Pivot: Net-Zero

City of Kitchener Corporate Climate Action Plan 2.0
2025 Progress Report

KITCHENER

April 2026

Table of Contents

List of Figures

List of Tables

1. Introduction

The City of Kitchener has identified a corporate near-term target of achieving an 8% reduction in corporate greenhouse gas (GHG) emissions from the baseline year of 2016; as well as a long-term goal of achieving net-zero by 2050. Achieving net-zero emissions means cutting GHG emissions from human activities to as close to zero as possible, with any remaining emissions being absorbed from the atmosphere. This is the second progress report on the organization's second-generation corporate climate action plan called *Pivot: Net-Zero;* approved by Council April 22, 2024 (DSD-2024-074). The threefold purpose of this report is to track corporate GHG progress from 2016-2025, provide an update on the 23 annual progress reporting metrics (Appendix B) and the 47 action items (Appendix C), as identified in Pivot: *Net-Zero*.

2. Corporate GHG Inventory

The City of Kitchener reports on GHG emissions in five corporate focus areas, presented in Figure 1. These corporate focus areas are consistent across most, if not all municipalities. GHG emissions are calculated based on energy consumption (fuel, electricity, natural gas) and emissions factors from verified sources (these details are further described in Appendix A).

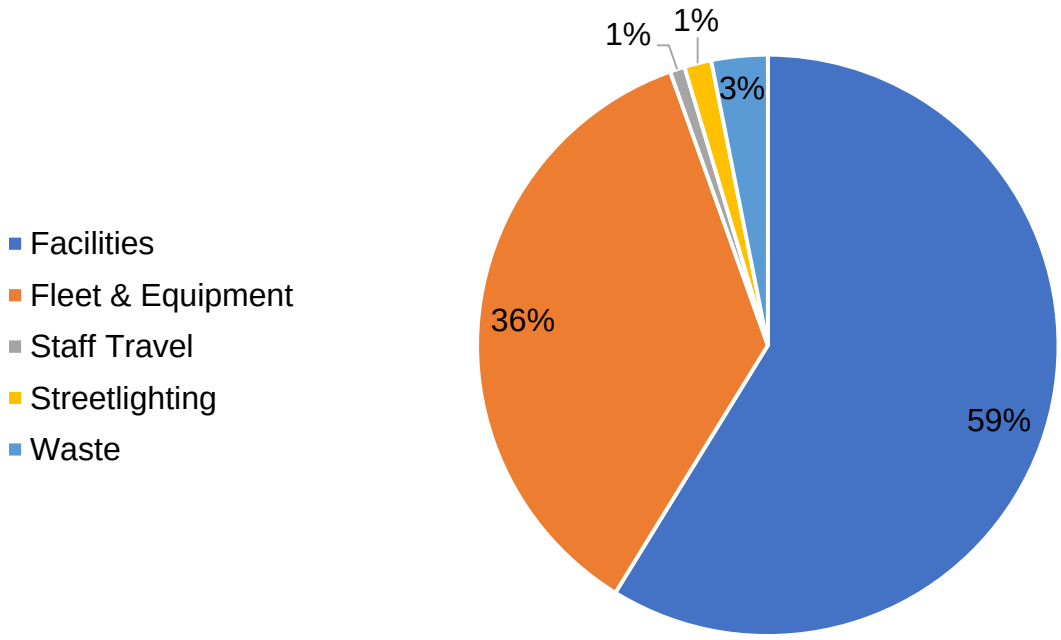

Figure 1 - 2025 Corporate GHG Emissions by Focus Area

In 2025, the City of Kitchener emitted 11,664 tonnes of GHGs (tCO_2e). Over ninety percent of these emissions came from two corporate focus areas – Facilities (59%) and Fleet & Equipment (36%), which is consistent distribution of corporate emissions from baseline. When looking at the corporate sources of energy within these two focus areas

(Figure 2), particularly the types of fossil fuels the city relies on, natural gas continues to play an important role in facilities (for space heating, and domestic hot water). Space heating alone accounts for approximately 85% of natural gas use in Facilities. While in fleet & equipment – gasoline and diesel are significant fuel sources. Gasoline is used primarily for lighter duty vehicles and diesel is used in medium and heavy-duty vehicles.

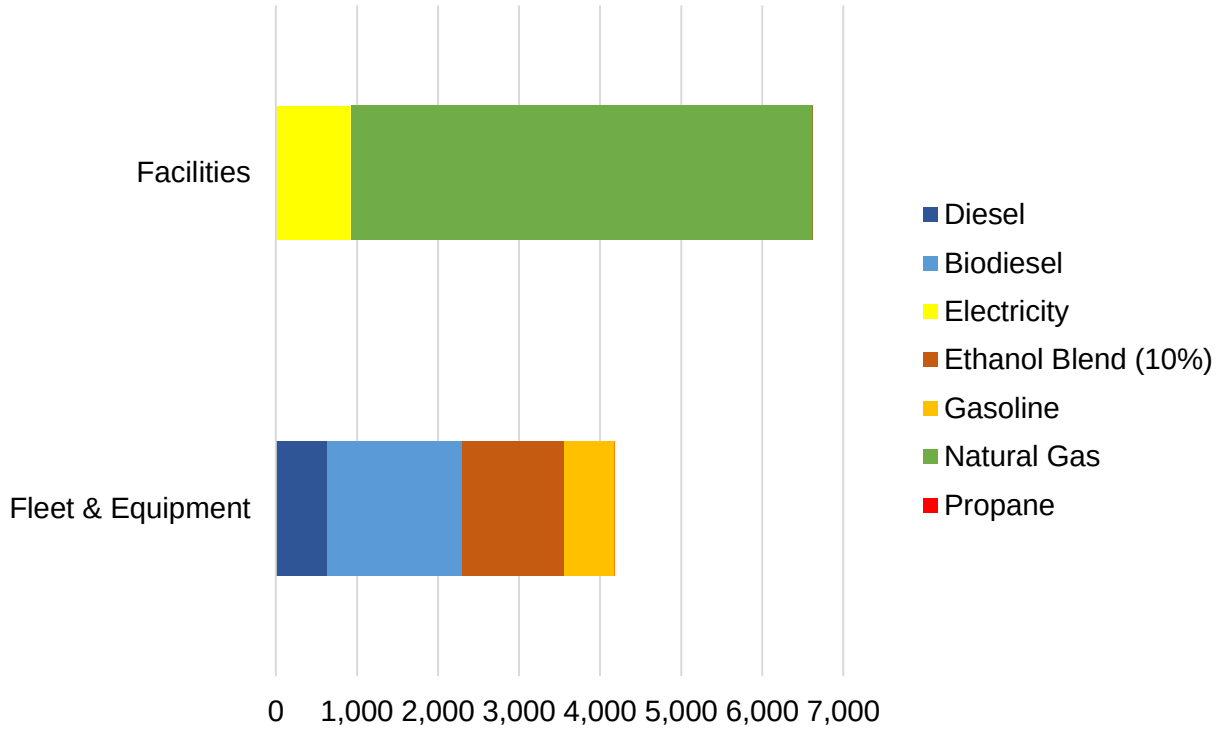

Figure 2 - 2025 Facilities and Fleet & Equipment GHG Emissions by Energy Type

3. Variations in GHG Intensity

3.1. Variation in GHG intensity between energy sources

When it comes to GHG emissions, not all energy sources are equal. Some energy sources are more carbon intense than others. This becomes clear when comparing energy consumption to GHG emissions for different energy sources (Figure 3). For instance, electricity is the source for 45% of corporate energy used in 2025, yet only accounts for 12% of corporate GHGs. Natural gas by comparison is the source of 44% of energy used – yet accounts for 64% of corporate GHGs. Similarly, fleet fuels account for 11% of total corporate energy used, but 23% of corporate GHGs emissions.

