



To: **Committee of the Whole**

Agenda Section: Performance Management
Division: Corporate Performance
Department: Procurement, Fleet & Property

Item Number: CCW - 2021 - 178

Meeting Date: June 8, 2021

Subject: Sustainable Operations Program – Summer 2021 Update

Recommendation

That Item CCW 2021-178, dated June 8, 2021, regarding an update on the Sustainable Operations Program, be received; and

That the 2019 Energy Consumption and Greenhouse Gas Emissions Report, substantively in the form attached as Schedule 2 to Item CCW 2021-178, be approved; and

That the report be posted to the County's website in compliance with Electricity Act requirements, specifically Ontario Regulation 507/18.

Executive Summary

There are two parts to this report and the purposes are as follows:

- To provide an update on the progress of the County's Sustainable Operations Program and the corresponding activities undertaken by staff (Schedule 1).
- To acquire Council's approval of the 2019 Energy Consumption and Greenhouse Gas Emissions Report that will be posted on the County's website effective July 1, 2021 in compliance with Electricity Act requirements, Ontario Regulation 507/18 (Schedule 2).

Background/Analysis/Options

Staff is pleased to provide an update to Council on compliance with the Electricity Act and the continued progress on additional objectives of the Sustainable Operations Program

(Schedule 1), in particular the activity undertaken to adhere to the County's Corporate Conservation and Energy Management Plans (CCEMP), approved by Council in 2019.

The CCEMP, once mandated by O. Reg. 397/11 and now mandated by O. Reg. 507/18, established the County's 5-year strategic plan to manage and conserve energy. The 2014 CCEMP provided the Corporation with a baseline to move forward on implementing improvements to its operations, facilities, and culture that reduce electricity and gas consumption, the associated costs and the negative environmental effects of the Corporation's energy consumption. As required by the Electricity Act, the CCEMP was updated and approved by Council in 2019, and outlined a new 5-year plan for energy conservation and demand management opportunities, projects and initiatives.

Reporting Requirements of the Electricity Act

Regulation 507/18 under the Electricity Act, *Broader Public Sector: Energy Reporting and Conservation and Demand Management Plans*, requires public agencies to:

- Prepare, publish, make available to the public, and implement Energy Conservation and Demand Management Plans every five years, and
- Prepare, publish, and submit to the Ministry a 2018 Energy Consumption and Greenhouse Gas Report on or before July 1, 2021, and every year thereafter.

This regulation impacts broader public services including municipalities, municipal service boards, post-secondary educational institutions, public hospitals, and school boards. The municipal facilities that must be reported are as follows and, currently do not include social housing units, long-term care, or waste diversion facilities. Although the regulation no longer requires reporting for long-term care, the County has historically reported on its long-term care facilities and will continue to do so on a voluntary basis.

Table 1: From O. Reg. 507/18: List of Municipal Operation Types to Report (Mandatory)

1.	Administrative offices and related facilities, including municipal council chambers.
2.	Public libraries.
3.	Cultural facilities, indoor recreational facilities and community centres, including art galleries, performing arts facilities, auditoriums, indoor sports arenas, indoor ice rinks, indoor swimming pools, gyms/indoor courts for playing tennis, basketball or other sports.
4.	Ambulance stations and associated offices and facilities.
5.	Fire stations and associated offices and facilities.
6.	Police stations and associated offices and facilities.
7.	Storage facilities where equipment or vehicles are maintained, repaired or stored.
8.	Buildings or facilities related to the treatment of water or sewage.
9.	Parking garages.

Over 300 corporate utility accounts generated over 2,717 invoices in 2019 that were reviewed and entered into the energy management software EnergyCAP to help analyze and understand our energy management opportunities. Additional energy and resource usage data – while not required for Provincial reporting – was collected including traffic and street lighting, water, waste water and fuel consumption, all in an effort

to understand the County's total energy usage and environmental impacts of related greenhouse gas emissions.

