



To: **Committee of the Whole**

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

Item Number: **CCW - 2022 - 129**

Meeting Date: June 28, 2022

Subject: Sustainable Operations Program – Summer 2022 Update

Recommendation

That Item CCW 2022-129, dated June 14, 2022, regarding an update on the Sustainable Operations Program, be received; and

That the 2020 Energy Consumption and Greenhouse Gas Emissions Report, substantively in the form attached as Schedule 2 to Item CCW 2022-129, be approved; and

That the report be posted to the County's website, intranet site, and made available to the public in printed form at the Administration Centre in compliance with Electricity Act requirements, specifically Ontario Regulation 507/18.

Executive Summary

There are two parts to the subject Item 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 in 2021 (Schedule 1).
- To acquire Council's approval of the 2020 Energy Consumption and Greenhouse Gas Emissions Report, submission of the report to the Ministry on or before July 1, 2022, posting of the report on the County's website and intranet site, and making the report available to the public in printed form at the Administration Centre.

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.

In 2018, County Council endorsed the County of Simcoe joining the “Partners for Climate Protection” (PCP) program, administered by the Federation of Canadian Municipalities (FCM). The County joined a network of over 400 Canadian upper and lower tier municipalities and separated cities who have all publicly committed to reducing greenhouse gas emissions and implementing long-term strategies to mitigate and adapt to climate change impacts. The PCP program is composed of a five-step milestone framework to assist with action-planning:

- **Milestone 1 – Create a GHG emissions inventory and forecast**
- **Milestone 2 – Set an emissions reductions target**
- **Milestone 3 – Develop a local climate action plan**
- **Milestone 4 – Implement the action plan or set of activities**
- **Milestone 5 – Monitor progress and report results**

In the 2021 program year, staff completed Milestone 1, the greenhouse gas emissions (GHG) emissions inventory and forecast utilizing 2016 as the baseline year. Staff is pleased to inform Council that the International Council for Local Environmental Initiatives (ICLEI) and the Federation of Canadian Municipalities (FCM) have formally approved our Milestone 1 submission allowing us to move forward with Milestone 2, setting an emissions reduction target and Milestone 3, developing a local climate action plan.

Sustainable Operations staff are currently exploring the most efficient process for the completion of Milestone 2 and 3 that will involve the engagement of departments across the corporation in the creation of a robust corporate Climate Action Plan. Staff will report back to Council on this process.

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 an Energy Consumption and Greenhouse Gas Emissions Report on or before July 1 of each year.

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.

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 on or before July 1, and must be posted on the County's internet and intranet sites.

For the 2020 reporting period, over 145 corporate utility accounts generated more than 5000 invoices in 2020 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 water and wastewater all in an effort to understand the County's total utility usage and environmental impacts through corresponding greenhouse gas emissions.

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 – 2020

Year	Electricity (kWh)	Natural Gas (m3)	Greenhouse Gas Emissions (kg)	Total Applicable Square Footage	Average Energy Intensity (ekWh/sq ft)
2020	13,868,102	1,991,033	4,261,605	1,109,073	29.72
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

