City of Toronto
2024-2029 Energy Conservation and Demand Management Plan

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Land Acknowledgement

The City acknowledges that all facets of its work are carried out on the traditional territories of many nations, including the Mississaugas of the Credit, the Anishnabeg, the Chippewa, the Haudenosaunee and the Wendat peoples and is now home to many diverse First Nations, Inuit and Métis peoples. These territories are currently covered by Treaty 13 with the Mississaugas of the Credit and the Williams Treaties signed with multiple Mississaugas and Chippewa bands. We are eternally thankful for Indigenous stewardship of these lands and waters. We are grateful to have the opportunity to live, work and thrive on this land.

African Ancestral Acknowledgement

The City of Toronto acknowledges all Treaty peoples – including those who came here as settlers – as migrants either in this generation or in generations past – and those of us who came here involuntarily, particularly those brought to these lands as a result of the Trans-Atlantic Slave Trade and Slavery. We pay tribute to those ancestors of African origin and descent.

Executive Summary

The City of Toronto is committed to advancing energy conservation, significantly reducing its greenhouse gas (GHG) emissions and the achievement of its Net Zero targets as laid out in the “Lead by Example” sections of the City’s TransformTO Plan. Since the publication of the previous Energy Conservation and Demand Management Plan (2019-2023) the City has ramped up the pace by which it intends to reach these goals.

This prioritization was highlighted in September 2019 when Toronto City Council declared a climate emergency and again in December 2021 when it accelerated its goal to reach Net Zero emissions from 2050 to 2040. Through strategic initiatives, robust planning and targeted investments in building retrofits and fuel switching, the City aims to cut emissions from City-owned buildings and reach Net Zero.

The City of Toronto's 2024-2029 Energy Conservation and Demand Management Plan serves as both a reflection on the City's prior efforts to reduce energy consumption and greenhouse gas emissions, as well as an outline to guide future conservation efforts. As required under Ontario Regulation 25/23, filed as part of Schedule A of the Electricity Act, this report will expound on the following for over 690 City of Toronto buildings:

- 2019 and 2019-2023 energy consumption, GHG emissions patterns, and cost,
- Energy efficiency measures implemented between 2019-2023,
- Energy efficiency measures planned for implementation between 2024-2029,
- Annual renewable energy generation for the last 5 years.

Over 690 City of Toronto buildings are examined in this report, which consists of over 27 million square feet of indoor space and represent 22 different operational types. Between 2019 and 2023, these facilities collectively consumed over 8.1 billion ekWh in electricity, natural gas, district chilled water, district hot water and district steam consumption and expended over $720 million in energy costs, contributing to 808 Kilo Ton eCO_2.

Between 2019 and 2023, the included facilities achieved a **reduction of 1.6 billion ekWh and 16,862 metric tons of eCO_2**. A contributing factor to these results was the investment of over $119 million between 2019 and 2023 on energy efficiency and fuel switching measures at 89 facilities; although the significant impact of the COVID-19 pandemic on building operations cannot be overlooked.

Toronto is also actively participating in exploring, deploying and optimizing innovative renewable energy technologies such as geo-exchange and biogas collection. As an example, in 2022, a multi-stage retrofit project in the Waterfront Neighbourhood Centre

was completed which included an LED lighting retrofit, the installation of 100kW AC solar photovoltaic (PV) system with backup battery and an innovative lake based hydrothermal system. These efforts follow a "whole building" or "whole City" approach, which seeks to maximize energy and GHG savings by aggressively identifying and targeting all available energy efficiency opportunities within each facility.

While this is only one of the highlighted projects completed during the 2019-2023 timeframe, the results & learning opportunities derived from these projects will be used to further advance and inform the City's sustainability-led approach towards energy management and building retrofits. The City of Toronto further recognizes that an effective energy conservation plan must be flexible and continually updated to respond to the evolving ecological and political environments.