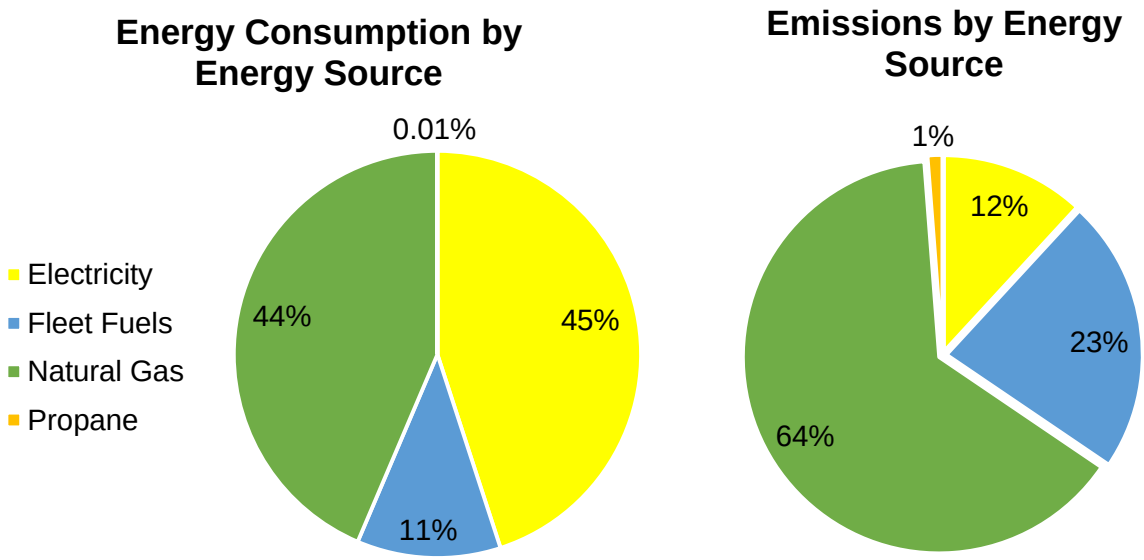

Figure 3 - 2025 Energy Consumption vs. Emissions by Energy Source

This data provides insight into how transitioning to lower carbon energy sources is important, why it is sound for this to be a corporate priority and how a corporate energy transition can make a significant impact on corporate GHGs and in the journey to net-zero.

3.2. Variation in the Grid's GHG intensity over time

Ontario's electricity grid is known for being "clean", with the majority of electricity production coming from zero emission sources. It is noteworthy however, that in 2025, the carbon intensity of Ontario's electricity grid increased from 30gCO_2e/kWh in 2024 to 38gCO_2e/kWh in 2025 (an approximate 27% increase). Recently, Ontario has required the use of more carbon-intensive electricity generation due to rising provincial electricity demand and the refurbishment of nuclear generating stations, leading to an increase in the grid's emission factor. Trends show that the carbon intensity for Ontario's electricity grid will continue to increase over the coming years, with another increase anticipated in 2026 to 59gCO_2e/kWh.

In light of external factors influencing the electricity grid's carbon intensity—an area outside the organization's control—it is increasingly important to focus on the elements that are within the city's influence. Prioritizing improvements in energy efficiency and strengthening service delivery will help mitigate these impacts and support continued progress toward the corporate climate goals.

4. Corporate Energy Costs

Utility and fuel costs (also referred to as energy costs) are a necessary part of the organization's operational expenses. These costs are incurred through service delivery to the community. Corporate energy costs in 2024 and 2025 are outlined in Table 1.

Table 1 – 2024 & 2025 Corporate Energy Costs

Energy Source	2024 Cost	2025 Cost
Fleet & Equipment		
Gasoline (includes gasoline and ethanol blend)	$1,012,731	$950,736
Diesel (includes petroleum diesel and biodiesel blends)	$1,070,168	$1,099,743
Propane – fleet & equipment	$5,667	$1,325
Fleet Total	$2,088,582	$2,051,805
Facilities		
Propane	$11,598	$12,864
Electricity	$4,751,414	$5,386,315
Natural Gas	$1,000,120	$1,030,394
Facilities Total	$5,763,132	$6,429,573
Grand Total	**$7,851,698**	**$8,481,378**

5. Strategic Priorities by Focus Area

5.1. Facilities

Facilities emissions account for over half of Kitchener's corporate GHG emissions (59%). 83% of facilities emissions come from natural gas consumption used for space and water heating, which is equivalent to 49% of total corporate emissions. Looking at the data with both a facility and energy type lens, enables a more granular and strategic understanding of Facilities and their contribution to corporate GHGs. Certain facility types emerge as priority areas for making impact including Arenas, Administrative Buildings, and Pools (Figure 4). This is underscored by looking at the corporate Top 10 GHG emitting facilities (Figure 5), 8 of which fall into these 3 categories, including 6 within the Sport Division (Arenas and Pools).