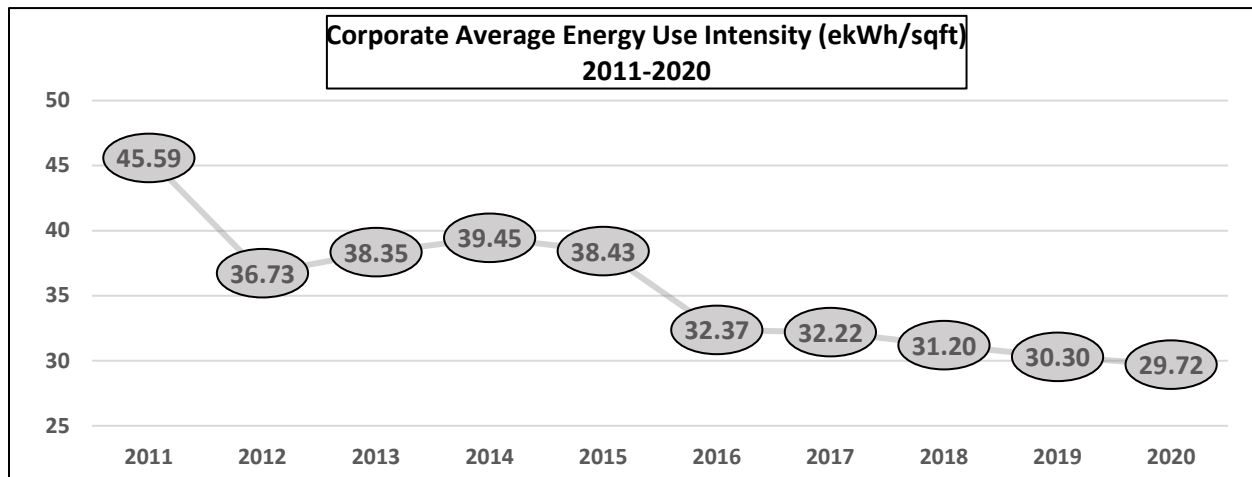
Energy use intensity (EUI) is a useful measure to understand a facility's energy use based on the square feet of 'applicable' floor space. For example, a storage garage that is not heated or cooled would not be considered 'applicable' floor space. The following graph (Figure 2) presents the County's annual energy usage intensity (EUI) since 2011, showing an overall downward trend.

As shown in Figure 1, the County has met and exceeded the stated 2014 goal of a

10% reduction in energy use intensity and, at the time of this report, has met its goal to further decrease energy use intensity by an additional 5% by 2021.

In addition to the COVID-19 pandemic contributing to a lower than usual commodity usage, the 2020 reporting period has been our most energy efficient year since the inception of the program for other reasons. Energy management strategies and sustainability initiatives continue to play a key role in our success.

Figure 1 – Corporate Average Energy Usage Intensity (ekWh/Sq ft) – 2011 to 2020



**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 2020 reporting year, the County's total applicable square footage decreased as a result of the Collingwood Ontario Works moving into the new Collingwood affordable housing location.*

Weather Impacts

Compiling weather data from various relevant weather stations, we can confirm that there was a decrease of heating degree days in the County of Simcoe by an average of 15.03% while there was an increase in cooling degree days by an average of 37.83% meaning our heating systems were used less frequently while our cooling systems were used more frequently in comparison to 2019. EnergyCAP utility data supports these claims as our natural gas (heating) usage decreased by 13.18%, while electricity (cooling) usage increased by 4.61%. The County continues to pursue energy-saving measures in new construction and operations.

All these efforts will continue to have a positive impact on the County's energy use and greenhouse gas emissions. Our success is attributed to Council support and departmental leadership to prioritize projects with environmental and fiscal benefits, to the five Green Teams, as well as to all County staff and their commitment to sustainability. A summary of 2021 Green Team projects, as well as a diagram of Green Team participants, are included in Schedules 1 and 3.

2021 Key Outcomes

Since the 2020 update (included in CCW 2021-178), 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 Corporate Conservation and Energy Management Plan.

Project highlights (expanded in Schedule 1) involving and supported by Sustainable Operations in 2021 include:

1. **Continuation of Progress in the Partners for Climate Protection Program.** As outlined above, staff have completed Milestone 1 of the PCP program and the International Council for Local Environmental Initiatives (ICLEI), and the Federation of Canadian Municipalities (FCM) have formally approved our Milestone 1 Baseline Inventory submission. Sustainable Operations staff are currently exploring the most efficient process for the completion of Milestone 2 and 3 that will involve the engagement of departments across the corporation in the creation of a robust corporate Climate Action Plan. Staff will report back to Council on this process.
2. **Sustainable Travel – Continued Operation of Level 3 Electric Vehicle Chargers and Installation of Level 2 Electric Vehicle Charging Stations.** In 2021, County of Simcoe chargers provided 840 unique charging sessions over the four sites and generated \$5,007.68 of revenue from January 1st, 2021 - December 31st 2021. The 840 charging sessions equate to 11,798.73kg of carbon dioxide abated from entering our atmosphere, the equivalent to planting approximately 542 adult trees. The County continues to operate and maintain three, level 3 publically accessible electric vehicle charging stations. Locations include the County Museum, Stayner Station Park, and at the Washago carpool lot.

