

Staff Report



Development Services Department

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REPORT TO: Special Council

DATE OF MEETING: May 8, 2023

SUBMITTED BY: Anna Marie Cipriani, Corporate Sustainability Officer, 519-741-2200 ext. 7322

PREPARED BY: Anna Marie Cipriani, Corporate Sustainability Officer, 519-741-2200 ext. 7322

WARD(S) INVOLVED: Ward(s) All

DATE OF REPORT: May 4, 2023

REPORT NO.: DSD-2023-216

SUBJECT: CorCAP (Corporate Climate Action Plan) 2.0

RECOMMENDATION:

For Discussion.

REPORT HIGHLIGHTS:

- City of Kitchener [closed-out](#) its first-generation corporate climate action plan (CorCAP) in 2022 and there is an opportunity to renew our plan and deepen our commitment more in line with the magnitude of the Council approved TransformWR community GHG reduction targets
- As recent re-inventories indicate neither corporate nor community greenhouse gas (GHG) emission reductions have been sustained over time
- There is a broad, global consensus that net-zero emissions (reducing GHG emissions to as close to zero as possible with any remaining GHG emissions being re-absorbed from the atmosphere) are needed by mid-century in order for the planet's temperatures to stay below the 1.5°C-2°C threshold to avert the worst impacts of climate change
- Over 90% of City of Kitchener's Corporate GHG emissions come from Facilities, and Fleet and Equipment
- Greater than 80% of our corporate GHG emissions come from our use of fossil fuels (natural gas, gasoline, diesel, and propane)
- As staff renew the City's corporate climate action plan (Part 1 of CorCAP 2.0) we are seeking feedback from Council on whether the focus should be on energy demand from two corporate focus areas: Facilities, and Fleet and Equipment and three pathways: energy conservation, fuel switching and generating local renewable energy
- Staff anticipate that sustained corporate GHG emission reductions will require strategic, systemic, and deeply integrated changes to corporate processes, business planning and policies

*** This information is available in accessible formats upon request. ***
Please call 519-741-2345 or TTY 1-866-969-9994 for assistance.

- With Council input and guidance staff will build the next generation plan

EXECUTIVE SUMMARY:

In this strategic session of Council, staff are seeking to provide Council with insight into our corporate GHG emissions and seek Council’s guidance to develop the next generation Corporate Climate Action Plan. Council will be asked the first three questions as listed below and Council will be invited to use Menti to provide responses on a 5-point agreement scale.

For consideration by Council:

- 1. For consideration by Council: “I am interested in exploring strategies to achieve net-zero corporate emissions by 2050, which goes beyond Council’s community commitment of an 80% reduction by 2050, recognizing that this may increase the associated costs over the next 26 years.”**
- 2. “I am interested in prioritizing corporate efforts in the next Corporate Climate Action Plan on GHG reductions along these three pathways: Energy Conservation, Fuel Switching and Generating Local Renewable Energy”**
- 3. For consideration by Council: “I am interested in prioritizing efforts in the next Corporate Climate Action Plan on corporate GHG reductions from two focus areas:**
 - a. Facilities - especially arenas, pools, and administrative buildings**
 - b. Corporate Fleet, and Equipment - especially fuel switching gasoline vehicles now to electric and fuel switching diesel vehicles in the future”**

The fourth and final question listed below will provide Council with an opportunity to provide further guidance through a more open, roundtable-type discussion:

- 4. For Discussion: “It is anticipated that sustained corporate GHG emission reductions will require strategic, systemic, and deeply integrated changes to corporate processes, business planning and policies. As we develop the plan and seek support to adopt a new plan with a deeper commitment what are you looking for in a plan?”**

BACKGROUND:

The organization has the opportunity to strategically focus, deepen and align its commitment to municipal climate action having [closed-out](#) its first-generation corporate climate action plan (CorCAP) in 2022. Through the Council approved TransformWR plan the organization has committed to supporting community targets of 50% GHG reduction by 2030 and an 80% reduction by 2050 (from 2010 baseline). Table 1 below illustrates the three phases of CorCAP 2.0. Part 1 of this next generation corporate plan focusses on corporate demand for energy and is the focus of this report. Part 2 will be focussed on community demand and corporate supply of energy to the community and Part 3 on Adaptation. Parts 2 and 3 will be discussed in future reports.

