



City of
Peterborough

To: Members of the Peterborough Environmental Advisory Committee

From: Michael Papadacos, Manager of Infrastructure Management Division

Meeting Date: May 19, 2021

Subject: Report PEAC21-016
Climate Change Reserve Initiatives Report

Purpose

A presentation to provide the PEAC with the draft recommendations to use the Climate Change Reserve (CCR) fund to advance corporate climate actions.

Recommendations

That the PEAC approve the recommendations outlined in Report PEAC21-016 dated May 19, 2021, of the Manager of Infrastructure Management Division, as follows:

- a) That the presentation from the Manager of Infrastructure Management be received for information; and,
- b) That the Peterborough Environmental Advisory Committee endorse the draft recommendations to allocate remaining funds from the Climate Change Reserve to:
 - i. Initiate a project to install eight dual-port electric vehicle charging stations for municipal fleet use at various municipal facilities; and,
 - ii. Make up the City's 20% contribution for an application to the Federation of Canadian Municipalities to complete a GHG Reduction Pathway Feasibility Study for municipal buildings.

Budget and Financial Implications

There are no budgetary or financial implications associated with the recommendations.

Background

At the December 14, 2020 meeting of Council, the following motion was passed:

Whereas, Report IPSIM20-003 Climate Change Initiatives Update, dated March 2, 2020, included recommendation f) as follows:

f) That staff prepare a report on the potential use of the remainder of the 2020 Contribution to the Climate Change Reserve in the amount of \$426,400, by July 2020; and,

Whereas, Council at its meeting of March 30, 2020, deferred recommendation f), pending a better understanding of the financial impacts to the COVID pandemic and potential financial shortfalls for the City.

Be it Resolved that staff provide a report to Council, by the second quarter of 2021, on initiatives to be funded from the remainder of the Climate Change Reserve which will ensure demonstrated progress to mitigate the effects of Climate Change.

This report provides a summary of the draft recommendations being proposed by staff on how to disburse the unallocated funds in the Climate Change Reserve.

Corporate Sector GHG Emissions

Corporate GHG Emissions result from the day-to-day operations by the municipality to deliver services to residents of the community and include:

- methane gas generated through the decomposition of waste at the landfill;
- gasoline and diesel fuel used in fleet vehicles and equipment owned and operated by the City;
- natural gas used for space and water heating at facilities owned and operated by the City; and,
- indirect emissions from generating the electricity used in municipal facilities and streetlights.

Corporate GHG Emissions arise from five contributing sectors: Waste, Fleet, Buildings, Wastewater Treatment, and Streetlights.

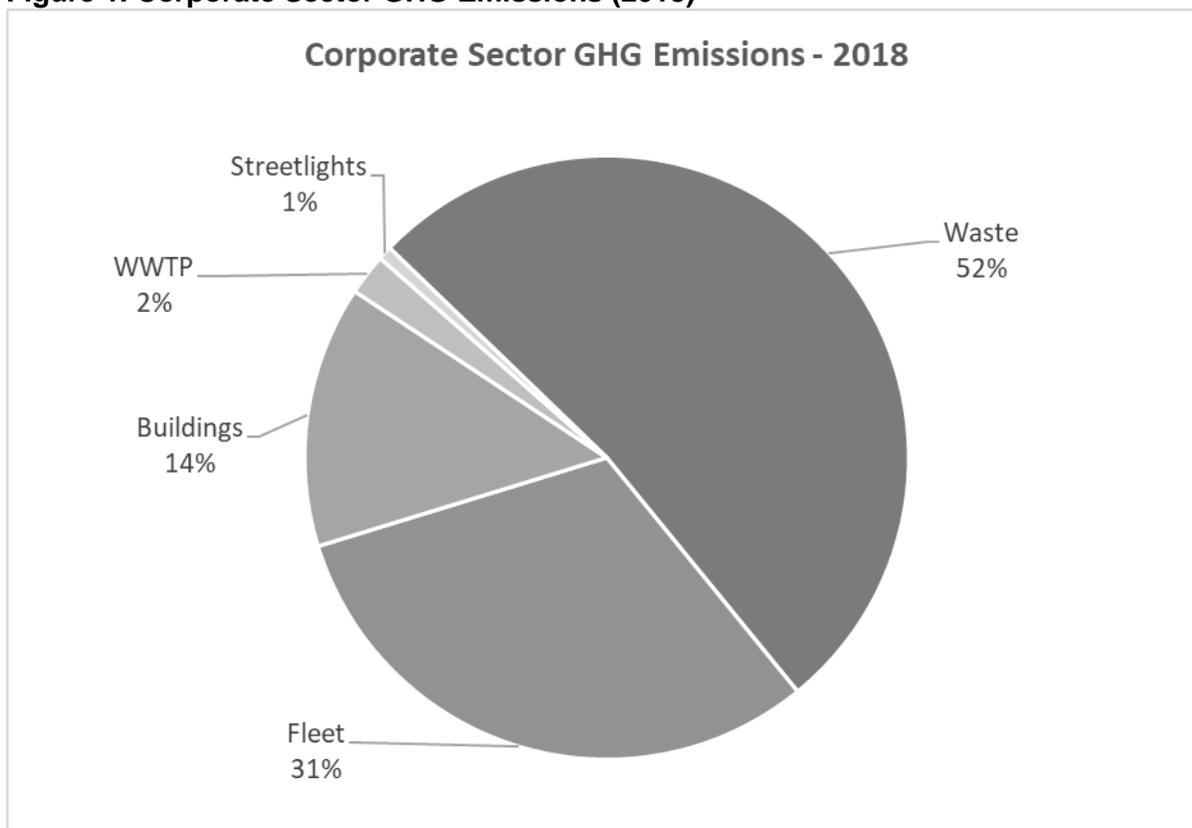
From 2011 to 2018 Corporate Sector GHG Emissions decreased by 21%. The decrease can be primarily attributed to the provincial shuttering of all coal-fired power plants from 2005 to 2014 that decarbonized the electrical grid. This furthermore highlights the need

