



To: Committee of the Whole
Meeting Date: June 13, 2024
From: Laura McDowell
Commissioner of Public Works
Re: **2023 Corporate Energy Update**

This memorandum provides an update on annual greenhouse gas emissions and fuel costs from Regional corporate operations in 2023. This annual update discusses initiatives undertaken by the Region to achieve emissions targets set out in the [Corporate Energy Conservation and Demand Management Plan](#) and supports climate change mitigation priorities in the [2022 Climate Change Action Plan](#).

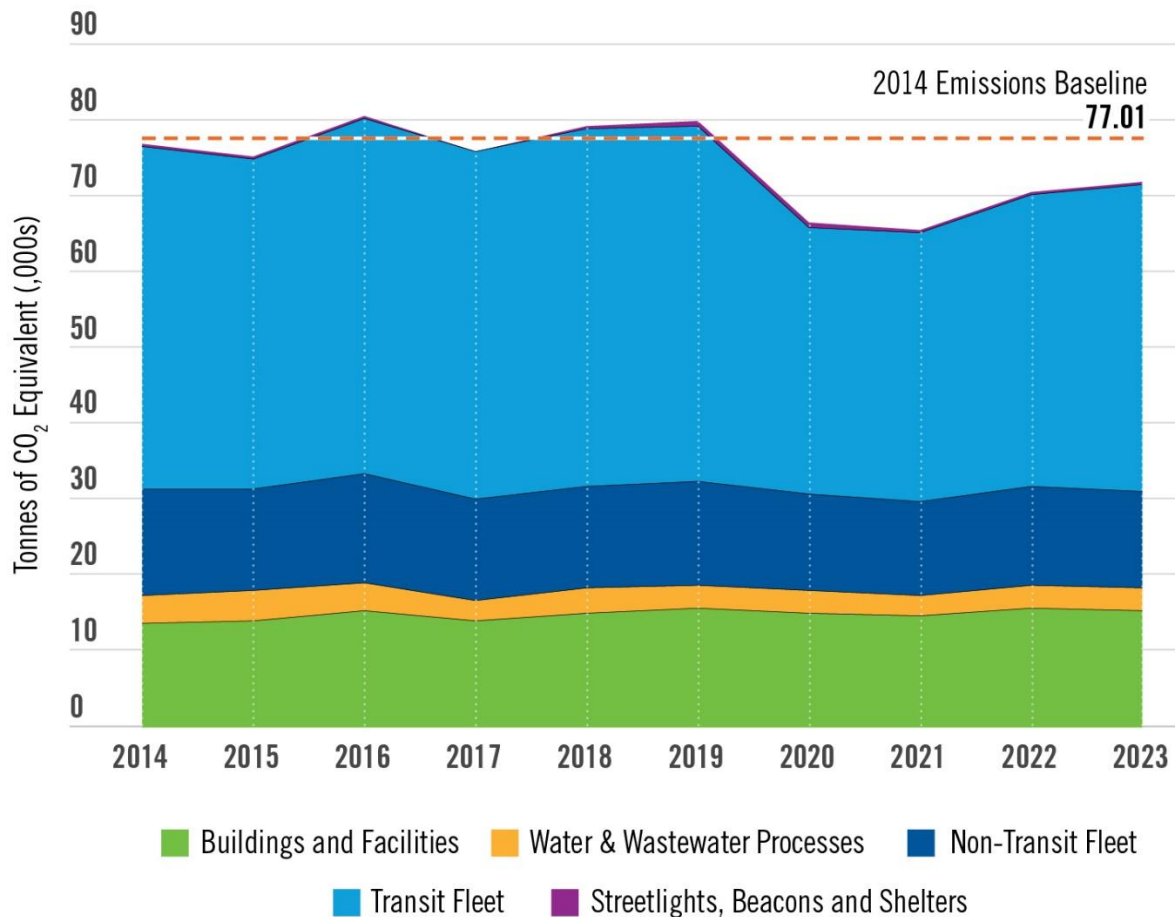
Corporate emissions continue to trend below pre-pandemic levels

Corporate emissions increased by approximately 1% or 1,000 tonnes in 2023, driven by increased demand for York Region's services. Overall, the Region is 11% below its total emissions target for 2023, moving the Region toward net-zero carbon emissions by 2050. Notable changes in corporate emissions include:

- Transit bus emissions increased to meet a 36% increase in ridership demand in 2023
- Non-transit fleet vehicle emissions were lower as the Region implements its [Corporate Fleet Electrification Plan](#)
- Corporate buildings and facilities natural gas emissions decreased in 2023 due to a warmer winter than previous years

The Energy Conservation and Demand Management Plan established annual targets for corporate emissions to ensure the Region continues to move toward Climate Change Action Plan goal of net-zero carbon emissions by 2050. Figure 1 illustrates a ten-year corporate emissions trend by operational category.