Table 1 CorCAP 2.0 Phases

	Mitigation	Adaptation
Corporate	Part 1	Part 3
Community	Part 2	

Our community is already experiencing climatic changes. Our decade long efforts have not demonstrated sustained GHG emission reductions. Net-zero GHG emissions by mid-century are needed globally to keep global temperatures below a 1.5°C-2°C threshold to avert the worst impacts of climate change. The impact of cumulative GHG emissions from decisions we make now are locked-in for generations. Our corporate GHG emissions profile illuminates priority areas to focus on and pathways to developing our next generation corporate climate action plan (Part 1 focussed on corporate energy demand).

REPORT:

Municipal climate action is increasingly focussed on an energy transition. This is because burning fossil fuels releases greenhouse gases that are warming the planet. [Local climate modelling](#) completed in 2015 by the Interdisciplinary Centre on Climate Change at the University of Waterloo shows that our community's climate will be warmer, wetter, and wilder as a result of climate change. By 2050 our community's projected average temperature increase is approximately 2-3° Celsius. Current global surface temperatures have already increased by approximately 1.1°C.

Municipal climate action work involves four domains:

Adaptation: actions to manage the risks of climate change impacts (e.g., convert to permeable surfacing, plant shade trees)

Mitigation: actions to reduce emissions that cause climate change (e.g., right size equipment, fuel switch, heat recovery)

Corporate Emissions: GHG emissions our organization emits through the delivery of service to the community; we have some direct control

Community Emissions: GHG emissions within our region; we have some influence (e.g., complete communities, increased density, active transportation infrastructure, etc.)

1. For consideration by Council: *"I am interested in exploring strategies to achieve net-zero corporate emissions by 2050, which goes beyond Council's community commitment of an 80% reduction by 2050, recognizing that this may increase the associated costs over the next 26 years."*

Our community mitigation work has evolved through two generations of plans (*Our Progress, Our Path, and TransformWR*). Through the Council approved TransformWR plan the organization has committed to supporting community targets of 50% GHG reduction by 2030 and an 80% GHG reduction by 2050 (from 2010 baseline). Our corporate mitigation work has completed one generation with a 2026 target of 8% GHG reduction from our 2016 baseline year. What we are seeing in the climate action work locally is that our collective efforts to date have not led to sustained GHG emission reductions over time. The decisions we make now lock-in the impacts of GHGs for generations. There is a broad, global consensus that net-zero emissions (reducing GHG emissions to as close to zero as possible with any remaining GHG emissions being re-absorbed from the atmosphere) are needed by mid-century in order for the planet's temperatures to stay below the 1.5°C-2°C threshold to avert the worst impacts of climate change. There is need for a many fold increase in financing and resourcing for this work. Staff propose that sustained corporate emission reductions will require strategic, systemic, and deeply integrated changes to corporate processes, business planning and policies.

2. Cor consideration by Council: “I am interested in prioritizing corporate efforts in the next Corporate Climate Action Plan on GHG reductions along these three pathways: Energy Conservation, Fuel Switching and Generating Local Renewable Energy”

The TransformWR plan as approved by Council points to three action pathways to GHG reductions and staff propose that our organization align our next plan with these pathways as well:

- Energy Conservation – use less/demand less energy and use energy more efficiently
- Fuel Switching – convert to lower carbon energy sources
- Generate Energy – generate local renewable Energy

3. For consideration by Council: “I am interested in prioritizing efforts in the next Corporate Climate Action Plan on corporate GHG reductions from two focus areas:

a. Facilities - especially arenas, pools, and administrative buildings

b. Corporate Fleet, and Equipment - especially fuel switching gasoline vehicles now to electric and fuel switching diesel vehicles in the future”

Understanding our corporate GHG emissions helps to illustrate what to prioritize in the municipal climate action work we will undertake in this second-generation effort. Figure 1 below illustrates that over 90% of our corporate emissions come from two focus areas: our Facilities, and Fleet and Equipment focus areas.