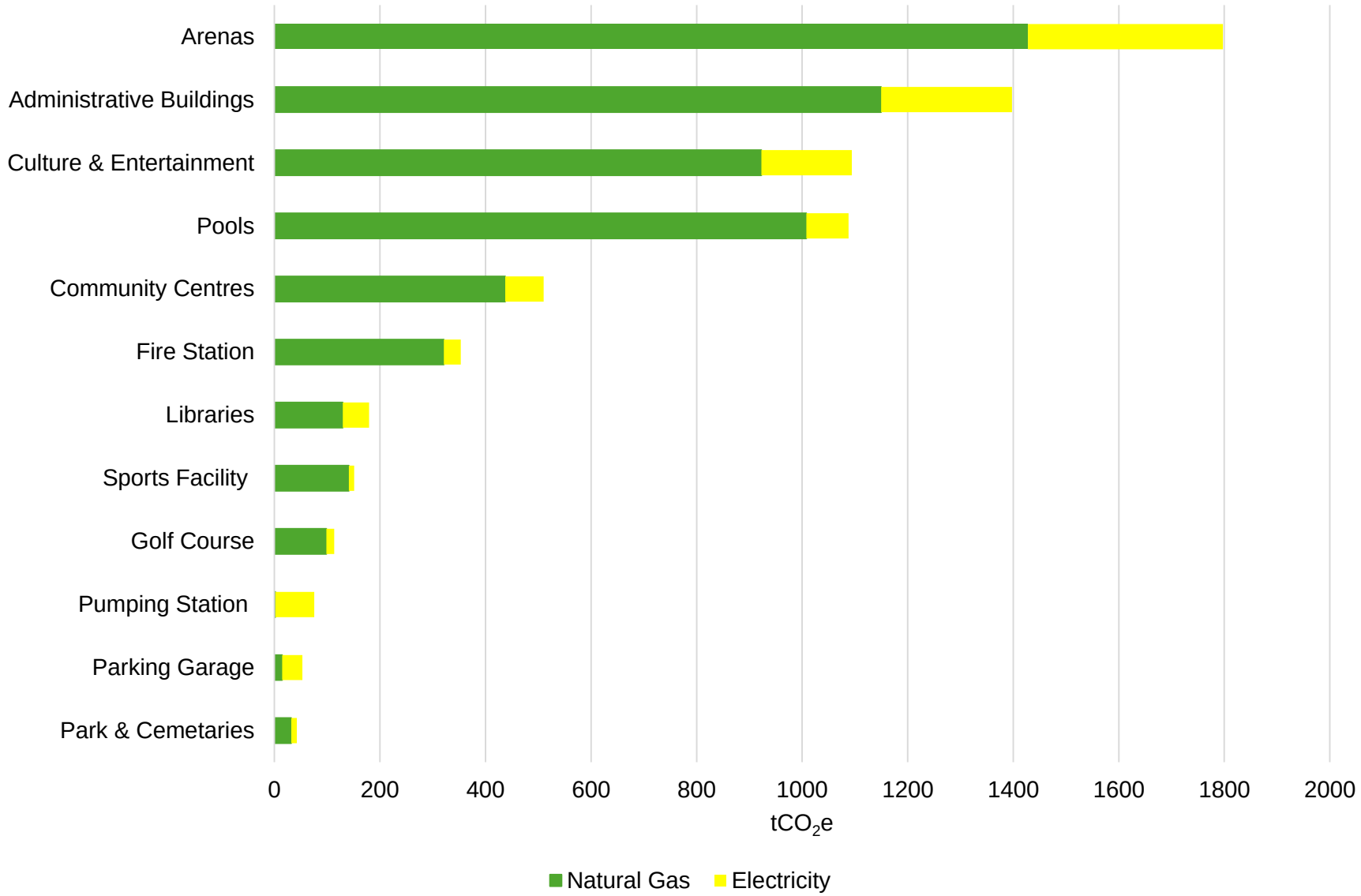

Figure 4 - 2025 Corporate GHG Emissions by Energy Source and Facility Type

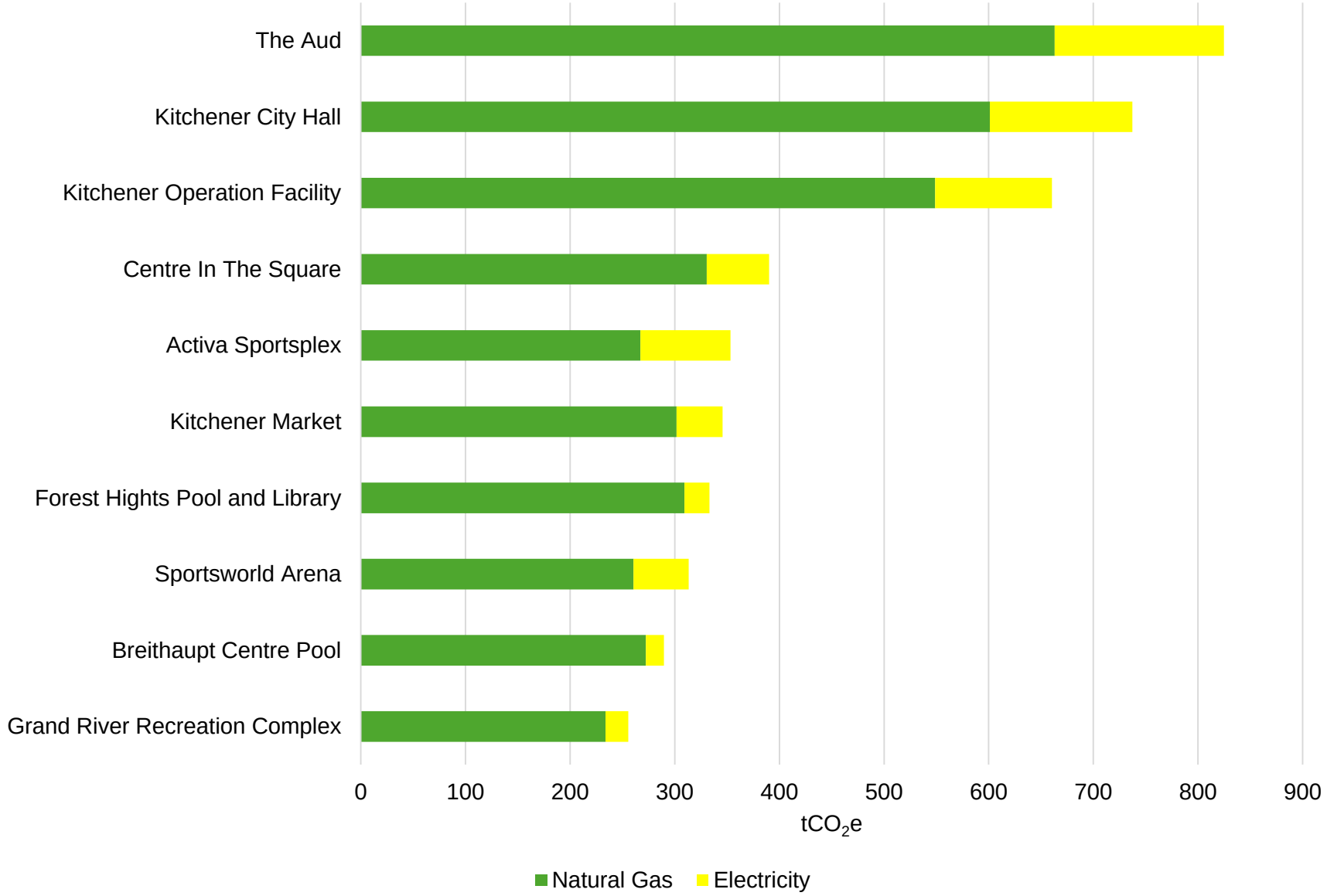

Figure 5 - 2025 Top 10 City of Kitchener GHG Emitting Facilities

5.1.1. Facilities Efficiency

In 2025, the carbon intensity for facilities was 32 $kgCO_2e/m^2$ (0.032 tCO_2e/m^2), which is an increase from 2024. Facilities total area increased approximately 1% from 2024 to 2025, while the carbon intensity increased by 14%. Table 2 shows the breakdown of intensity per m^2 for all City owned facilities (excluding pumping stations).

It is anticipated that the carbon intensity of buildings will decrease as facilities transition towards lower carbon energy sources especially for space heating. While electricity remains significantly cleaner than fossil fuels, recent and projected increases in Ontario's grid emission factor underscore the need to simultaneously pursue energy efficiency.

Overall, in 2025 the GHG emissions for City of Kitchener facilities are slightly lower than 2016 levels, with electricity GHG emissions 14% lower from 2016-2025, however natural gas emissions are up 3% from 2016-2025. Refer to section 7.1 & 7.3 for trends that are contributing to these observed changes in facilities energy consumption and GHG emissions.

Table 2. City of Kitchener Facilities Efficiency Metrics for 2024 and 2025. This data excludes City owned pumping stations.

Year	Facilities Area (m^2)	Carbon Intensity ($kgCO_2e/m^2$)	Electricity use per area (kWh/m^2)	Natural gas use per area (m^3/m^2)	Cost intensity per area ($/m^2$)
2024	203,808	28	137	13	27.25
2025	206,240	32	140	14	30

5.1.2. Generating Renewable Energy

The solar panels installed on the roof of the Kitchener Operations Facility generated a total of 510,396kWh in 2025. The energy produced from these solar panels is sent back to the electrical grid.

The Kitchener Public Library Southwest Community Branch was completed in 2025 and generated a total of 15,826kWh. The energy produced from these solar panels was used to power the facility, with any extra energy being sent back to the electrical grid.

5.2. Fleet & Equipment

The Fleet Division at the City of Kitchener is an integral part of service delivery across many departments. In total, Fleet is responsible for approximately 650 on and off-road vehicles and equipment. In addition, the City of Kitchener has many smaller handheld equipment. Due to the refueling practices, it is difficult to track exactly how much fuel

individual handheld equipment units use. In light of this, the fuel used in these units is captured under the associated vehicle's fuel usage.

Light duty vehicles (LDVs) include cars, cargo vans, SUVs and smaller pick-up trucks and they make up 41% of fleet assets but are only responsible for 20% of fleet emissions (Figure 6). The marketplace currently offers electric options for many LDVs. This vehicle type is most ready to transition to zero-emission options. By contrast, the medium and heavy-duty vehicle marketplace is limited in its offering of zero emissions vehicle options. Vehicles in this category include dump trucks, large pick-up trucks (e.g., Ford 550) and fire trucks. These two categories represent 34% of the total fleet assets and 67% of the fleet and equipment emissions (Figure 6). Therefore, even by electrifying all City of Kitchener owned light-duty vehicles, the majority of emissions from this focus area will persist until viable options are present in the marketplace.

Zero emission fleet assets continue to grow, with an additional 7 battery electric vehicles being added to the light-duty fleet, along with 7 electric utility vehicles and 5 electric ice resurfaces being added in 2025.

Fleet is in the process of undertaking a Sustainable Fleet Transition Strategy (Appendix C, Action 27) which will include a comprehensive assessment of the City's current Corporate Fleet and infrastructure. The main objectives include: a low carbon assessment, EV infrastructure assessment, financial assessment, environmental impacts, and electrification optimization modelling pathways. Included in the study will be an analysis of alternative fuel types including hydrogen and renewable fuels.