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. Staff is pleased to inform Council that all twelve, level 2 (24 charging connectors) and two, level 3 (4 charging connectors) electric vehicle charging stations installed under this initiative are now available to the public for charging activities. Two of these level-2 electric vehicle chargers with 4 charging connectors have been installed at the County Administration Centre.

3. **Completion of Archives' Energy Efficiency Retrofit.** Since last reported in CCW 2021-178, the Archives building continues to utilize energy saving equipment in tandem with a photovoltaic system generating onsite emissions free electricity. In light of increased costs experienced during the pandemic, the Federation of Canadian Municipalities reconsidered available funding for energy efficiency upgrades and have recently awarded the County an additional \$164,270 in funding for this project, increasing the total funding amount of \$750,000.
4. **Continuation of Cross-Corporate Energy Efficiency Initiatives.** A variety of energy efficiency projects were pursued across the corporation, including but not limited to LED lighting upgrades; heating, cooling and ventilation projects, and building envelope upgrades. Properties include Long Term Care facilities,

Archives, Solid Waste Management facilities, Transportation Maintenance facilities, the Simcoe County Museum, Affordable Housing, and the Administration Centre. The new Simcoe Village Campus is targeting a LEED certification that will aim to reduce energy usage, operational GHGs and other negative impacts on the environment overall. Paramedic Facility construction design continues to take "LEED like" design features into account.

5. **Continuation of Support for Future Renewable Energy Opportunities at the County.** Solar PV systems continue to provide emissions free electricity at the Forestry Interpretive Centre, the Administration Centre, multiple Social Housing sites, and the Archives. Furthermore, the Creemore Transportation Maintenance Garage was constructed with a solar ready roof. Renewable energy opportunities continue to be a consideration as funding envelopes become available and during the design of 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 Day, Earth Hour, and World Environment Day. Due to the global pandemic, Earth Hour, Earth Day, and World Environment Day 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. Staff is pleased to announce that quarterly conference calls with contacts at area municipalities throughout the County of Simcoe resumed in 2021 over virtual platforms. To date, 28 members are involved in our quarterly conference calls which continue to share information with municipalities across the County of Simcoe. Our collective efforts strengthen our energy conservation strategies and sustainable ambitions which foster vibrant, healthy, and sustainable communities.
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.
9. **Forestry Carbon Sequestration Analysis** – A preliminary feasibility study is underway in relation to our forests role in carbon sequestration. Staff will report to Council on the results of the study as soon as that information is available.

Financial and Resource Implications

There are no direct financial or resource implications associated with this Item.

In 2021, staff was successful in attaining a total of \$778,340 in savings, cost avoidance, and incentives, shown as follows:

- Energy-savings in 2021 from solar power generation - \$1,749
- Electric vehicle funding from NRCan - \$20,000
- Archives energy efficiency retro-fit funding from FCM - \$750,000

- Negotiations and value-added analysis - \$6,591

Since the initiation of the Sustainable Operations Program in 2012, \$2,104,142 in cost avoidances, savings or funding have been realized by the County of Simcoe.

Relationship to Corporate Strategic Plan

This Item is directly related to Strategic Direction D:

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

Reference Documents

- 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
- CCW 2021-178 Sustainable Operations Program - Summer 2021 Update
- CCW 2021-271 Sustainable Operations Program – Fall 2021 Update

Attachments

Schedule 1 – Sustainable Operations Program Update

Schedule 2 – Energy Consumption and Greenhouse Gas Emissions 2020

Schedule 3 – County of Simcoe Green Teams

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Approvals

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Mark Aitken, Chief Administrative Officer

Date

June 16, 2022
June 19, 2022
June 21, 2022