

Strategic Energy Management Plan, Municipal Energy Manager Update**Report Purpose**

To update Council on the status of the Facility Service's Strategic Energy Management Plan and support received from the Municipal Climate Change Action Centre for the Municipal Energy Manager program. To obtain Council's direction on establishing a Green House Gas reduction target for municipal buildings.

Recommendation

THAT a Green House Gas (GHG) target of achieving a 15% decrease from 2018 levels by 2030 for municipal buildings be approved.

Our Prioritized Strategic Goals

Goal 1 - Build strong communities to support the diverse needs of residents

Goal 2 - Manage, invest and plan for sustainable municipal infrastructure

Goal 4 - Ensure effective stewardship of water, land, air and energy resources

Report

A Strategic Energy Management Plan (SEMP) has been created to establish leadership for achieving operational efficiencies, energy efficiency improvement targets and to create a framework to identify and implement energy improvement opportunities for municipal buildings. The SEMP will:

- Demonstrate leadership – Communicate commitment for GHG reduction through establishing objectives and targets for GHG reductions for the municipal buildings and the municipal services they support.
- Take stewardship of the Environment – Identify and take action on increasing our energy efficiency for municipal infrastructure.
- Establish energy savings opportunities – Audit facilities to identify opportunities, budget estimates and priorities.
- Create a culture of continuous improvement – Develop measurement and reporting practises to ensure a continuous improvement culture is developed for energy management.

Following the SEMP framework, Facility Services has identified over 130 energy improvement opportunities through the completion of 14 major facility energy audits. Several of the recommendations have been completed over the last year. With a significant number of energy improvement opportunities, Administration would like to obtain Council's direction on Green House Gas reduction targets, that will aid in the establishing the investments required over time to achieve the targets.

During the course of implementing the SEMP, a resource capacity issue was identified where Facility Services was falling behind the anticipated timeline for completing actions identified in the SEMP. As a result, Facility Services and Utilities have joined forces and obtained funding under the Municipal Climate Change Action Centre's (MCCAC) Municipal Energy Managers (MEM) program. Under the MEM program, MCCAC is providing 80% of the annual salary for a trained energy manager to work for a municipality for up to two years to fully implement energy improvements and GHG reduction measures for municipal buildings.

The Municipal Energy Manager program is an organization-wide initiative that looks at the energy usage across all departments. The MEM Program will engage all departments, beginning with Facility Services, Utilities, Recreation, Parks and Culture, Transportation, Agriculture Services, and Fleet Services to participate in the program.

Through the department participation, the MEM will develop corporate-wide GHG inventory, identify energy use, build benchmarks, find energy saving opportunities, communicate updates and results, as well as build out the SEMP to develop a five-year Corporate Strategic Energy Management Plan that includes targets, strategies, opportunities, and schedule.

By working together with the sustainability task force, both the SEMP and the MEM programs are included in the updated Environmental Sustainability Framework (ESF). As such, both programs are identified as innovative practices, supportive plans, and strategic initiatives that will assist the task force in accomplishing the ESF action items.

Facility Services has the largest portfolio of energy consumption and have also begun to develop a Strategic Energy Management Plan which includes various energy audits and assessments. From these audits, we have developed a target and a list of opportunities to meet that target. The MEM will begin by implementing the identified opportunities to reach a target within Facility Services. The MEM will then expand the SEMP to include other departments by identifying their energy use and GHG emissions. The MEM will work with other department staff to identify energy saving opportunities and a target, then develop a plan to implement the opportunities and meet the target.

With the MEM position now in place, a review has been completed on 14 audited buildings to establish a recommendation on an achievable GHG reduction target and the investment required to achieve it.

Based on the review, a GHG reduction of 15% over the 2018 GHG emissions created by municipal facility operations, is achievable by 2030.

The establishment of the GHG reduction target will guide Administration on establishing project priorities and funding requirements for each budget year in order to achieve the target.

From the audits completed, an investment of \$9.1M spread over the next ten years would be required to implement the identified energy efficiency projects.

When complete, these energy efficiency projects will create an estimated \$480,000 in annual energy savings based on 2020 energy costs. As the program grows to include other departments, energy saving activities will be identified and pursued to reach a similar target.

With this target we have taken into consideration several implementation timeline options to reach the 15% reduction as follows:

- 5-year timeline: would require \$1.82M in annual investment to achieve the desired reduction
- 10-year timeline: would require \$910,000 in annual investment to achieve the 15% reduction target

- 15-year investment. Would require \$600,000 in annual investment to achieve the 15% reduction target

Based on the resource capacity and improvement opportunities and the benefits realized from the investments, Administration is recommending a GHG target reduction of 15% from the 2018 GHG emission levels for municipal buildings by 2030.

Funding for the energy efficiency projects will come from alignment with operational maintenance and life cycle projects, available grant funding and approved capital funding. Energy efficiency projects will be included in the annual budget process to create transparency on project priorities and funding sources.

Council and Committee History

February 21, 2017	Council directed Administration to provide a report that addresses factors that could be considered in determining whether an alternative energy investment is warranted. Council motion approved. Council/Committee approval.
September 18, 2018	That Executive Team provide direction on implementing the SEMP recommendations and to provide direction as how best to present the recommendations to Council.
October 22, 2018	To update Council on the Strategic Energy Management Plan (SEMP) and the Municipal Energy Manager (MEM). A comprehensive energy management plan will assist the organization and the community to achieve our goals of being sustainable by demonstrating leadership and creating a healthy environment for future generations.

Other Impacts

Policy: SER-004-006 Municipal Sustainable Buildings

Legislative/Legal: n/a

Interdepartmental: Facility Services, Utilities

Master Plan/Framework: MCACC – Municipal Climate Change Action Centre, Sustainability Framework Task Force, Asset Management Framework, Environmental Sustainability Framework

Enclosure

1	Strategic Energy Management Plan and Municipal Energy Manager Update
---	--