Figure 1
Ten-Year Corporate Emissions Trend



Per capita emissions in 2023 were 57.1 kilograms, which is slightly lower than the previous year. A key performance indicator in the [2023 to 2027 Strategic Plan](#), the Region’s per capita emissions trend has been declining since 2006.

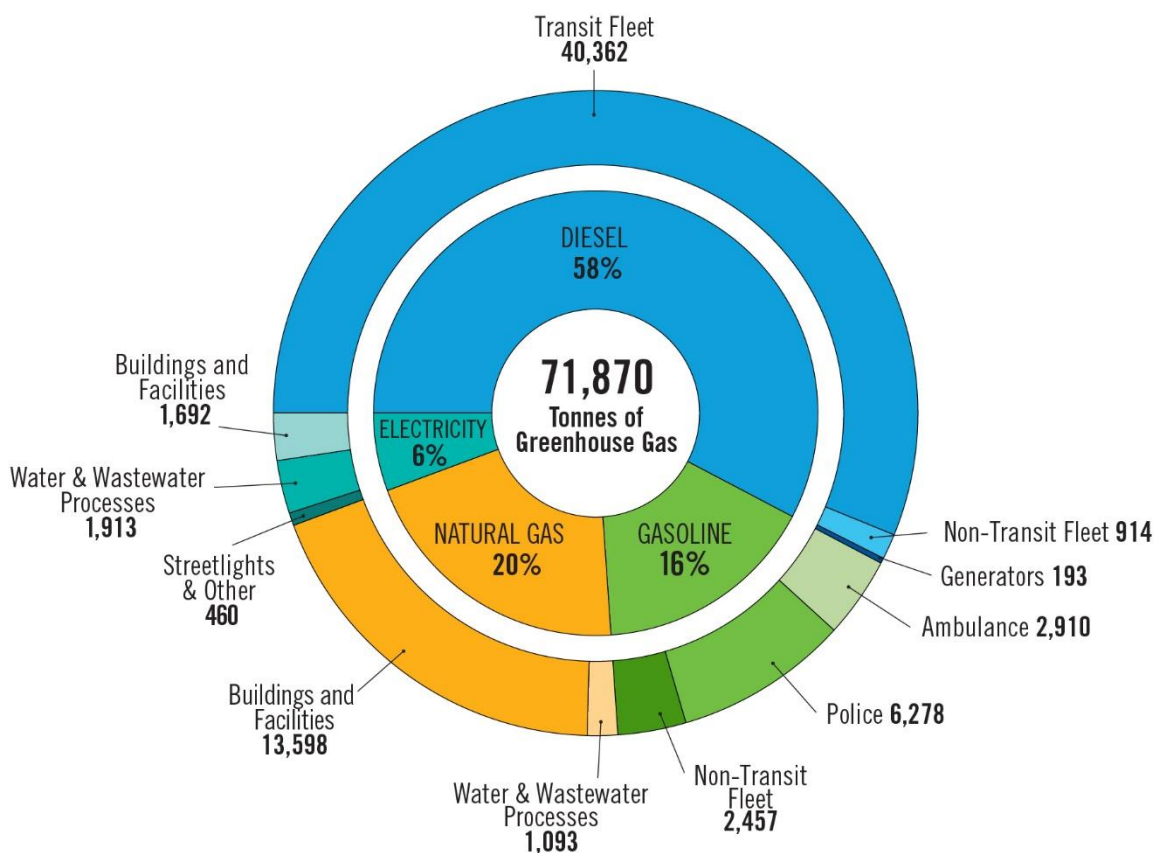
Electrification is the dominant path to achieve net-zero carbon emissions

Figure 2 indicates most corporate emissions are from fossil fuel consumption (gasoline, diesel fuel and natural gas). Innovations to electrify vehicles and buildings are one of the fastest growing areas of climate change mitigation technology and are proving to be a dominant path toward net-zero emissions.

One-third of energy consumed by the Region is electricity and is mostly generated by emissions-free sources (nuclear, water, solar, wind and biomass) and therefore contributes a very small amount to overall corporate emissions.

Implementation of fleet decarbonization strategies is accelerating by purchasing of battery electric vehicles, including 75 transit buses, 10 light-duty pickup trucks, and five cargo vans. Appendix A summarizes notable accomplishments in 2023 that reduced corporate emissions and energy costs.

