



**Subject: Energy Consumption and Greenhouse Gas Emissions Report (2020)**

**To: Council**

**From: Public Works Department**

Report Number: 2022-109

Meeting Date: June 14, 2022

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**Recommendation:**

That Public Works Department Report 2022-109 be received for information.

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**Purpose:**

The Purpose of this report is to inform Council of the 2020 Energy Consumption and Greenhouse Gas Emissions Report in accordance with the requirements of Ontario Regulation (O. Reg) 507/18 (Broader Public Sector: Energy Reporting and Conservation and Demand Management Plans) under the *Electricity Act, 1998*. The City is required to submit the Report to the Ministry of Energy, Northern Development and Mines (the Ministry) by July 1, 2022 for the 2020 reporting year.

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**Background:**

Under the *Electricity Act, 1998* all Ontario municipalities are required to comply with O. Reg 507/18 (Broader Public Sector: Energy Reporting and Conservation and Demand Management Plans). As part of this regulation, the City of Port Colborne is required to track and report a summary of annual energy consumption and greenhouse gas (GHG) emissions from all heated and/or cooled City operated facilities, of which the City pays the utilities for. Energy reporting and conservation planning is an important tool in setting benchmarks and evaluating results over time. The regulation assists in enabling a province wide reduction in energy.

In order to fulfill the requirement of annual energy reporting, a database of annual electricity and natural gas consumption for all heated and/or cooled City operated facilities, of which the City pays the utilities for, has been created. These records are

organized and stored using the Energy Planning Tool (EPT), a web-based program developed and provided by Local Authority Services (LAS). The City began using this tool to record monthly electricity and natural gas consumption, starting with 2011 data. The City must submit an annual report to the Ministry by July 1<sup>st</sup> of each year, reporting on data from two years prior to the current calendar year. After submission, City staff must make the reports available for public viewing in both printed form and on the City's official website.

The 2022 annual report, included in Appendix A, reports on 2020 energy consumption and GHG emissions for only those City-operated buildings that are heated and cooled. It was prepared and submitted to the Ministry on May 13, 2022. For a comparative, the 2021 annual report, which reports on 2019 data, is included as Appendix B.

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## **Discussion:**

Analyzing energy consumption data from the City's annual reports allows for the monitoring and identification of trends. Using this data, the City's largest energy consuming facilities can be identified, which then allows for a targeted approach to energy conservation. For example, City staff have conducted in-depth energy audits on the City's primary energy consuming facilities, including City Hall, Fire Hall, Library, Roselawn Centre, Museum, Marina, and Vale Health and Wellness Centre. These energy audits have allowed for the identification of appropriate energy conservation initiatives. Attainable energy conservation goals and objectives have been set through the collection of information from these reports, as outlined under the City's official Energy Conservation and Demand Management Plan (ECDM), endorsed by Council in June of 2019.

The 2020 Energy Consumption and Greenhouse Gas Emissions Report (Appendix A), outlines the total annual electricity and natural gas consumption from all heated and/or cooled City operated facilities during the associated year. It is important to note that the City's inventory of facilities required to be reported on has changed since the first report in 2011. The most significant changes have been the closure of the Teeder Kennedy Youth Arena, West Side Arena, Centennial Swimming Pool, Public Works building, and Parks Depot; additionally, the opening of the Vale Health and Wellness Centre, and Engineering and Operations Centre. The facilities included in the parameters of this summary are outlined in Table 1.