In a continuation of these efforts, this report will also describe the City's plan to further invest in energy efficiency measures across a variety of operational types for the 2024-2029 and highlight the energy generation from the City's 102 solar PV systems – a number which will grow to 118 in the 2024-2025 period. Collectively, these 102 solar installations generated almost 51 million kWh of electricity from 2019 to 2023. Most of this electricity was fed directly into the local electricity grid, but three installations (Waterfront Neighbourhood Centre, Toronto Paramedic Station #46 & Toronto Paramedic Station #12) include storage systems so that harnessed electricity can be utilized to directly offset energy consumption and provide back-up power in times of emergency. Future Solar PV installations will continue to take the latter approach. These are just some of the steps the City of Toronto committed to taking to responsibly reduce energy consumption and greenhouse gas emissions in City buildings both now and in the future. Please note that this report contains only a snapshot of the City of Toronto's building portfolio (approximately 2290 buildings), as not all building operation types are covered by O. Reg 25/23.

The initiatives included in the 2024-2029 ECDM Plan were identified through a lengthy process involving comprehensive staff engagement across multiple City divisions and agencies, site visits, reviews of corporate budgets and previously announced initiatives. Energy consumption figures in this report are derived from available utility consumption data available in the City's internal energy management database. Future ECDM Plans will also reference the City of Toronto's new Energy & Water Reporting By-Law which comes into effect in 2024 for the first time. The development of the current ECDM Plan was led by the Energy Management Team within the Asset Management and Building Performance service line in the City of Toronto's Corporate Real Estate Management (CREM) Division and approved by the division's Executive Director, Patrick Matozzo on June 27, 2024. It will be posted to the City of Toronto's website for July 1, 2024 and

utility consumption data will be cross-posted to the City's Open Data Portal in accordance with Ontario Regulation 25/23.

Terms and Concepts

Baseline: The starting point to measure changes in the amount of energy consumed and emissions produced over time. The baseline year for this report is 2019.

Carbon Accounting: Calculating greenhouse gas emissions emitted by a group based on scope 1, 2 and 3 criteria (see definitions below).

Carbon Dioxide Equivalent (eCO_2): A single unit of measurement that allows for the impact of releasing different greenhouse gases into the atmosphere to be evaluated on a common basis. Carbon dioxide equivalents are calculated using Global Warming Potential factors that represent the impact of each greenhouse gas type (e.g., methane [CH_4] and/or nitrous oxide [N_2O]) related to that of carbon dioxide.

Carbon Offset: Reducing the total amount of carbon emissions being added to the atmosphere through one type of anthropogenic activity by taking actions that would limit carbon emissions in another e.g., reforestation, carbon sequestration, incorporating renewable energy.

Climate Lens Assessment: The assessment involves taking a close look at the potential impacts of a project or initiative on greenhouse gas emissions and Toronto's resilience to climate change and extreme weather.

Consumption-based Emissions: Emissions from the volume of energy consumed by a population or building.

Decarbonize: To eliminate or reduce the release of GHGs into the atmosphere from a process or system. This includes swapping out any fossil fuel sources for renewable energy.

Emissions: The production and discharge of a substance, in this context Greenhouse Gases.

Energy Conservation: Consciously reducing energy use to limit waste by changing behaviours and processes.

Energy Efficiency: The ability to perform a task with limited energy waste, leading to less energy consumption without reducing performance or changing results.

Energy Star Portfolio Manager: Electronic reporting system developed by the United States Environmental Protection Agency, as adapted for use in Canada and administered by Natural Resources Canada, and available on the Internet.

Geothermal: Thermal energy extracted from the Earth’s crust.

Greenhouse Gases (GHGs): Compound gases that trap heat and emit longwave radiation in the atmosphere causing the greenhouse effect.

GHG Emissions Intensity Factor: A factor that indicates the amount of GHG emissions produced from the consumption of energy, per unit consumed.

Heat Pump: A highly efficient heating and cooling system that transfers thermal energy from the ground, water or air to the building.

Near Zero Building: A building that is designed to be highly energy efficient but still uses a small quantity of non-renewable sources. A building constructed to Toronto Green Standard Version 4 Tier 3 is considered a near-zero emissions building.

