City of Peterborough

To:	**Members of the General Committee**
From:	**Cynthia Fletcher** **Commissioner of Infrastructure and Planning Services**
Date:	**June 7, 2021**
Subject:	**Report IPSIM21-019** **Climate Change Reserve Initiatives Report**

Purpose

To recommend use of the Climate Change Reserve (CCR) for initiatives that advance corporate climate actions.

Recommendations

That Council approve the recommendations outlined in Report IPSIM21-019 dated June 7, 2021, of the Commissioner of Infrastructure and Planning Services, as follows:

a) That Council approve $282,800 from the Climate Change Reserve Fund to install eight dual-port electric vehicle charging stations for municipal fleet use at various municipal facilities; and

b) That staff make application to the Federation of Canadian Municipalities – Green Municipal Fund, Community Buildings Retrofit Initiative, Study: GHG Reduction Pathway Feasibility Study and that Council approve up to $50,000 from the Climate Change Reserve for the City's 20% contribution, if approved.

Budget and Financial Implications

The recommendations contained within this report can be funded from unallocated portion of the Climate Change Reserve Fund in the amount of $332,800.

Background

Climate Change Reserve

As part of the 2020 budget review Council demonstrated a commitment to advancing Climate Adaptation and Mitigation efforts by adopting the following motion:

“That the Infrastructure Management budget of $1,419,754, as presented on page 78 of the 2020 Budget Highlights Book, be amended to include a Contribution to the Climate Change Reserve of $426,400, for a total 2020 budget of $1,846,154; and

That the amount of $426,400, which equates to 0.25% of the All-inclusive tax rate, be added to the All-inclusive tax rate increase identified on page 9 of the 2020 Highlights Book, making it 2.59% and,

That any expenditures of these funds be reported to Council.”

This funding represents an annual contribution to a reserve, built into the annual base operating budget. Expenditures will be recommended to Council as part of annual budget review.

In March 2020, Report IPSIM20-003 – Climate Change Initiatives Update provided Council with an update on the various climate change initiatives completed and in progress. The report included recommendations to allocate funds from the Climate Change Reserve to new initiatives and provide a report on disbursing the remaining funds by July 2020. At the March 30, 2020 meeting of Council, recommendations a) which proposed undertaking a study to Reduce Fossil Fuel Use in the City’s Fleet and f), which proposed staff provide a future report on additional uses for the Climate Change Reserve were deferred due to uncertainty of the financial impacts arising from the COVID-19 pandemic.

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

“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."

At this same meeting the 2021 Budget was approved including an additional contribution of $426,400 to the Climate Change Reserve and the approval of several capital projects funded through this reserve.

This report is intended to provide recommendations and a summary of various initiatives proposed to be funded by the Climate Change Reserve.

Climate Change Reserve Recommendations and Initiatives

Report IPSIM21-018 identifies the progress made in achieving Corporate Sector GHG Emission reductions and identifies required reductions by sector to achieve a 45% reduction from 2011 by 2030. These targets are summarized in Table 1.

Table 1. Corporate Sector GHG Emissions Baseline (2011) and Reduction Targets

2011 Baseline	2018 Update	Climate Emergency Declaration Target (45% by 2030)
22,491 tCO_2e	**18,407 tCO_2e**	**12,370 tCO_2e**

To achieve the 45 percent reduction target in Corporate Sector GHG emissions of 12,370 tCO_2e by 2030 requires annual GHG emissions reductions of 6,037 tCO_2e from 2018. This reduction will need to be achieved primarily through reductions to the top three Corporate Sectors; Waste, Fleet, and Buildings, as these make up ~97% of the Corporate emission profile.

Existing initiatives in progress for the Corporate Waste Sector will achieve a reduction of approximately 1,873 tCO_2e from 2018 levels as outlined in Report IPSIM21-018. This would require approximately 4,091 tCO_2e to be reduced from the Fleet and Buildings sectors from 2018 levels. Dividing this reduction proportionally between Fleet and Building sectors would result in a sector reduction target of 2,821 tCO_2e and 1,270 tCO_2e respectively. As existing and proposed studies are completed, this distribution will be revisited based on the cost-benefit analysis and implementation plans recommended.