Figure 2
2023 Corporate Greenhouse Gas Emissions (in Tonnes) by Fuel and Category



Total energy costs fell by 2% from an all-time high set in 2022

Energy costs fell by 2% to \$57.1 million due to reduced global oil prices. Savings of \$1.4 million resulted from demand management strategies with the Region’s five largest electricity accounts, and \$335,000 in savings were achieved through natural gas procurement strategies, which protected the Region during a period of significant market volatility. Appendix B summarizes the natural gas procurement group performance over the past four years.

Increases in Federal Carbon Pricing put upward pressure on the Region’s cost of fossil fuels. At \$65 per tonne in 2023, the Region paid \$3.3 million in carbon taxes on its purchase of fossil

fuels (natural gas, gasoline, and diesel fuel). The Federal government’s carbon pricing policy is anticipated to increase annually by \$15 per tonne until it reaches \$170 per tonne in 2030.

Council approves 2024 Energy Conservation and Demand Management Plan update and sets new emissions targets for 2024 through 2050

New targets and climate change initiatives have been established in the 2024 Corporate Energy Conservation and Demand Management Plan update, approved by Council on May 23, 2024. The Region’s primary focus on “conservation first” and early investments in electrification show emission reductions for fleet vehicles and buildings. Based on a zero-emissions Provincial electricity grid and technology advances since the last Energy Plan update, the Region prudently forecasts an 81% reduction in corporate emissions by 2050 and potential to achieve net-zero corporate emissions in subsequent Energy Plans.

For more information on this memo, please contact David Szeptycki, Director, Sustainability, Communications and Innovation at 1-877-464-9675 ext. 75723. Accessible formats or communication support are available upon request.



Laura McDowell, P.Eng.
Commissioner of Public Works



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Chief Administrative Officer

May 27, 2024
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Appendix A – Notable 2023 Climate Change Mitigation Accomplishments
Appendix B – Summary of Natural Gas Buying Group Performance

Notable 2023 Climate Change Mitigation Accomplishments

Many notable initiatives in 2023 delivered cost savings and emissions reductions.

Initiatives (Service Area)

Fleet Charger Network (Public Works)

- Secured \$540,000 in third-party funding to install a network of fleet vehicle chargers that support the Region's fleet electrification strategy and a battery electric ambulance pilot

Electric Cargo Vans and Light-Duty Pickup Trucks (Public Works)

- Region purchased 5 battery electric cargo vans and 10 light-duty pickup trucks to pilot that are estimated to reduce corporate emissions by 13 tonnes per year per vehicle

High-Efficiency Plumbing Fixtures (Community and Health Services)

- Plumbing upgrades at Maple Health Centre save 11,300 M³ of water and \$56,000 per year in operating costs

Housing Energy Upgrades (Housing York Inc.)

- With approximately \$1.6 million secured from the Investing in Canada Infrastructure Program, Housing York Inc. completed energy efficiency upgrades at nine buildings

Police District Office Lighting Upgrades (York Regional Police)

- Lighting upgrades at district offices save almost 140,000 kWh and \$25,000 per year

LEED Silver Certification (Corporate Services)

- Earned LEED® Silver certification at 18110 Yonge Street for transit garage upgrades with design elements that included energy efficiency and environmental attributes

Electric Transit Fleet Purchase (Public Works)

- Purchased 75 of 180 battery electric buses supported by Zero Emissions Transit Fund which are scheduled to be delivered starting in 2025

Wastewater Energy Exchange Approval (Public Works)

- Council authorized the Region to enter into an agreement with Markham District Energy to advance the Wastewater Energy Transfer project
- Fully implemented, the initiative is expected to reduce community emissions by 30,000 tonnes per year

Natural Gas Buying Group Performance Summary

- The Region has been purchasing its natural gas along with 176 Ontario municipalities and broader public sector organizations in a Buying Group led by the Association of Municipalities of Ontario since 2007
- Natural gas represents approximately 5% of the Region's total energy cost and 21% of its corporate greenhouse gas emissions
- The Region saved \$751,000 since January 2020 (Table 1 below) through its procurement strategies compared to the Local Distribution Company (Enbridge Gas Ltd.) default rate

Table 1
Comparison of Natural Gas Commodity Costs

Year	Default Utility Cost	Buying Group Strategy Cost	Difference Cost / (Savings)
2020	\$521,000	\$502,000	(\$19,000)
2021	\$563,000	\$512,000	(\$51,000)
2022	\$1,089,000	\$743,000	(\$346,000)
2023	\$1,050,000	\$715,000	(\$335,000)
Total	\$3,223,000	\$2,472,000	(\$751,000)

- Buying Group procurement strategies provides a degree of financial stability by limiting exposure to market volatility that may occur based on supply and demand, weather, and global factors
- Natural gas procurement occurs continuously through the Communications, Sustainability and Innovation Group and is reported to Council every three years
- Procurement strategies are in place for the next 48 months