Net Zero Building: A building that is highly energy efficient and produces on-site, or procures, carbon-free and/or renewable energy in an amount sufficient to offset the annual carbon emissions associated with its operations, or simply eliminates carbon emissions altogether.

Public Realm: Streets and lanes, parks and other open spaces and the accessible parts of public buildings.

Renewable Energy: A naturally occurring source that is not finite or exhaustible. It includes sources such as sunlight, wind and geothermal heat.

Scope 1 Emissions: Direct emissions, produced from sources that the City owns e.g., the emissions from burning natural gas for building heating or from City fleet.

Scope 2 Emissions: Indirect emissions, from the purchase of energy for its use in buildings.

Scope 3 Emissions: Indirect emissions that are not covered in scope 2, that are produced further up or down the value chain e.g., emissions associated with employee travel to and from work.

Site Energy: Energy that is consumed by a building.

Source Energy: Energy that is produced at a power generation plant and transported to a building. Typically, a higher amount of energy than site energy because there is energy loss during production and transportation.

Thermal Energy: Energy that comes from temperature, specifically heat.

Toronto Green Standard (TGS): The Toronto Green Standard is Toronto's sustainable design and performance requirements for new private and city-owned developments since 2010. Version 3 is in effect since 2018 and Version 4 came into effect May 1,

2022, for new planning applications. The Standard consists of tiers of performance with Tier 1 being mandatory and applied through the planning approval process.

Acronyms

AMBP – Asset Management & Building Performance
AODA – Accessibility for Ontarians with Disabilities Act
CC – Community Centre
COT – City of Toronto
CRC – Community Recreation Centre
CREM – Corporate Real Estate Management
CTITC – Clean Technology Investment Tax Credit
DCM – Deputy City Manager
E&C – Environment & Climate
EV – Electric Vehicle
FIT – Feed-In-Tariff
IESO – Independent Electricity System Operator
mFIT – Micro Feed-In-Tariff
MLS – Municipal Licensing & Standards
OEB – Ontario Energy Board
O. Reg. – Ontario Regulation
PF&R – Parks, Forestry & Recreation
PMMD – Purchasing & Material Management Division
PV – Photovoltaic
SEM – Strategic Energy Management
SEPF – Sustainable Energy Planned Financing
SOGR – State of Good Repair
SSHA – Shelter, Support and Housing Administration
TAS – Toronto Animal Services
TESS – Toronto Employment and Social Services
TFS – Toronto Fire Services
TGS – Toronto Green Standard
THESL – Toronto Hydro-Electric System Limited
TPA – Toronto Parking Authority
TPH – Toronto Public Health
TPL – Toronto Public Library
TPS – Toronto Paramedic (formerly known as Emergency Medical Services) Services
TRCA – Toronto & Region Conservation Authority
TTC – Toronto Transit Commission
TW - Toronto Water
ZEV – Zero Emissions Vehicle

Units of Measurement

Equivalent Kilowatt-hour (ekWh) – The amount of natural gas/steam/chilled water/hot water with the energy equivalent to a kWh.

Kilowatt (kW) – Unit of energy, specifically electrical.

Kilowatt-hour (kWh) – Unit of energy, specifically electrical, per hour.

Meters cubed (m^3) – Volume measurement for natural gas.

Million British Thermal Unit (MMBTU) – Unit of measurement for hot water, specific to this report.

Thousand pounds (mlb) – Unit of measurement for steam.

Ton-hour (ton-hr) – Unit of measurement for chilled water.

Introduction

The City of Toronto is required under Ontario Regulation 25/23 (O. Reg. 25/23), formerly Regulation 507/18, of the Electricity Act to publish an updated five-year Energy Conservation and Demand Management (ECDM) Plan by July 1st, 2024. The City's first two ECDM plans were published in July of 2014 and 2019, as was then required by Regulation 397/11 of the Green Energy Act and Regulation 507/18 of the Electricity Act, respectively.

This report is designed to educate and inform both City employees and the public about the City of Toronto's past and future efforts to reduce energy consumption and stem subsequent greenhouse gas emissions. To that end, this report will describe 2019-2023 energy consumption patterns, renewable energy generation, associated carbon emissions at 690 City of Toronto facilities across 22 operational types. This report will also list previous (2019-2023) and future (2024-2029) energy efficiency measures that were or will be undertaken across the 22 operational types.