Annual Energy Consumption and Greenhouse Gas Emissions Report

Provincial regulation requires the County to complete an Energy Consumption and Greenhouse Gas Emission Report (Schedule 2). This report must be submitted annually to the Province prior to July 1, and must be posted on the County's internet and intranet sites. A summary of reported information is shown below in Table 2, including previous years' submissions for comparison.

Table 2: Total Energy Consumption and Greenhouse Gas Emissions for County of Simcoe – 2019

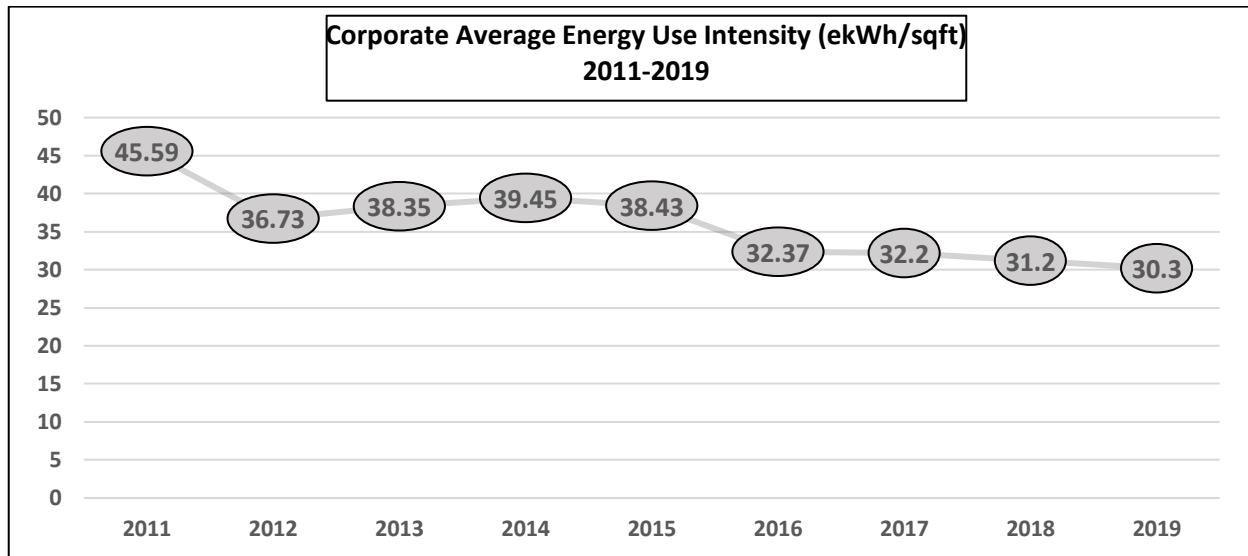
Year	Electricity (kWh)	Natural Gas (m3)	Greenhouse Gas Emissions (kg)	Total Applicable Square Footage	Average Energy Intensity (ekWh/sq ft)
2019	13,256,544	2,293,383	4,907,942	1,112,170	30.30
2018	14,258,022	2,461,488	5,264,072	1,105,179	31.20
2017	14,242,330	2,148,955	4,649,305	1,088,591	32.22
2016	14,594,439	2,148,904	4,739,212	1,074,131	32.37
2015	15,013,937	2,249,952	4,787,361	1,021,207	38.43

Energy Use Intensity Year-Over-Year

Energy use intensity (EUI) is a useful measure to understand a facility's energy use based on the square feet of 'applicable' floor space. For example, a storage garage that is not lit or heated would not be considered 'applicable' floor space, as the facility does not consume energy. Further to updates made in the 2020 Sustainable Operations report (CCW 2020-102), historical square footages for Transportation Maintenance garages, Long-Term Care facilities and Paramedic stations were verified to ensure all applicable building spaces are included in energy analysis and EUIs are comparable year-over-year.

The following graph (Figure 2) presents the County's annual energy usage intensity since 2011, showing an overall downward trend. The Sustainable Operations team is pleased to advise that the 2019 reporting period has been our most energy efficient year since the inception of the program. These milestones would not be possible without the support of County Council and the efforts of our green teams, County staff and volunteers.