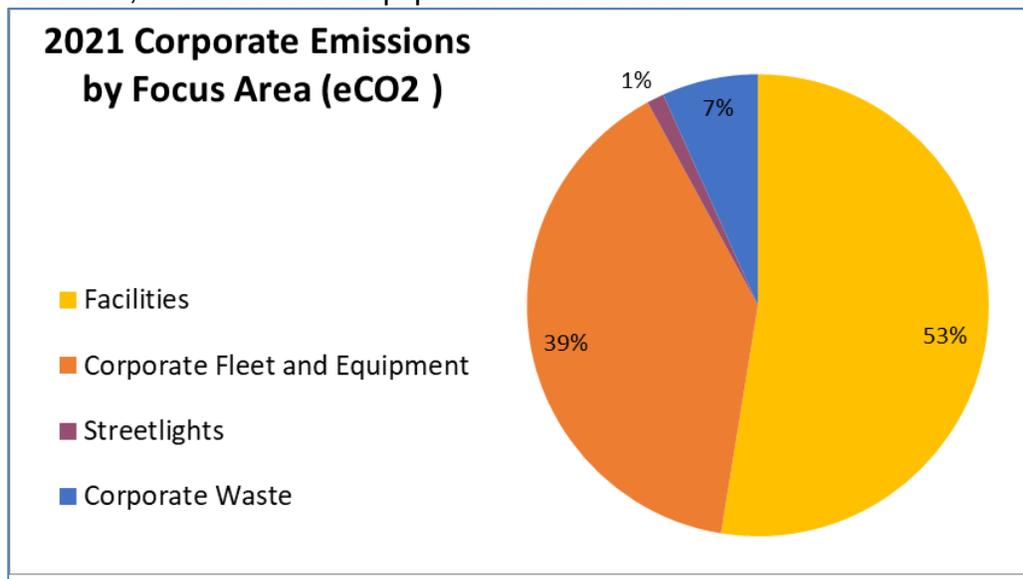


Figure 1 2021 Corporate GHG Emissions by Focus Area

The majority of the emissions from Facilities come from three facility types: arenas, pools, and administrative buildings (Figure 2). The top ten facilities within these categories contribute approximately 67% of our total corporate GHGs.

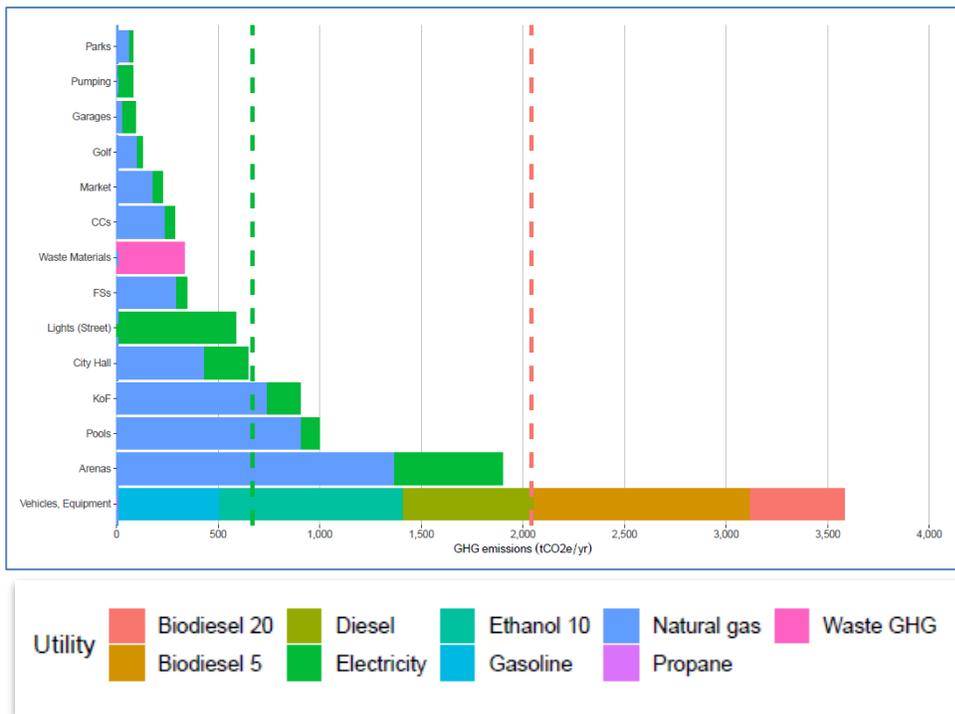


Figure 2 GHG emissions by asset type

Figures 3 and 4 illustrate how some sources of energy we rely on are more carbon intense than others. While almost half of our corporate energy use comes from electricity, this energy source only accounted for 10% of our corporate GHGs in 2021. By contrast, 33% of our energy use was natural gas which accounts for 44% of our emissions. Similarly, diesel, gasoline and propane combined accounted for 21% of our energy use and 39% of our corporate GHG emissions.