The Asset Management & Building Performance Team within the Corporate Real Estate Management division collaborated with numerous divisional and agency representatives to collect information about previous and future energy efficiency and renewable energy measures implemented in City buildings. The Asset Management & Building Performance Team would like to thank all City employees who contributed to this report.

Goals and Objectives

In recognition of the danger that climate change presents to Toronto's community, economy and ecosystems, the City of Toronto has implemented numerous policies targeting climate change and GHG emissions reduction.

The City of Toronto has been participating in initiatives and creating policies to address climate change and reduce energy consumption. Some initiatives include the Better Buildings Partnership, where the City provides funding and support to building owners to improve energy efficiency and reduce emissions. SolarTO provides financing, installation and regulatory resources for building owners as an initial step to incorporating solar energy into buildings to offset electrical consumption. Greening City Operations highlights the City's commitment to reduce building related emissions by incorporating renewable energy and performing deep retrofits on City assets. Some examples of deep retrofits and renewable energy renovations include the Waterfront Neighbourhood Community Centre and Etobicoke Olympium.

These initiatives originate from policies passed by City Council, including the Net Zero Carbon Plan and TransformTO. Below is a brief timeline of the City's climate related

policies that became TransformTO, the City's climate action strategy, along with a brief description of the City's Net Zero Carbon Plan.

In July 2017 City Council unanimously approved the City-wide TransformTO climate action strategy. This strategy set the following long-term GHG emission reduction targets:

- 30% by 2020 from 1990 levels
- 65% by 2030 from 1990 levels; and
- 80% by 2050 from 1990 levels

These targets have since been amended, once in September 2019 through the City's declaration of a climate emergency, and again in December 2021 when City Council adopted 2021.IE26.16 TransformTO: Critical Steps for NetZero by 2040. The City's current GHG emission reduction targets are as follows:

- 30% by 2020
- 45% by 2025
- 65% by 2030
- Net zero by 2040.

The new TransformTO initiative also includes 'Lead by Example' actions which implemented a 2030 GHG emission reduction target of 65% from 2008 levels for City-owned buildings.

Complete details about targets and action plans outlined in TransformTO can be found here: City of Toronto -TransformTO.

City of Toronto Energy and Water Reporting By-law

In 2023 the City of Toronto enacted By-law 1283-2023 the 'Energy and Water Reporting By-law' (under Municipal Code Chapter 367 [Building Emissions Performance]), which provides for mandatory emissions performance reporting and emissions performance standards for existing buildings. The by-law applies to both public sector and private sector buildings. This presents significant opportunities for building owners to improve energy and water tracking, use energy efficiently and maintain or reduce operating costs. At present, the By-law requires owners of buildings 4,645m^2 (50,000 ft^2) and larger to report their buildings' 2023 energy and water consumption data to the City by October 31, 2024. The By-law will encompass more building sizes in subsequent years with owners of buildings that have a gross floor area of 929 m^2 (10,000 ft^2) and larger being required to report their building's 2024 energy and water data to the City by July 2, 2025. For more information on the By-law please see the information regarding

Energy & Water Reporting for Buildings on the City of Toronto's website.

Net-Zero Carbon Plan

In 2019, City Council declared a Climate Emergency by adopting MM10.3 Declaring a Climate Emergency and Accelerating Toronto's Climate Action Plan. This led City Council to adopt 2021.IE23.3 Building Net Zero Emissions City Buildings: Corporate Real Estate Management's Net Zero Carbon Plan, outlining a carbon plan for the City's corporate building portfolio. Currently, the plan has a focus on emissions related to building utility consumption for new and existing buildings. It has identified seven initiatives to meet 2040 goals. A short description of each initiative can be found in the table below, a more detailed description can be found within the City of Toronto Real Estate Portfolio Net Zero Carbon Plan.