Corporate Sector: Waste

The Waste Sector comprised 39% of Corporate GHG emissions in 2018. These emissions result from the operation of the Bensfort Road Landfill due to the methane created from the anaerobic decomposition of organic waste deposited and the proportionately higher impact of methane as a GHG.

The SSO program and GROW facility represent an approximately $15 million investment by the City and includes a $6 million grant from the Federal government.

As this significant investment is already being made in this key climate change initiative, no additional funds from the Climate Change Reserve are recommended at this time to reduce Corporate Waste Sector GHG emissions.

Report IPSES20-005, outlined the workplan and timelines for the review of waste management programs and options for the future. Council approved that workplan in February of 2020 to include;

- Waste Management Master Plan (2020 – 2022)
- Source Separated Organics Program (2019 – 2023)
- Landfill Comprehensive Review (2024 – 2025)

Future projects may include waste composition audits to assess diversion rates funded by the CCR once the GROW facility is operational.

Corporate Sector: Fleet

The Fleet Sector comprised 39% of Corporate GHG emissions in 2018.

To support the GHG emission reductions from the Corporate Fleet Sector, funding for several initiatives is committed or proposed.

Recognizing that Transit accounts for the majority of emissions in this sector (61%), the 2021 Budget committed $250,000 from the Climate Change Reserve to fund an Alternative Fuel Study for Transit to understand the life cycle cost, infrastructure, and facilities requirements to power transit by non-diesel/gasoline fuel sources. The study will recommend the type of buses, infrastructure needed, and expected costs to reduce GHG emissions from transit.

While various technologies are in development and low-carbon options for heavy-duty vehicles are increasing, the City's fleet consists of numerous light-duty vehicles. There are many market-ready electric vehicle (EV) options for this class of vehicle and a future fleet transition strategy will inevitably involve some degree of electrification. In 2020, the City made application to Natural Resources Canada's (NRCan) Zero Emission Vehicle Infrastructure Program (ZEVIP) for funding to support installation of 16 EV charging ports (8 dual-port charging stations) to be installed at four municipal facilities for the use of municipal fleet vehicles. Unfortunately, due to the COVID-19 pandemic, much of the funding for this program was pulled by NRCan. Recognizing the importance of this initiative to provide staff with options to be able to procure EVs as replacements for vehicles at the end-of-life knowing the charging infrastructure is in place, staff are proposing to proceed with installing 16 EV charging ports (8 dual-port charging stations) at an estimated cost of $290,000 from the Climate Change Reserve ($225,000 directly from the CCR, and $65K from the 2021 Sustainability Projects Capital Budget, funded by the CCR, see below). Staff will continue to explore opportunities to subsidize this

initiative with funding from other sources and seek to leverage this commitment into additional EV chargers.

These initiatives align with the following strategy identified in the Corporate CCAP:

- Strategy 6: Transition the municipal fleet to be more efficient and less carbon emitting

Table 2 summarizes the disbursement of funds from the Climate Change Reserve to support GHG Emission reductions from the Corporate Fleet Sector.

Table 2. Climate Change Reserve Funds – Corporate Fleet Sector Summary

Initiative	Climate Change Reserve Funding	Other Funding Sources
Committed		
Alternative Fuel Study for Transit	$250,000	n/a
Proposed		
EV Charging Infrastructure for some Fleet	$282,800	n/a

Corporate Sector: Buildings

The Corporate Buildings Sector is the third largest source of GHG emissions at 18 percent in 2018. Since the baseline year of 2011 GHG emissions from building have reduced by 31 percent.

Upcoming facility energy efficiency projects are planned to 2023 that will see ten facilities receive varying building enhancements that include lighting retrofits, heating and cooling system upgrades, and building envelope renovations. These various improvements are estimated to lower emissions by up to 100 tonnes of GHGs from facility operations once completed. Additional initiatives in this sector will be required to meet the overall Corporate Sector GHG Emissions reduction target.