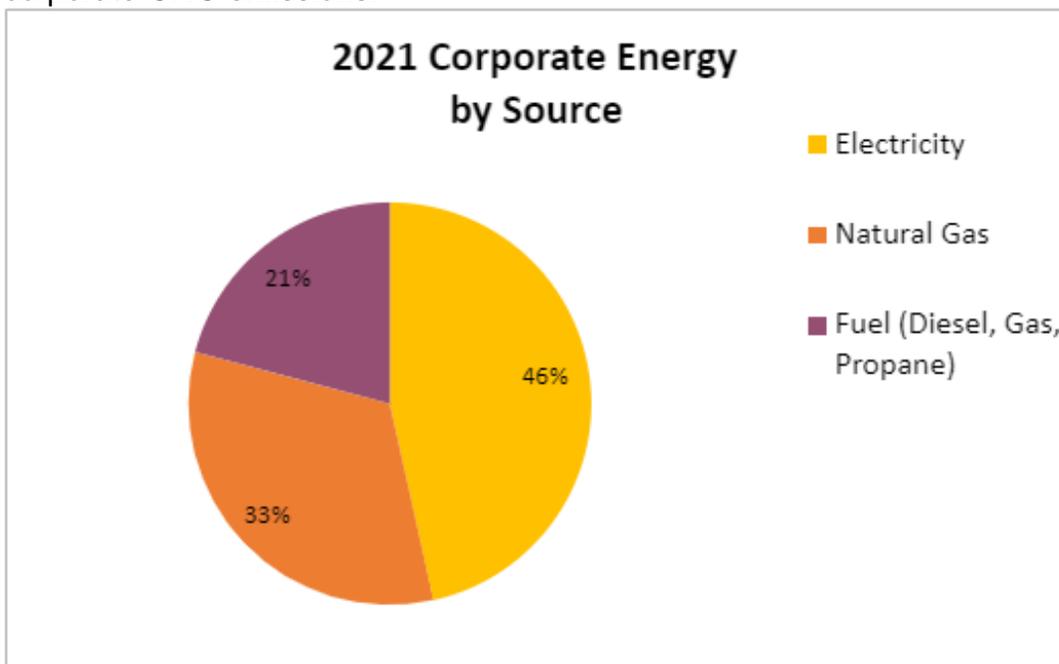


Figure 3- 2021 Corporate Energy Use by Source

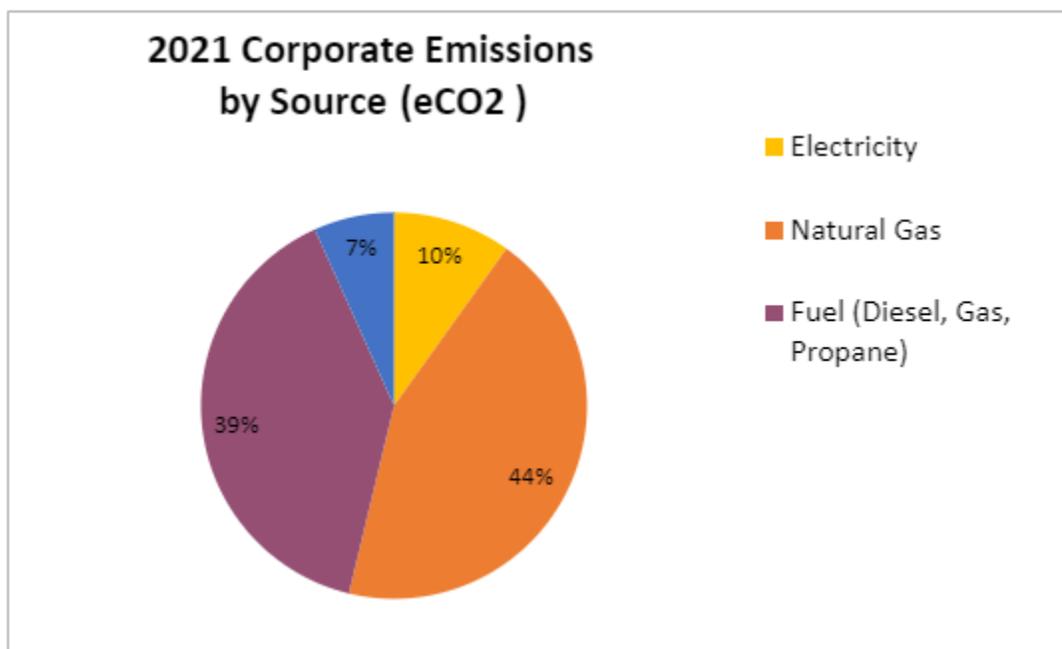


Figure 4- 2021 Corporate GHG emissions by energy source

Approximately 80% of natural gas use in facilities goes towards space heating and domestic hot water. Gasoline is often used in lighter duty vehicles and diesel in heavier duty vehicles. Transitioning away from fossil fuel reliance is part of a focus of what is called an energy transition.

GHG reduction modelling completed in December 2022 by WalterFedy for the City of Kitchener offers key insights into the strategic paths forward to corporate GHG reduction. There are four key observations (Table 2) on what to prioritize and how to focus efforts.

Table 2 Corporate GHG emissions profile observations – what to prioritize and how

OBSERVATIONS	PRIORITIZE - WHAT	PRIORITIZE - HOW
City Facilities followed by Corporate Fleet and Equipment have the greatest contribution of GHG emissions. The other focus areas make a minor contribution to corporate GHGs.	Prioritize GHG reduction from Facilities, and Fleet and Equipment.	Reduce energy demand and switch to lower carbon energy sources.
Arenas and pools have the greatest contribution to GHG emissions of all facility types. And most of the GHG emissions are due to natural gas consumption	Natural gas use has the greatest contribution to GHG emissions. Prioritize fuel switching, retrofitting many facilities especially the top 10 greatest contributing assets which contribute >67% of the total corporate GHGs.	Focus on water heating (ice resurfacing, pools, and showers) and space heating
Administrative buildings (KOF, CH)	Focus on reducing energy demand and fuel switching. Most significant end use GHG	Increase efficiency. Reduce natural gas use

OBSERVATIONS	PRIORITIZE - WHAT	PRIORTIZE - HOW
	emissions come from water and space heating	associated with water and space heating.
Fleet and Equipment	Reduce fleet and equipment fossil fuel use	Increase efficiency, fuel switch, and convert to electric vehicles and equipment