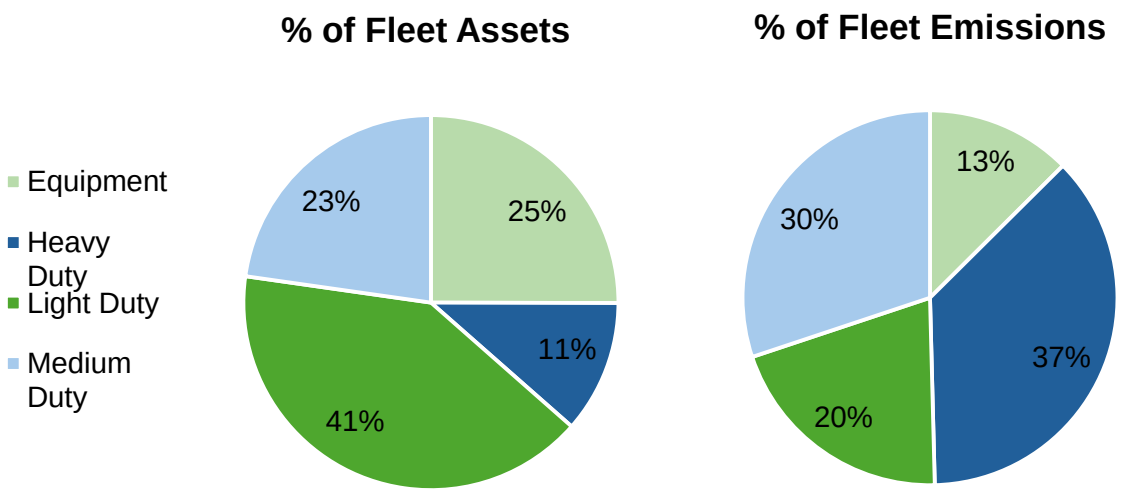

Figure 6 - 2025 GHG Emissions by Fleet Vehicle Class (excluding small equipment)

5.2.1. Fleet Efficiency

In 2025, the carbon intensity of Kitchener's fleet was 0.58 $kgCO_2e/km$ (0.00058 tCO_2e/km) for on‑road licensed vehicles, which includes both light and medium‑duty units (these numbers exclude heavy-duty fleet and equipment), as outlined in Table 3. From 2024-2025 light and medium duty fleet assets increased 5% and the associate carbon intensity increased 5%, while the total distance driven remained relatively unchanged. Notably, zero‑emission vehicles now make up 11% of the light‑duty fleet.

Refer to section 7.2 for trends that are contributing to these observed changes in facilities energy consumption and GHG emissions

Table 3. Light-duty and medium-duty fleet efficiency metrics for 2024 and 2025.

Year	Mileage	Carbon Intensity ($kgCO_2e/km$)	Cost intensity per area ($/km)
2024	3,574,659	0.55	0.31
2025	3,556,132	0.58	0.29

5.3. Streetlighting

The City of Kitchener is responsible for a network of approximately 18,325 Cobra Head streetlights and 2,689 decorative post-top lights. Acknowledging the opportunity to reduce GHG emissions from electricity to power lights and for impressive cost savings, the City undertook an extensive LED conversion project, converting 15,636 of its Cobra Head streetlights, over a 2-year period from 2015-2017. Cost and energy savings were immediate and significant. In April 2017 (pre-completion), electricity use for streetlights was approximately 802,000 kWh, and the following April consumption fell to approximately 350,000 kWh. In 2022/2023, a similar project was done for all the City's decorative post-top lights, with an estimated pay-back period of 10.7 years.

Not only has the transition to LED lighting resulted in emission reductions but it has also significantly decreased the waste associated with replacing streetlight bulbs. On average, the previously used high-pressure sodium (HSP) lightbulbs were replaced every 3 years. Following the transition to LED, many of the streetlight bulbs have had a lifespan upwards of 10 years.

Since the project was implemented in 2017, a 61% reduction in energy consumption has been observed (Table 4). This reduction has been sustained into 2025, however due to the increase in carbon intensity of Ontario's electricity grid, the associated GHG emissions have increased 26% from 2024 to 2025. While emissions have increased as a result of external factors, streetlighting is still a successful example of improving energy efficiency and has reduced the associated GHG emissions by 64% from 2016 to 2025.

5.4. Staff Travel

Staff travel includes vehicle mileage claimed by employees who used a personal vehicle for work purposes only. Tracking and reporting on this category, provides a more wholistic view of staff travel related to service delivery to the community to complement fleet reporting. To calculate emissions for this category, an average of the carbon intensity for a variety of common vehicle makes and models was used (refer to Appendix A).

In 2025 GHG emissions from staff travel increased from 64tCO_2e in 2024 to 96tCO_2e, which is a 50% increase. Total kilometers (km) claimed by staff also increased by 50%, which is a result of increased claims for reimbursement. While the cause of this increase in unclear, it is anticipated to be a result of increased vehicle travel for on-site in person work related activities.

5.5. Corporate Waste

This focus area includes waste generated at City facilities and from street level and park waste receptacles. While waste may appear to be a small part of corporate emissions (3%), methane from waste is much more harmful and potent than other GHGs. From 2016 – 2025, waste generated corporately has increased along with the associated GHG emissions.

Corporate waste remains a focus area that lacks clarity, as it has been on an upward trend since 2016. In order to assess this issue *Pivot: Net-Zero* Action #35 aims to provide greater clarity into corporate waste. This corporate waste assessment project is in progress, with a scope of work being developed.

The 2025 corporate waste data could not be verified for accuracy. To avoid misrepresenting any changes in waste generation, the 2024 value was carried forward for 2025. It is anticipated that with the completion of the corporate waste assessment project the city may be better positioned to report corporate waste related emissions with greater confidence.

To help improve corporate GHG inventory reporting, the waste emission factor has been updated to align with that used by local partner organizations. This change results in a notable decrease in reported GHG emissions from waste in 2025. The observed emission change is a result of the updated emission factor and not a change in the amount of waste generation.

6. Water Conservation

The City of Kitchener receives its potable water supply from the Region of Waterloo, which sources approximately 80% from groundwater and the remaining portion from surface water drawn from the Grand River. Water conservation has long been a priority for the city, demonstrated through initiatives such as the grey water system at the Kitchener Operations Facility and the re-circulated splash pad system at City Hall. With

the growing concerns with the Region's recent water supply capacity constraints, the city is placing even greater emphasis on responsible water use.

This valuable resource supports a wide range of essential community services and operations including pools and splash pads, arenas, parks, sports fields, street sweeping, watermain flushing to maintain water quality, and sewer flushing among many others.

To strengthen water stewardship across the organization, the city is undertaking a review of its operations to identify opportunities for improved water conservation. Early initiatives include piloting Advanced Metering Infrastructure (AMI) at select facilities to gain deeper insight into consumption patterns and exploring opportunities for water reuse where feasible.

In addition to operational improvements, the city recognizes the importance of public education. This includes sharing information about the Region of Waterloo's Water Conservation By-Law with residents and organizations that operate in-ground irrigation systems, helping to promote responsible water use throughout the community.

7. Corporate and Community Emissions

Climate Action Waterloo Region tracks community emissions across Waterloo Region. When comparing how the City of Kitchener's corporate GHG emissions contribute across the region, Kitchener corporate GHGs account for less than 1% of all community emissions.

8. Trends

In 2025, the City of Kitchener's corporate GHG emissions have increased by 1% from the 2016 baseline year, which is a 7% increase from 2024 to 2025. Figure 7 illustrates changes in emissions over the years, with the dotted red line indicating the City's currently corporate target of reducing emissions by 8% from 2016 levels. Table 4 describes the changes in corporate energy consumption and GHG emissions.