Figure 2 – Corporate Average Energy Usage Intensity (ekWh/Sq ft) – 2011 to 2019



EUI values – as prescribed by Provincial legislation – are not normalized for weather and, therefore, abnormally warmer and cooler years can reflect a higher EUI value

***Increasing trends in EUI from 2013-15 were largely driven by cooler winters measured by heating degree days (HDDs). Overall decreasing trends in EUI were driven by: temperate winters; older, less efficient facilities being decommissioned (e.g. Creemore Roads Garage), and the success of energy efficiency projects.*

For the 2019 reporting year, the County’s total applicable square footage increased as a result of additional leased space at the Midland Ontario Works location, the new Creemore Roads Garage being brought online, and the move from the temporary Elmvale United Church location to the new Elmvale Paramedic & Day Out facility.

Even with an increase in applicable square footage, cool winter temperatures and heating degree-days between 2019 and 2020, natural gas usage decreased by 7.33%, and electricity usage decreased by 7.55%. This is further proof that our energy management strategies and green initiatives are working.

Trending positively is the County’s overall energy usage intensity, which has decreased by 3.1% between 2017 and 2018 and a further 3.0% between 2018 and 2019.

The County continues to pursue energy-saving measures in new construction and operations and is continuing its greenhouse gas inventory and climate action plan. These efforts will continue to have a positive impact on the County’s energy use and greenhouse gas emissions. The success of these environmental initiatives are attributed to Council support, departmental leadership, the County’s five Green Teams, and all County staff and volunteers for their commitment to sustainability.

Sustainable Operations Program Outcomes

Since the last annual program update in the form of Item CCW 2020-102 (June 2020), Sustainable Operations staff, the five Green Teams, and County staff have pursued energy- and resource-saving actions aligned with the goals and objectives outlined in the 2019 Corporate Conservation and Energy Management Plan.

Staff have been working cross-corporately to promote sustainable decision-making in a variety of project areas. Project highlights (expanded in Schedule 1) involving and supported by Sustainable Operations in 2020 include:

1. **Continuation of Progress in the Partners for Climate Protection Program.** Since joining the program in 2018, staff have gained a detailed understanding of the PCP program requirements, introduced the County's Green Teams to the PCP program, and engaged with key County departments to gather data to develop a corporate greenhouse gas inventory (Milestone 1). The pandemic has delayed our schedule in this regard however revised next steps include finalizing and presenting results of Milestone 1 in the fall of 2021, presenting draft emissions reductions targets in spring of 2022 (Milestone 2), and completing a draft local climate action plan by June of 2022 (Milestone 3).
2. **Sustainable Travel – Continued Operation of Level 3 Electric Vehicle Chargers and Installation of Level 2 Electric Vehicle Charging Stations.** The County continues to operate and maintain three publically-accessible electric vehicle charging stations. Locations include the County Museum, Stayner's Station Park, and at the Washago carpool lot. In 2020, these chargers provided 676 unique charging sessions over the three sites and generated \$4,123.74 of revenue from January 1st 2020 - December 31st 2020. The 676 charging sessions equate to 10,100.06 kg of carbon dioxide abated from entering our atmosphere.

In 2019, the County partnered with the Town of Collingwood, Town of Penetanguishene, Town of Innisfil (in partnership with INNterprises) and the Simcoe County District School Board, and were successful in receiving approval for \$220,000 in funding through NRCan for the installation and commissioning of 24, level-2 and 2, level-3 fast public charging stations. As the project lead, the Sustainable Operations team managed reporting for all participants and will oversee the distribution of funds provided by NRCan. As a participant, the County received funding for the installation of the four level 2 charging stations which have been installed at the Administration Centre and are currently available for use.
3. **Completion of Archives' Energy Efficiency Retrofit.** Since last reported in CCW 2020-102, the Archives retrofit project has completed upgrades for roofs on the 1979 and 1992 buildings. A new energy efficient air handling

unit has been installed on top of the 1992 building and insulation and cladding have been added to the west and south elevations of both buildings. The installation of the rooftop-photovoltaic system and final commissioning was completed in spring 2021. The County was successful in its application for \$585,730 in funding from the Federation of Canadian Municipalities for this project.