In addition to these more tactical approaches, staff anticipate that a sustained reduction in corporate GHG emissions will require strategic, systemic, and deeply integrated changes to corporate processes, business planning and policies.

4. For Discussion: *“It is anticipated that sustained corporate GHG emission reductions will require strategic, systemic, and deeply integrated changes to corporate processes, business planning and policies. As we develop the plan and seek support to adopt a new plan with a deeper commitment what are you looking for in a plan?”*

With Council’s support in this strategic session, staff across the organization will begin to build the corporate demand side plan strategies in the remainder of 2023 as part of phase 1 of CorCAP 2.0 and will report back for endorsement.

STRATEGIC PLAN ALIGNMENT:

This report supports Environmental Leadership by implementing a Corporate Climate Action Plan.

FINANCIAL IMPLICATIONS:

Significant capital investments will be required to sustain deeper corporate GHG reductions. It is estimated that \$250M in additional capital funding will be needed over the next 25 years (or \$10M/year) to work towards achieving net-zero GHG emissions by mid-century. Such a substantial investment in this corporate focus would likely require the use of several financing options such as external grant funding, ongoing funding from the City’s energy reserve fund, issuing debt, and consideration of other funding strategies such as a special tax levy. For context, a 1% increase to the City’s tax rate generates \$1.4M in additional revenue. Ongoing advocacy with other levels of government for funding will be important as well.

COMMUNITY ENGAGEMENT:

The Climate Change and Environment Committee was informed of this work at their March 2023 meeting. They will be consulted throughout the next phase of the plan’s development. The terms of reference for this project outlines a working and steering committee comprised of staff from across all focus areas that the project lead regularly collaborates with to develop the plan.

PREVIOUS REPORTS/AUTHORITIES:

There are no previous reports on developing this second-generation corporate climate action plan.

APPROVED BY: Justin Readman. General Manager of Development Services

ATTACHMENTS: none