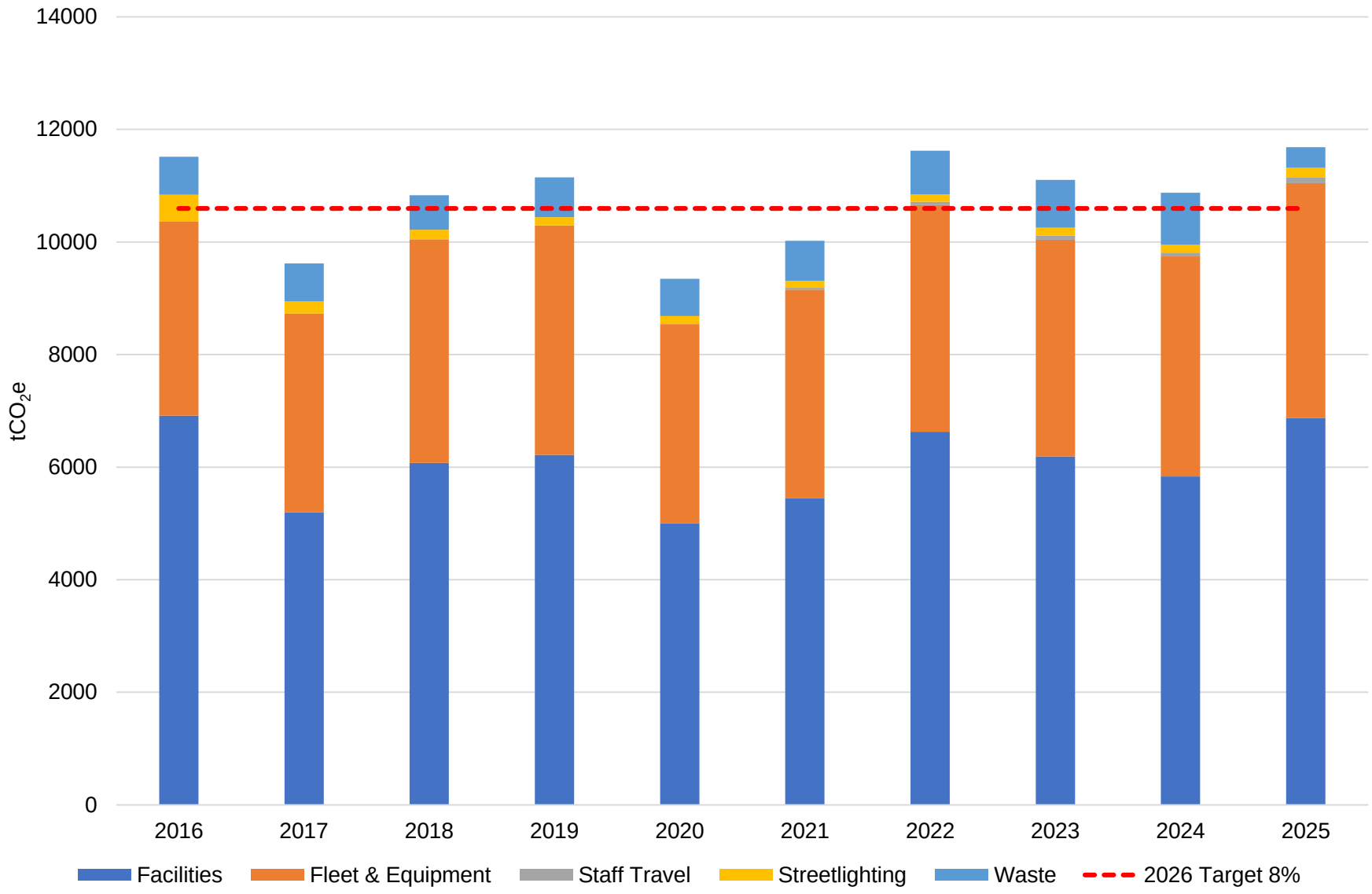

Figure 7 – City of Kitchener Corporate GHG Emissions 2016 – 2025

Table 4 - Corporate GHG Emissions vs Consumption by Focus Area

	2016-2022		2016-2023		2016-2024		2016-2025	
	% Change in Consumption	% Change in Emissions	% Change in Consumption	% Change in Emissions	% Change in Consumption	% Change in Emissions	% Change in Consumption	% Change in Emissions
Buildings - Electricity	-13%	-41%	-10%	-34%	-10%	-34%	-7%	-14%
Buildings – Natural Gas	+4%	+4%	-6%	-5%	-12%	-12%	+2%	+3%
Fleet & Equipment	+9%	+17%	+4%	+12%	+7%	+14%	+15%	+21%
Staff Travel	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Streetlighting	-61%	-73%	-61%	-71%	-61%	-71%	-61%	-64%
Waste	+15%	+15%	+26%	+26%	+37%	+37%	+37%	-46%
Grand Total	**-**	**1%**	**-**	**-4%**	**-**	**-6%**	**-**	**1%**

8.1. Service Growth and GHGs

The City of Kitchener's Facilities and Fleet operations continue to grow. Kitchener is among the fastest growing communities in Canada and likewise City of Kitchener service delivery is expanding. As the city expands service delivery to the community, new buildings are being added to the inventory and operating hours are increasing at certain facilities. Focussing on energy efficiency, fuels switching and generating renewable energy continue to be sound strategic areas of focus to meet operational growth while reducing energy costs and carbon emissions.

In 2025, 2,432 m^2 of facility space was added to the City of Kitchener's GHG inventory. One of the facilities added was The Southwest Community Library, a facility designed with sustainability at its core achieved Zero Carbon Building Certification from the Canadian Green Building Council and features an all‑electric design (with no natural gas), solar panels, geothermal technology, and a high‑performance building enclosure. This library is a Kitchener owned facility that is operated by another party. This facility demonstrates how sustainability can be integrated into service expansion.

8.2. Weather Variability and Winter Maintenance

Fleet & Equipment emissions have risen relative to the 2016 baseline; however, this increase aligns with growth in both fleet assets and service demands. From 2024 to 2025, fleet emissions rose by 6%, driven in part by heightened winter service requirements. As regional climate variability intensifies, the city is experiencing greater fluctuations in seasonal weather, and the winter of 2025 saw a marked increase in snowfall events. Table 5 illustrates the surge in declared snow events, total plow responses, and the volume of snow transported to the storage facility between 2024 and 2025. Declared snow events and plow responses more than tripled, and this intensified winter activity corresponded with a 28% increase in heavy‑duty fleet emissions.

Table 5. 2024 & 2025 City of Kitchener Snowfall and Plow Response Data

Year	Declared Snow Events	Total Plow Responses	Truck Loads of Snow
2024	3	4	1,208
2025	9	16	5,504

8.3. Heating Degree Days

Heating degree days (HDD) is a way of quantifying energy demand to heat buildings based on outside temperatures. During colder winters with more heating degree days, it is anticipated that energy consumption for space heating (i.e., natural gas), the associated GHG emissions, would be higher. There were 4,174 HDD in 2022 (8% increase from 2016 at 3,856HDD) and Table 4 notes a 4% increase in natural gas

consumption and emissions. In 2023 there was 4% less HDD compared to 2016 and correspondingly 5% less natural gas emissions. In 2024 there were 3,528 HDD (-9% to 2016) and a 12% decrease in natural gas consumption and emissions. And in 2025 there were 4,167 HDDs, which is an 8% increase for 2016, and corresponding natural gas consumption and emissions are up 3% above 2016 baseline. This indicates the significant impact of variations in the annual weather on the changes observed in natural gas emissions. Figure 8 illustrates the strong correlation between HDD's and natural gas consumption.

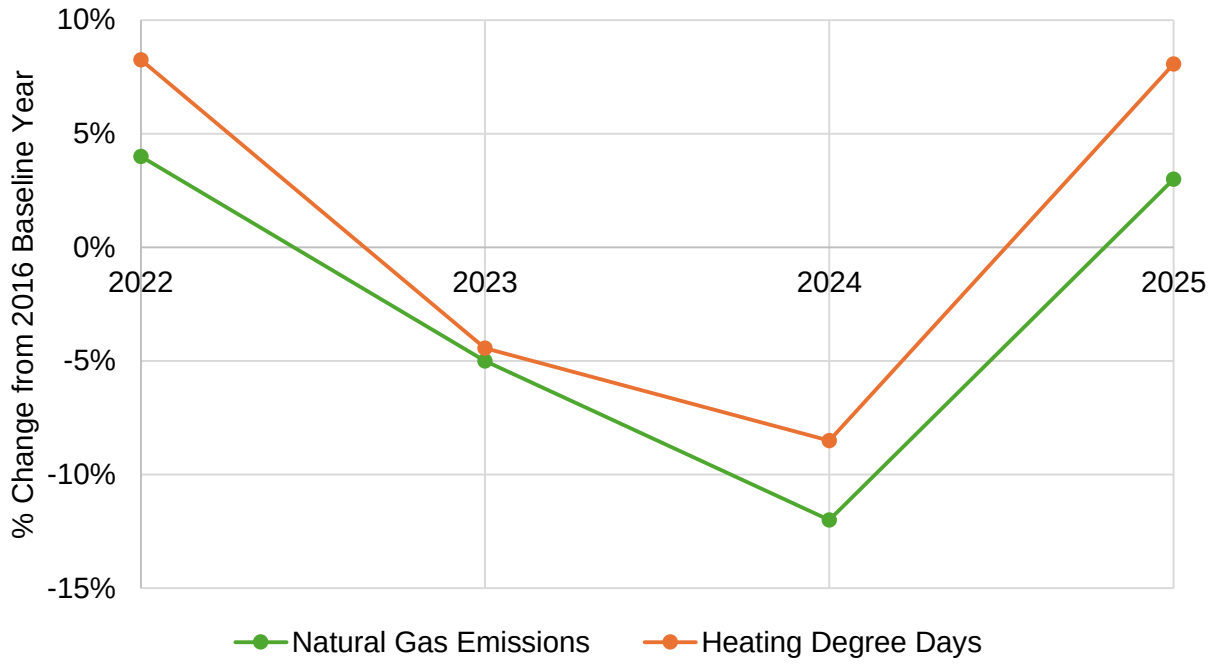

Figure 8. Change in corporate natural gas consumption and heating degree days from the 2016 baseline year.

