	Unknown	Unknown	Unknown	2018
3	Beaver Valley Community Centre	Compressor Replacement	3,900	\$3,795	\$870	4.4	2013
4		Implement radiant heating seating policy	6,570	\$0	\$160	0.0	2013
5		Implement Water Conservation Initiatives	Unknown	Unknown	Unknown	Unknown	2014
6		Install Occupancy Sensors /LED Exit Signage	4,947	\$1,280	\$627	2.0	2015
7		Replace Domestic Hot Water Boiler	83,259	\$10,000	\$2,015	5.0	2017
8		Upgrade Air Handling Heating System	41,320	\$10,000	\$1,000	10.0	2017
9		Investigate Additional Energy Conservation Opportunities	Unknown	Unknown	Unknown	Unknown	2014
10	Thornbury Water Treatment Plant	Replacement of High Lift Pumps	114,700	\$88,700	\$13,750	6.5	2014
11		Upgrade Facility Heating System	42,353	\$12,000	\$1,070	11.2	2016
12	Ravenna Works Yard	Investigate Geothermal Heating Installation	Unknown	Unknown	Unknown	Unknown	2014
13	Craigeith Waste Water Treatment Plant	Update Facility Lighting, Exit Signage & Install Occupancy Sensors	8,225	\$4,325	\$985	4.4	2014
14	Street Lighting	Conversion to LED lights and fixtures	477,000	\$455,000	\$108,517	4.2	2014
15	Town Infrastructure	Investigate Renewable Energy Generation Initiative	Unknown	Unknown	Unknown	Unknown	2015
Total:			816,686	\$605,100	\$133,123	4.5	

Table 15 Summary of Energy Plan Management Programs

EMP section	Program Name / Initiative	Description	Objective	Measurement of Success	Year of Implementation
4.1.1	Endorse Energy Management Plan and Conservation Targets	Establishes conservation targets for the Town	To establish a formal corporate commitment to energy management	Council endorsement	2014
4.1.2	Energy Monitoring and Reporting Program	Establishes a reporting framework for energy management for Staff and Council	Improve awareness among Staff and Council and improve access to usage data for facility managers and Staff.	Circulation of annual and semi-annual reports to Staff and Council	2015
4.1.3	Energy Reserve Fund	A reserve fund that is dedicated to implementing energy conservation and efficiency projects	Enhance financial resources available to Staff for planning and implementing energy efficiency measures	Council endorse bylaw establishing reserve	2015
4.1.4	Staff Energy Efficiency Incentive & Rewards Program	A program that engages and celebrates energy conservation action within the workplace	Promote behavioural change to embrace energy conservation at work	Increase in Staff participation in events year-over-year	2015
4.1.5	Investigate Bulk / Collaborative Procurement of Natural Gas	Determine benefit of natural gas bulk purchasing	Reduce cost of natural gas.	Reduced natural gas cost.	2014
4.1.6	Demand Response	Enroll key Town facilities in a demand response program	Benefit financially from a grid demand programs	Receive cash payments for demand response	2014