*Table 1 list the facilities included in this report and the respective addresses*

<b>Facilities Included in City of Port Colborne's Energy Consumption &amp; GHG Emissions Report [2020]</b>	
<b>Facility Name</b>	<b>Facility Address</b>
City Hall	66 Charlotte Street
Engineering and Operations Centre	1 Killaly Street West
First Rose Lawn	296 Fielden Avenue
Harbour Master	201 West Street
Library	310 King Street
Lions Field Park Canteen	148 Killaly Street W.
Marine Lighthouse Exhibit	280 King Street
Port Colborne Fire and Emergency Services	3 Killaly Street W.
Port Colborne Museum- Tea Room	61 Princess Street
Port Colborne Museum- Archives	286 King Street
Port Colborne Museum- HRC	291 Catharine Street
Roselawn Centre	296 Fielden Avenue
Sugarloaf Marina	3 Marina Road
Tourism Information Centre	76 Main Street West
Vale Health and Wellness Centre	550 Elizabeth Street

The City's total annual energy consumption for 2020 reached a sum of 8,076,960 (equivalent kilowatt-hours per year), which is a 25% decrease from the 2019 total. The total annual GHG emissions saw a 21% decrease compared to 2019, totaling 898,108 kg of eCO<sub>2</sub>. Based on historical data from the Government of Canada website, 2020 experienced significantly warmer weather (with 400 cooling degree days and 3141 heating degree days in 2020 compared to 311 cooling degree days and 3516 heating degree days in 2019) than 2019.

The year 2020 resulted in a 19% decrease in natural gas consumption, and a 29% decrease in electricity consumption. One of the main differences to note in the 2020 data is the impact of COVID-19 altering the use of City facilities for the majority of the 2020 calendar year. City facilities were closed to the public with services shifting to online or by appointment to limit contact. In addition, many staff worked remotely throughout 2020. Weather is another impact on the changes in energy consumption. Changes in GHG emissions are due to the change in energy consumption and depend on the factor in the formula the Province uses to calculate GHG emissions. Environment Canada's National Inventory determines the factor used each year, and thus affects the City's reportable GHG emissions.

Beyond sole consideration of facility consumption, an important indicator of energy use and efficiency is energy intensity – the measure of a building’s consumption relative to its total operational area (energy use per area). Figure 1, below, depicts the energy intensity of all relevant Port Colborne facilities during the 2019 and 2020 report periods. The Vale Health and Wellness Centre (VHWC), Engineering and Operations Centre, Roselawn Centre, Sugarloaf Marina, and the Fire Hall have the highest energy intensities.