9. Progress on 47 Action Items

Appendix C outlines the 47 actions that are foundational to working towards net-zero 2050. Of the 47 actions, 26 (55%) have been completed and/or are on-going and 21 (45%) are in progress and considered on track for their anticipated completion year.

10. Calls to Action

Progress on *Pivot: Net-Zero* actions is outlined in Appendix C. The projects listed immediately below, with anticipated completion in 2026/2027, are particularly important to progress as they are anticipated to provide a clear blueprint on actions to prioritize in both Facilities and Fleet and Equipment focus area:

- Action 4: Develop Energy Management Strategy
- Action 7: Develop a Corporate Green Building Standard

- Action 8: Complete a facilities GHG reduction pathway for a suite of high priority facilities
- Action 9: Develop an Arenas Strategy
- Action 13: Develop a Corporate Solar Strategy
- Action 27: Develop Sustainable Fleet Strategy

Capital and operating decisions today will set the organization on future paths regarding GHG emissions, and prioritizing deep GHG reductions will mitigate climate impacts. Focusing on actions with the greatest potential impact on corporate GHG emissions is key to protecting the City of Kitchener from external threats (e.g., weather variability and the increasing carbon intensity of the Ontario electricity grid) and disruptions while building resiliency towards meeting its long-term net-zero goal. Decisions made at all levels of government can have an impact on the City's GHG emissions, as demonstrated by changes to the carbon intensity of the electricity grid. Prioritizing the three pathways of energy conservation, fuel switching, and generating renewable energy continue to remain important components of the City's climate strategy.

11. Appendices

11.1. Appendix A – Corporate GHG Inventory - Methodology & Adjustments

11.1.1. Methodology

GHG emissions have been calculated using consumption data collected from utility bills for electricity and natural gas, and from FLINT for fleet fuels. Table A1 below outlines the emission factors used to convert consumption data into GHG emissions for 2025. The most up to date emission factors published by the Governments of Canada and Ontario have been used. For staff travel, an average emission factor based on a variety of makes and models was used. For waste, the emission factor created and used by Sustainable Waterloo Region's (SWR) Impact Network was used.

Table A 1 – 2025 Emission Factors

Energy Source	Unit	Emission Factor ($KgCO_2e$ /unit)
Electricity	kWh	0.03
Natural Gas	m^3	1.93
Biodiesel 5	L	2.70
Diesel	L	2.71
Ethanol Blend (10%)	L	2.24
Gasoline	L	2.32
Propane	L	1.54
Electricity	L	0.038
Staff Travel	km	0.19
Waste	mt	190

11.1.2. Assets in GHG Inventory

To track and report on Corporate GHG emissions consistently from year to year, it is important to have a well-defined inventory of assets and sources that are included and updated in corporate GHG reporting. Table A2 below outlines the assets and sources reported on in each focus area.

Table A 2 - Assets and Sources included in GHG Inventory

Focus Area	Sources
Facilities	88 facilities Facilities data is obtained from the Cityworks asset database. Energy usage and costs are obtained from utility bills.
Corporate Fleet & Equipment	All on-road heavy, medium, and light duty vehicles and off-road equipment (loaders, backhoes etc.) that use 6 different types of fuel. Given the process by which small handheld equipment is re-fueled, it is difficult to accurately track their fuel consumption and therefore handheld equipment is not included in the GHG inventory for fleet.
Streetlights	Outdoor Streetlights
Waste	Waste collected from city facilities and street level / park waste receptacles including large Moloks.

Focus Area	Sources
Staff Travel	Staff mileage claims for work-related, personal-vehicle use.

11.1.3. Adjustments

Corporate Spending on Carbon Pollution Pricing

The federal government removed the customer-facing carbon tax as of April 2025. Previously, this tax was included on fuels including gasoline, diesel and natural gas. With the removal of the federal carbon tax, the reporting metric “Corporate Spending on Carbon Pollution Pricing” was not reported on for 2025.

Additional Reporting Metrics

Four additional reporting metrics (Table A3) were added in 2025 to better track energy and fuel efficiency for Fleet and Facilities (see Appendix B for full list of reporting metrics).

Table A 3. Reporting metrics added in 2025

Type	Metric	Data Source
Facilities	Electricity use per area	Total electricity consumption (kWh)/total area of facilities owned (excluding pumping stations)
Facilities	Natural gas use per area ($/m2)	Total natural gas consumption/total area of facilities owned (excluding pumping stations)
Facilities	Cost intensity per area ($/m2)	Total energy cost /total area of facilities owned (excluding pumping stations)
Fleet & Equipment	Cost intensity km	Fuel cost /total km driven (for on-road passenger vehicles)

Additional Facilities

The following 2 facilities were added to the corporate inventory in 2025:

- Kitchener Public Library Southwest Community Branch: 100 Rosenberg Way, Kitchener ON N2R 1P6
- Williamsburg Community Center: 200 Rosenberg Way, Kitchener ON N2R 0S3

Water Conservation

Corporate water conservation has been added to the Pivot: Net-Zero Annual Progress Report. This section will be used to track annual updates on related initiatives.

11.2. Appendix B – Annual Progress Reporting Metrics

Type	Metric	2024 Values	2025 Values	Data Sources
Corporate	Total Annual Consumption by Energy Source (GJ)	280,764 GJ	303,981GJ	Utility (Gas and Electricity) Bills provided by utility; Fuel consumption provided by Fleet Systems Specialist pulled from FLINT.
Corporate	Total Annual GHG Emissions by Energy Source (t CO_2e)	10,873 tCO_2e	11,664 tCO_2e	Consumption data by energy source multiplied by applicable emission factor from verified source.
Corporate	Total Annual GHG Emissions by Corporate Focus Area (t CO_2e)	Facilities: 5,832 tCO_2e Fleet & Equipment: 3,913 tCO_2e Staff Travel: 64 tCO_2e Streetlights: 139 tCO_2e Waste: 926 tCO_2e Total: 10,873 tCO_2e	Facilities: 6,868 tCO_2e Fleet & Equipment: 4,177 tCO_2e Staff Travel: 96 tCO_2e Streetlights: 176 tCO_2e Waste: 365 tCO_2e Total: 11664 tCO_2e	Consumption data by focus area multiplied by applicable emission factor from verified source.
Corporate	Annual Renewable Energy Generated (kWh)	570,263 kWh	526,222 kWh	Metered by Enova
Corporate	% of Annual Energy Consumed from Fossil Fuels	53%	55%	Energy consumed (GJ) from fossil fuels (natural gas, fleet fuels, propane) divided by total energy consumed (GJ) x 100.
Corporate	Annual Total Energy Cost	$7,851,698	$8,481,378	Total cost of electricity, natural gas, propane, diesel, and gasoline for the assets included in GHG inventory.