4. **Continuation of Cross-Corporate Energy Efficiency Initiatives.** A variety of energy efficiency projects were pursued across the corporation, including but not limited to the implementation of power generation systems, LED lighting upgrades; heating, cooling and ventilation projects, and building envelope upgrades to roofs, windows and doors. Properties include the Long Term Care facilities, Archives, Solid Waste Management facilities, Transportation Maintenance facilities and Social Housing facilities.
5. **Continuation of Support for Future Renewable Energy Opportunities at the County.** Solar PV systems continue to provide emissions-free electricity to the Ramara Transfer Station, the Forestry Interpretive Centre, the Administration Centre, and multiple Social Housing sites. The Creemore Transportation Maintenance Garage was constructed with a solar ready roof and the installation of a rooftop-photovoltaic system has been completed on the Archives building. Renewable energy opportunities continue to be a consideration during the design of large new facilities.
6. **Continuation of Efforts to Create a Culture of Sustainability at the County.** Communication efforts continued to promote sustainable behaviours through events including Earth Hour, Earth Day and Earth Week. Due to the global pandemic, Earth Day, Earth Hour and Earth Week promotions were limited to the advocacy of sustainable practices and awareness of behaviours that can promote the health of our planet. All events and information were posted via the Intranet, Facebook, Twitter and Instagram.
7. **Sustainable Operations Outreach and Networking.** Staff continue to develop and strengthen relationships with area municipalities and peer networks. In 2020, due to the County's focused response to COVID-19, quarterly conference calls with contacts at area municipalities throughout the County of Simcoe were suspended however, while adapting to the new virtual platforms, a number of agencies were able to collaborate and successfully obtain \$220,000 in funding from NRCan for the installation of new electric vehicle chargers as noted in in Item 2. Meetings with member municipalities will resume in 2021.
8. **Environmental Education with Staff.** Continued participation of educated, informed and passionate staff that understand their work environments the best have helped to generate many successful environmental campaigns to

streamline processes and save resources through the County's five Green Teams.

Financial and Resource Implications

There are no financial and resource implications associated with this Item.

Relationship to Corporate Strategic Plan

This Item is directly related to Strategic Direction D:

Environmental Sustainability: To preserve, conserve, and safe guard our environment and natural resources, while recognizing opportunity, innovation, and the needs of our community.

Reference Documents

- CCW 18-065 (February 2018) – 2017 Growth Plan Proposed Emissions Reduction Guidelines
- CCW 18-128 (April 2018) – Federation of Canadian Municipalities “Partners for Climate Protection” Program
- CCW 18-366 (June 2018) – 2018 Sustainable Operations Program Update
- CCW 2019-079 (February 2019) – A Made-In-Ontario Environment Plan
- CCW 2019-118 (June 2019) – 2019 Sustainable Operations Program Update
- CCW 2019-213 (May 2019) – Information on Bill 108, the Amended Growth Plan for the Greater Golden Horseshoe, 2019, and the Proposed Growth Plan Transition Regulation
- CCW 2019-299 – Municipalities for Climate Innovation Program - Archives
- CCW 2019-357 Sustainable Operations Program – Fall 2019 Update
- CCW 2020-068 – PCP Report – Update on PCP Program and Planning for Climate Action
- CCW 2020-102 Sustainable Operations Program - Summer 2020 Update

Attachments

Schedule 1 – 2020 Sustainable Operations Program Activity Detailed Summary

Schedule 2 – 2019 Energy Consumption and Greenhouse Gas Emissions Report

Schedule 3 – 2020 Green Teams Member Map

Prepared By Kyle Rous, Sustainable Operations Program Supervisor

Approvals

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Dawn Hipwell, Director, Procurement, Fleet and Property

Trevor Wilcox, General Manager, Corporate Performance

Mark Aitken, Chief Administrative Officer

Date

May 21, 2021

May 21, 2021

June 1, 2021

June 1, 2021