for concerted actions at the municipal level in each of the major contributing corporate sectors to maintain progress towards achieving the reduction target.

Reaching the 45% Corporate GHG Emission Reduction Target

To achieve the 45% reduction target by 2030, initiatives will need to focus on the top three corporate sectors: Waste, Fleet, and Buildings, representing approximately 97% of the entire corporate emission profile. Figure 1 shows the proportion of Corporate GHG Emissions in 2018.

Figure 1. Corporate Sector GHG Emissions (2018)



Existing climate initiatives in progress for the Waste and Streetlight sectors will achieve reductions of 48% and 82%, respectively by 2030. The Fleet and Building sectors will require GHG emissions to decline by 23% and 57%, respectively, from the 2011 Baseline to achieve the 45% reduction by 2030. The Wastewater Treatment Plant is not envisioned to include any new climate actions to reduce GHG emissions before 2030.

Corporate Sector Funding Recommendations

The following section describes the expected reduction, planned or completed climate actions, and recommends how the CCR is to be disbursed to facilitate climate mitigation action through GHG emission reductions for each corporate sector.

Waste

The Waste sector is the largest source of Corporate GHG Emissions at 52% in 2018. The City has initiated a significant climate action project with the development of the Source Separated Organics program and construction of the Green Resources Organics Works facility by 2023. The diversion of organic material from the Bensfort Road Landfill is anticipated to lower GHG emissions by 48% from 2018 levels by 2030. Investment of \$15 million for the organics program is committed and does not require additional funding from the CCR.

Fleet

The Fleet is the second largest sector representing 31% of total Corporate GHG Emissions. The 22% rise in GHG emissions since the 2011 CCAP baseline is due to an expanded fleet providing greater levels of service across multiple departments.

To address Corporate Fleet GHG emissions, \$250,000 from the CCR was committed in the 2021 Budget to advance understanding of the total life cycle cost, infrastructure, and facilities requirements to power transit vehicles by non-diesel/gasoline fuel sources through the Alternative Fuel Study for Transit.

Building capacity for the light-duty fleet to transition is underway through the planned expansion of electric vehicle charging infrastructure at select facilities. To fund the installation of charging stations, it is recommended that \$290,000 be used from the CCR and Sustainability Projects Capital Budget.

Buildings

Corporate buildings represent 14% of GHG emissions in 2018. This category reduced its GHG emissions from the 2011 baseline by 31%. While energy retrofits at several facilities occurred between 2011 and 2018 reduced emissions, the decrease is driven by the decarbonization of the Ontario electrical grid through the closure of all coal power plants in 2014. The lower carbon content of purchased electricity significantly decreased the associated GHG emissions for buildings. Upcoming facility energy efficiency projects are planned to 2023 that will see ten facilities receiving varying building enhancements that will include lighting conversions, heating and cooling upgrades, and building envelope renovations.

To enable corporate buildings to mitigate energy consumption and GHG emissions, staff recommend applying to the GHG Reduction Pathway Feasibility Study offered through FCM to investigate a portfolio of buildings and roadmap capital improvements and recommissioning that would be required. A total of \$50,000 from the CCR will be needed to apply for funding as the City's 20% share.

Wastewater Treatment Plant (WWTP)

The WWTP is associated with 2% of corporate GHG emissions. A 53% reduction was observed since 2011 and is attributed to the decarbonizing of the Ontario electrical grid. Advancements in water treatment technology and energy recovery will continue to be considered as they become available. At present, there are no identified opportunities to reduce GHG emissions that will require CCR funding.

Streetlights

Streetlights generate 1% of corporate emissions in 2018. Commencing in 2018 and completed in 2019, streetlight metal halide luminaires were converted to LED. In 2019, the conversion reduced energy consumption by 54% from 2017 levels. No additional funding from the CCR is recommended.

Summary

The Corporate Sector GHG Emissions declined by 21% from 2011 to 2018. The majority of the reduction is due to the decarbonization of the Ontario electrical grid. To achieve the 45% reduction in Corporate Sector GHG emissions by 2030, focused investments that maximize the impact of corporate actions will be required in this decade. Focusing on GHG emission reductions from the Fleet (Transit) and Building sectors is recommended through completing studies to identify opportunities, infrastructure requirements, capital investments, and implementation, and making capital investments in facilitating infrastructure.

Submitted by,

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