Corporate	Corporate Spending on Carbon Pollution Pricing	$708,103	N/A	Annual Fleet and Facilities GHG emissions (tonnes CO_2 e) x minimum national carbon price for reporting year (Carbon Pollution Pricing). *Does not include emissions from electricity.*
Corporate	Social Cost of Carbon	$2,892,484	$3,160,944	GHG emissions from all sources (tonnes CO_2e) x Environment and Climate Change Canada's yearly estimate for social cost of carbon ($/tonne) (ECCC Social Cost of GHGs)
Fleet & Equipment	Total Energy Use by Fuel Type	Gasoline**:** 8,947 GJ Ethanol (10% blend): 17,515 GJ Diesel: 10,038 GJ Biodiesel: 20,333 GJ Propane: 257 GJ Electricity: 67 GJ Total: 57,156 GJ	Gasoline**:** 9,390 GJ Ethanol (10% blend): 18,885 GJ Diesel: 9,051 GJ Biodiesel: 23,525 GJ Propane: 54 GJ Electricity: 141 GJ Total: 61,045 GJ	Fuel Quantities x applicable conversion factor (L x GJ/L)
Fleet & Equipment	GHG Per KM	0.00055 tCO_2e/km (0.55$kgCO_2e$/km)	0.00058 tCO_2e/km (0.58$kgCO_2e$/km)	Total Fleet GHGs / total KM driven (for on-road passenger vehicles)
Fleet & Equipment	Cost intensity km	$0.31/km	$0.29/km	Fuel cost /total km driven (for on-road passenger vehicles)
Fleet & Equipment	% of fleet and equipment that are zero emissions	11% (176 units)	12% (189 units)	# of ZEV emission vehicles & equipment / total fleet assets (all categories)
Fleet & Equipment	% of Light-duty fleet that is zero-emissions	7% (18 units)	10% (25 units)	# of ZEV emission vehicles / Light-duty vehicles (cars, SUVs, Van & Chassis< 4,500 kg)

Fleet & Equipment	Annual Fuel Cost	Gasoline: $338,391 Ethanol (10% blend): $674,340 Diesel: $334,445 Biodiesel: $735,723 Propane: $5,667 Total: $2,088,566	Gasoline: $311,557 Ethanol (10% blend): $639,179 Diesel: $271,122 Biodiesel: $828,622 Propane: $1,325 Total: $2,051,805	Total annual cost of all fleet fuels (gasoline, ethanol 10, diesel, biodiesel blends, propane) – from Fleet Systems Specialist via Flint
Facilities	Annual Energy Costs	Electricity: $7,782 Natural Gas: $5,908 Propane: $11,598 Total: $5,763,132	Electricity: $5,386,315 Natural Gas: $1,030,394 Propane: $12,864 Total: $6,429,573	Total cost of electricity, natural gas and propane associated with Facilities in GHG inventory via utility bills
Facilities	Energy Use by Facility	203,903 GJ	226,538 GJ	Utility consumption x applicable conversion factor (unit of energy x GJ/unit of energy)
Facilities	GHG per area (m^2)	28.5kg CO_2e/m^2 (0.028tCO_2e/m^2)	32kg CO_2e/m^2 (0.032tCO_2e/m^2)	Total facilities GHG s/ total area of facilities owned (excludes pumping stations).
Facilities	Electricity use per area	137 kWh/m^2	140 kWh/m^2	Total electricity consumption (kWh)/total area of facilities owned (excluding pumping stations)
Facilities	Natural gas use per area ($/m2)	$13/$m^2$	$14/$m^2$	Total natural gas consumption/total area of facilities owned (excluding pumping stations)
Facilities	Cost intensity per area ($/m2)	$27.25/$m^2$	$30/$m^2$	Total energy cost /total area of facilities owned (excluding pumping stations)
Facilities	GHGs by Facility	5,832 tCO_2e	6,868 tCO_2e	-
Facilities	Energy use by Facility Type	Arenas: 62,147 GJ Administrative Buildings: 43,000 GJ	Arenas: 63,000 GJ Administrative Buildings: 46,031 GJ	-

		Culture & Entertainment: 28,751 GJ Pools: 25,409 GJ Community Centers: 13,082 GJ Fire Station: 7,565 GJ Pumping Station: 6,967 GJ Libraries: 5,714 GJ Parking Garage: 3,401 GJ Sports Facilities: 3,085 GJ Golf Course: 29, 25 GJ Park & Cemeteries: 1,859 GJ	Culture & Entertainment: 34,305 GJ Pools: 27,327 GJ Community Centers: 15,451 GJ Fire Station: 9,351 GJ Pumping Station: 7,007 GJ Libraries: 7,258 GJ Parking Garage: 3,901 GJ Sports Facilities: 3,719 GJ Golf Course: 3,352 GJ Park & Cemeteries: 2,221 GJ	
Facilities	GHGs by Facility type	Arenas: 1,675 tCO_2e Administrative Buildings: 1,216 tCO_2e Pools: 981 tCO_2e Culture & Entertainment: 823 tCO_2e Community Centers: 400 tCO_2e Fire Station: 256 tCO_2e Sports Facilities: 118 tCO_2e Libraries: 116 tCO_2e Golf Course: 91 tCO_2e Pumping Station: 58 tCO_2e Parking Garage: 39 tCO_2e Park & Cemeteries: 34 tCO_2e	Arenas: 1,720 tCO_2e Administrative Buildings: 1,346 tCO_2e Pools: 1,071 tCO_2e Culture & Entertainment: 1,058 tCO_2e Community Centers: 495 tCO_2e Fire Station: 346 tCO_2e Sports Facilities: 149 tCO_2e Libraries: 169 tCO_2e Golf Course: 110 tCO_2e Pumping Station: 60 tCO_2e Parking Garage: 45 tCO_2e Park & Cemeteries: 76 tCO_2e	-

11.3. Appendix C – Summary of CorCAP 2.0: *Pivot Net-Zero* Actions

Action	Target Completion	Lead Division	Project Manager	2025 Status	2025 Progress Update
1. Design and Implement a Corporate Energy Management Program	2027	Facilities Management	Luke Reesor-Keller	In progress	This item progresses as all subtasks are completed
2. Continue to build out and integrate corporate energy management practices and team	2027	Facilities Management	Luke Reesor-Keller	In progress	This item progresses as all subtasks are completed
3. Assess NRCAN 50001 Ready Navigator	In progress	Facilities Management	Luke Reesor-Keller	Completed/On Going	Completed
4. Develop Energy Management Policy	2027	Facilities Management	Luke Reesor-Keller	In progress	On track
5. Establish an Energy Management Monitoring System	2025	Facilities Management	Luke Reesor-Keller	In progress	FM is working with TIS, anticipated completion Q2 2026.
6. Establish a Facilities Energy Management Technical Advisory Committee	2025	Facilities Management	Chris Leishman	Completed/On Going	Meetings started in Q4 of 2025. KHUB committees page has been updated with related information.
7. Develop a Corporate Green Building Standard	2027	Facilities Management	Luke Reesor-Keller	In progress	Draft anticipated Q4 of 2026.

Action	Target Completion	Lead Division	Project Manager	2025 Status	2025 Progress Update
8. Complete a facilities GHG reduction pathway for a suite of high priority facilities	2027	Facilities Management	Luke Reesor-Keller	In progress	City Hall GHG Pathway Study is completed. Kitchener Auditorium GHG pathway study started in Q4 of 2025 and is ongoing with an expected completion in Q2 of 2026. 2026 will see the commencement of a GHG and Recommissioning Study for the KOF and Recommissioning Study for Activa Sport Complex. Sport is also leading GHG pathway studies for 3 arenas: Sportsworld Arena, Activa Sportsplex & Lions Arena.
9. Develop an Arenas Strategy	2025	Sport	Bob Cheyne	In progress	GHG and Mechanical study has started, to be completed Q4 2026. Arena scheduling study to be completed Q1 2027.
10. Develop a Pools Strategy	2026	Sport	Bob Cheyne	In progress	Strategy scope limited to Breithaupt Recreation Centre - pool structural and mechanical study. Anticipated completion Q3 2026. Other pools will be considered in the coming years.
11. Develop a Facilities Acquisition Strategy	2026	Planning and Housing Policy	Lauren Chlumsky	In progress	Development Services has been identified to lead work on a corporate acquisition processes in 2026.
12. Develop a Facilities Disposition Strategy	2026	Planning and Housing Policy	Lauren Chlumsky	In progress	Development Services has been identified to lead work on a corporate disposition processes in 2026.