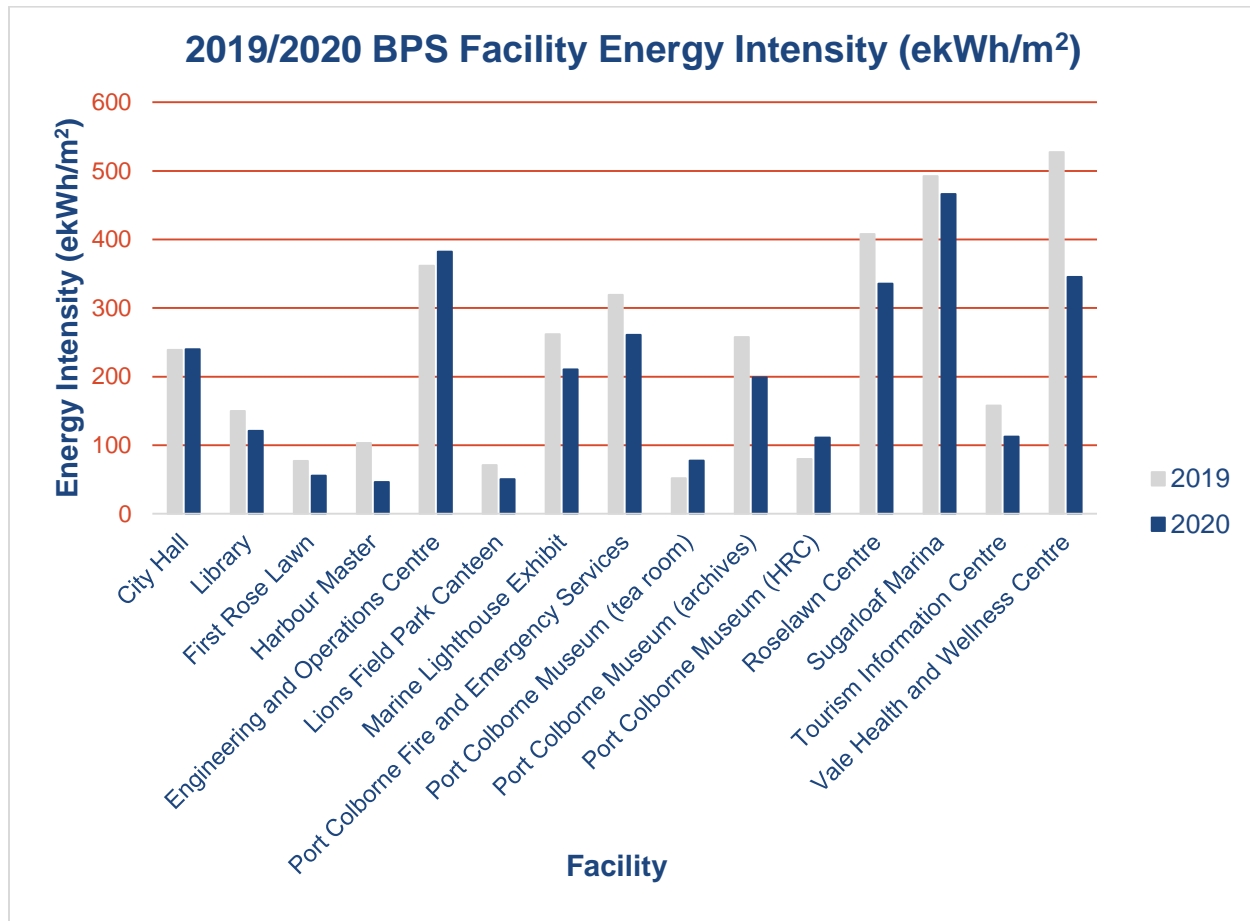


Figure 1 displays the energy intensity of each BPS Reporting facility in the City for 2019 and 2020

It is anticipated that future reports should show reductions in energy intensity, paralleled by an increase in efficiency upgrades as staff work towards the quantitative energy management goals in the 2019 ECDM Plan. Under the current ECDM Plan, the City has committed to reducing energy intensity at City facilities to make them more efficient. To meet this commitment, City staff will carry out energy conservation programs and initiatives when financially and practically possible. Staff are also updating the ECDM Plan in 2022 to include additional energy conservation measures and will identify energy savings, facility improvement and renewable opportunities. These measures will be incorporated into the 2023 budget process and future budgets moving forward.

**Internal Consultations:**

No formal internal comments were provided by other departments.

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**Financial Implications:**

There are no financial implications of this report. This report focuses on usage and not the financial cost of energy. A reduction or increase in energy usage would see a reduction or increase in energy cost provided the unit and related costs of energy remained constant. Further energy efficient changes recommended for the facilities will come forward in future capital budget requests.

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**Public Engagement:**

There were no public engagement initiatives, however, the report will be available to the public in printed form and uploaded to the City's official website.

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**Strategic Plan Alignment:**

The initiative contained within this report supports the following pillar(s) of the strategic plan:

- Governance: Communications, Engagement, and Decision-Making
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**Conclusion:**

The City submitted its finalized 2020 Annual Energy Consumption and Greenhouse Gas Emissions Report to the Ministry on May 13, 2022. The report will be available to the public in printed form and uploaded to the City's official website. The submission is an important part of the City's commitment to track energy consumption and facilitates informed decision making in alignment with the City's 2019 official Energy Conservation and Demand Management Plan. Staff will continue to investigate and develop energy conservation initiatives and opportunities throughout City facilities in order to meet outlined goals and objectives as set under requirement of O. Reg 507/18.

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**Appendices:**

- a. 2020 GHG Emissions Report
- b. 2019 GHG Emissions Report

Respectfully submitted,

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**Report Approval:**

All reports reviewed and approved by the Department Director and also the City Treasurer when relevant. Final review and approval by the Chief Administrative Officer.