A key strategy to reduce the GHG emissions from buildings will be reducing the amount of natural gas used in their operation. Staff propose to complete a GHG Reduction Pathway Feasibility Study to determine the best approach to integrating energy and GHG reductions into longer-term management plans. In May 2021, FCM's GMF announced a new funding program, the Community Buildings Retrofit (CBR) initiative, that offers funding of 80% of eligible project costs up to $200,000 for a portfolio of municipal buildings to complete a GHG Reduction Pathway Feasibility Study. This study will provide a roadmap for planning for building monitoring and analysis projects, building recommissioning projects and capital improvements to help achieve the required GHG emission reductions from the Corporate Building Sector. A $50,000 allocation from the CCR will fund the municipal share.

This initiative aligns with the following strategies identified in the Corporate CCAP:

- Strategy 2: Enhance operational efficiency of existing buildings
- Strategy 4: Improve environmental performance of existing municipal facilities

Table 3 summarizes the disbursement of funds from the Climate Change Reserve to support GHG Emission reductions from the Corporate Buildings Sector.

Table 3. Climate Change Reserve Funds – Corporate Building Sector Summary

Initiative	Climate Change Reserve Funding	Other Funding Sources
Proposed		
GHG Reduction Pathway Feasibility Study	$50,000	$200,000 (FCM CBR)

Other Commitments of the Climate Change Reserve

As part of the 2021 Budget approval, Council approved the funding of the following items from the Climate Change Reserve (Table 4).

Table 4. Other Commitments of Climate Change Reserve through 2021 Budget

Item	Climate Change Reserve Funding
Sustainability Projects	$65,000
Climate Change Action Plan	$150,000
Climate Change Coordinator Position	$55,000

The Sustainability Projects capital project is intended to implement corporate sustainability projects (i.e., energy conservation, water conservation, implement/pilot green technology).

The Climate Change Action Plan capital project is intended to implement various climate actions identified in the CCAP. As the CCR recommendations are primarily being directed at Climate Mitigation actions (i.e., GHG reductions), staff propose to use these funds to implement Climate Adaptation actions (i.e., prepare for the negative consequences of climate change) identified in a Climate Change Resilience Strategy that is in development.

A full-time, permanent Climate Change Coordinator position was hired in January 2021 to support and implement a variety of climate actions across the corporation. This position is funded through the Climate Change Reserve.

A summary of the proposed and committed initiatives using the Climate Change Reserve funding is in Table 5.

Table 5. Summary of Proposed and Committed Climate Change Reserve Funding

Item	Climate Change Reserve Funding
Alternative Fuel Study for Transit	$250,000
EV Charging Infrastructure for Fleet	$282,800
GHG Reduction Pathway Feasibility Study (Buildings)	$ 50,000
Sustainability Projects	$ 65,000
Climate Change Action Plan	$150,000
Climate Change Coordinator Position	$ 55,000
TOTAL	**$852,800**

Peterborough Environmental Advisory Committee

The proposed initiatives discussed in this report were presented to the Peterborough Environmental Advisory Committee (PEAC) at the May 19, 2021 meeting for information and comment. The committee passed the following recommendations:

a) That the presentation from the Manager of Infrastructure Management be received for information; and

b) That the Peterborough Environmental Advisory Committee endorse the proposed recommendations to allocate remaining funds from the Climate Change Reserve for:

   i. The installation of eight dual-port electric vehicle charging stations for municipal fleet use at various municipal facilities; and,

   ii. 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.

Summary

The City's Corporate GHG emissions have declined by approximately 18 percent since the baseline year of 2011. However, the majority of this reduction has resulted from Provincial initiatives over the past decade to significantly reduce the GHG emissions associated with generating electricity in Ontario through the closure of coal-fired generating stations. To achieve the 45% GHG emission reduction target identified in the Climate Emergency Declaration of 2019, focused investments that maximize the impact of corporate actions will be required in this decade.

The City has already planned a significant investment of approximately $15 million into a Source Separated Organics program and construction of the Green Resource Organics Works to address the major source of GHG emissions from municipal facilities resulting from methane generated at the Bensfort Road Landfill from organic waste.

To progress further in the Buildings and Fleet sectors, the following initiatives are proposed. It is recommended the City undertake necessary studies to identify the opportunities, infrastructure requirements, capital investments and implementation plans for Buildings. Staff have also proposed installing EV charging infrastructure that will transition some of the municipal fleet to this alternative low-carbon fuel sources.

Submitted by,

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