Action	Target Completion	Lead Division	Project Manager	2025 Status	2025 Progress Update
13. Develop a Corporate Solar Strategy	2026	Facilities Management	Luke Reesor-Keller	In progress	Draft policy is completed. Final strategy to be completed in Q2 of 2026.
14. Monitor and assess the expanding Cold Water Ice Pilot	In progress	Sport	Bob Cheyne / Luke Reesor-Keller	In progress	Cold water pilot has expanded to three facilities. New facilities will be considered with availability of new funding.
15. HVAC Fuel Switching modelling	In progress	Facilities Management	Luke Reesor-Keller	In progress	Ongoing. Will be rolled up into the Energy Management Policy.
16. Complete legislated O.Reg 25/23 Reporting	Complete	Facilities Management	Luke Reesor-Keller	Completed/On Going	Annual reporting on-going.
17. Update Fleet Asset Management Plan	Complete	Fleet	Matthew Lynch	Completed/On Going	Completed. Continue to update as required.
18. Continue to leverage fleet telematics data and support drivers	Ongoing	Fleet / FUWG	Matthew Lynch	Completed/On Going	Ongoing- Current initiatives include anti-idling, utilization route completion, material management projects.
19. Continue Fleet User Working Group	Ongoing	Fleet	Matthew Lynch	Completed/On Going	FUWG continues to meet monthly.
20. Revise and update Corporate Fuel Efficiency Policy (#316)	2024	Fleet / FUWG	Matthew Lynch	In progress	RFP completed and awarded in 2026.
21. Continue to support efficient fleet driver behaviors	ongoing	Fleet / FUWG	Matthew Lynch	Completed/On Going	Daily Driver scorecard continues to engage staff in their driving performance.

Action	Target Completion	Lead Division	Project Manager	2025 Status	2025 Progress Update
22. Advance right-sizing efforts	ongoing	Fleet / Sustainability Office	Matthew Lynch	Completed/On Going	Continue to review vehicle sizing with user groups during equipment review and procurement procedures
23. Continue to explore further route optimization	2026	Fleet / FUWG	Matthew Lynch / Darren Becks	In progress	Exploring technology to leverage telematics and geolocation to optimize routes used for task completion.
24. Continue Fleet Equipment Review Process	Ongoing	Fleet	Evan Zinn	Completed/On Going	Adaptation and upgrades completed within current framework during 2025. New fleet software to be a large part of this in 2026.
25. Continue Fleet and Equipment Electrification	Ongoing	Fleet	Evan Zinn	Completed/On Going	Procurement of EVs is ongoing for both Replacement and Additionals. Analyis of existing EV assets including cargo vans show a reduction in maintenance costs and projected total cost of ownership. Continue exploring options for conversion of internal combustion engine vehicles to EV's in high-idle applications.
26. Develop EV Charging Station Asset Management Plan	2025	Fleet	Matthew Lynch / Brad Wakelin	In progress	Fleet charging network continues to expand. Fleet will continue to explore local vendor partnerships for installation and maintenance of the chargers.
27. Develop Sustainable Fleet Strategy	2025	Fleet / Sustainability Office	Matthew Lynch / Evan Zinn/Fionnula Wade	In progress	Project has been awarded and work is anticipated to be completed Q4 2026.

Action	Target Completion	Lead Division	Project Manager	2025 Status	2025 Progress Update
28.Continue to use Biodiesel 5 and Biodiesel 20	Ongoing	Fleet	Matthew Lynch	Completed/On Going	Currently still using B5 & B20 Bio Diesel - No further market options at this time
29. Test renewable diesel	2024	Fleet	Matthew Lynch	In progress	Fleet will continue work with fuel provider to explore options. Currently, renewable diesel is not readily available in Ontario.
30. Continue to use propane as a transition fuel for medium and heavy-duty vehicles	Ongoing	Fleet	Matthew Lynch	Completed/On Going	Further reductions in available options from manufacturers (OEM) has led to removal of propane autogas fill station at the Kitchener Operations Facility. Lack of propane repair facilities and maintenance support for the propane led to low usage. Analyis of maintenance costs for propane engines were approximately double the cost of a regular internal combustion engine.
31. Continue hydrogen research collaboration with University of Waterloo	Ongoing	Sustainability Office	Anna Marie Cipriani	Completed/On Going	Staff continue to support researchers especially in the area of understanding what role Hydrogen may play in the energy transition of municipal medium and heavy-duty fleet vehicles.

Action	Target Completion	Lead Division	Project Manager	2025 Status	2025 Progress Update
32. Test Hydrogen co-combustion technology	2025	Fleet	Matthew Lynch / Evan Zinn	In progress	Three test vehicles have been outfitted with Hydrogen generator kits. A group has been created to monitor the effectiveness in Geotab. Units are decommissioned over the winter to avoid freezing. Initial reports showing 10%-20% reduction in fuel consumption.
33. Continue to assess and evaluate potential of other lower carbon fuels	Ongoing	Fleet	Matthew Lynch / Evan Zinn	Completed/On Going	Fleet Transition Strategy work will include an exploration of hydrogen and alternative fuel opportunities.
34. Ready organization for fleet integrated renewable energy storage	2026	Fleet	Evan Zinn	In progress	Integrated renewable energy storage is included in the scope of work for the Sustainable Fleet Transition Strategy. Study is anticipated to be completed by Q4 2026.
35. Corporate Waste Assessment	2026	Sustainability Office	Anna Marie Cipriani / Fionnula Wade	In progress	Sustainability Office has begun developing a Scope of Work for this project.
36. Continue corporate membership in TravelWise Program	Ongoing	Transportation	Alison Carlyle/Darren Kropf	Completed/On Going	The City of Kitchener continued to be a member of the TravelWise program in 2025. In August, lunch-and-learn events were held to introduce the benefits and support programs available to all city staff to commute sustainably.

Action	Target Completion	Lead Division	Project Manager	2025 Status	2025 Progress Update
37. Develop Corporate Climate Change Literacy Modules	Ongoing	Sustainability Office	Anna Marie Cipriani / Fionnula Wade	Completed/On Going	First module is available on LMS for staff use.
38. Continue partner relations and explore new opportunities	Ongoing	Sustainability Office	Anna Marie Cipriani	Completed/On Going	2025 partner highlights include global and local relationships regarding social housing retrofits.
39. Continue to implement new climate change inclusive TOR for Advisory Committee	Complete	Sustainability Office	Anna Marie Cipriani	Completed/On Going	Committee continues to operate under TOR.
40. Update City's Impact Network Commitment	Ongoing	Sustainability Office	Anna Marie Cipriani / Fionnula Wade	Completed/On Going	The City continues to be a member of SWR's Impact Network.
41. Continue annual reporting into SWR's Annual Member Survey	Ongoing	Sustainability Office	Anna Marie Cipriani / Fionnula Wade	Completed/On Going	Submitted annually.
42. Continue to report to into FCM PCP	Ongoing	Sustainability Office	Anna Marie Cipriani / Fionnula Wade	Completed/On Going	CorCAP 2.0 Pivot: Net Zero 2024 Progress Update Report was submitted to FCM for renewal of Milestone 5 Corporate Scope. The Report was received and deemed compliant.
43. Continue Corporate Reporting on Progress to Net-Zero	Ongoing	Sustainability Office	Anna Marie Cipriani / Fionnula Wade	Completed/On Going	This report is the second progress report for this goal.
44. Assess expanding opportunities within our control to fund the Net-0 anticipated funding gap	2025	Financial Planning & Asset Management	Ryan Hagey	Completed/On Going	Increased funding for Pivot: Net-Zero is prioritized each year against other budget asks.
45. Review Energy Management Reserve Fund Policy	2027	Sustainability Office	Anna Marie Cipriani / Luke Reesor - Keller	Completed/On Going	Policy is in place and a new Standard Operating Procedure (SOP) was completed .

Action	Target Completion	Lead Division	Project Manager	2025 Status	2025 Progress Update
46. Continue corporate admin grants support	Ongoing	Financial Reporting & ERP Solutions	Tyler Harding	Completed/On Going	The grants team has completed new SOP and have communicated the outcome to departments organizational wide.
47. Continue advocacy for climate action	Ongoing	Office of Mayor & CAO	Mayor's Chief of Staff	Completed/On Going	The City of Kitchener remains a strong advocate across all orders of government for policies and investments that enhance connectivity, strengthen infrastructure and sustainability, and improve affordability for our community. In 2025, this has included securing funding for net-zero infrastructure at the Cowan Recreation Centre.