Table 1: Net-Zero Carbon Plan Initiatives

Initiative	**Description**
Fuel Switching and Efficiency Retrofits	Transition the City's existing buildings away from systems that rely on high-carbon fossil fuel combustion to highly efficient systems that use low-carbon sources.
Lower Carbon New Buildings	Design and construct City-owned new developments to TGS v3 Tier 4 carbon emissions targets or equivalent.
Strategic Divestment	Divest low-value assets and acquire, retrofit existing and/or construct new lower-carbon buildings to replace them.
On-Site Renewables and Storage	Install additional on-site renewable energy generation and storage
Training and Education	Commit to consistent operational improvement processes and training across all assets.
Enhanced Use of Building Performance Data	Establish internal mandates and management processes fundamental to the Plan.
Carbon Offsets and Off-Site Renewables	Purchase carbon offsets to balance remaining operational emissions and plan to contract long-term PPAs

History of the Energy Conservation and Demand Management Plan

The 2014 ECDM plan sought to define individual measures for all City buildings, while the 2019 ECDM focused on a "whole building" or "whole City" approach, where multiple energy efficiency and renewable energy measures are implemented and reported. For consistency, and to continue fulfilling TransformTO targets, the 2024 ECDM will also have a "whole building" or "whole City" approach. Unlike previous ECDM reports, this report considers a greenhouse gas emissions analysis for City owned buildings, which will give the City a comprehensive understanding of its energy efficiency measures.

By implementing multiple energy efficiency and renewable energy measures within individual facilities, the City is attempting to achieve the greatest impact upon energy consumption in the most cost-effective manner. This efficient means of performing building retrofits will aid the City of Toronto in achieving its ambitious short- and long-term goals for reductions in both energy consumption and greenhouse gas emissions.

For previous and future projects, the City applies a recoverable debt funding model to facilitate energy retrofit projects. This model allows project teams to create business cases to support up-front investment in energy conservation measures. The business cases generated would need to illustrate a payback within 30 years on the investment, based on future energy cost savings. As the accounting for greenhouse gas emissions is integrated into City capital decision making, the business cases for deep energy retrofits will improve and the solutions that we need to tackle climate change will become more accepted and implemented.

The City is actively seeking and developing both internal and external relationships to facilitate the work required to achieve TransformTO's targets. For example, the creation of CreateTO, which has a mandate to undertake a strategic city-wide approach to the real estate portfolio and manage land use strategy, planning and City buildings.

Other Reports and Documents

To meet the City's climate action goals, City divisions and agencies are encouraged to apply a climate lens to all initiatives. Below is a list of strategies and plans developed by the City of Toronto and its agencies that have incorporated climate action. A number of these plans will contribute directly to the reduction of building energy consumption and emissions. While this list is not exhaustive it seeks to highlight the significant current work and future planning that has taken place thus far.

2024 Corporate Asset Management Plan

CreateTO

Corporate Strategic Plan

ModernTO

Sustainable Energy Plan Financing Program (SEPF)

Toronto Green Standard

Toronto's First Resilience Strategy

For more information regarding climate, energy and resilience work conducted by the City of Toronto and its agencies referenced in this report please see:

City of Toronto: Climate, Energy & Resilience

Toronto Parking Authority: EV Charging

Toronto Public Library: Strategic Plans, Annual Reports & Statistics

Toronto Transit Commission: Green Initiatives & TTC Corporate Plan 2024-2028 & Beyond: Moving Toronto, Connecting Communities

Toronto Zoo: Going Green & TZNet0 Environmental Sustainability Plan

Reporting Limitations and External Impacts/Pressures

Data limitations can impact the accuracy and completeness of analysis, leading to potential gaps in findings. It is essential to acknowledge these limitations to ensure transparency and to guide the interpretation and application of the results appropriately. On this note, it must be acknowledged that according to Section 7.7.7 of the Ontario Energy Board (OEB) Retail Settlement Code:

“Where the distributor has under billed a customer or retailer, the maximum period of under billing for which the distributor is entitled to be paid is 2 years. Where the distributor has over billed a customer or retailer, the maximum period of over billing for which the customer or retailer is entitled to be repaid is 2 years.”

As a result, some consumption/cost data included in this ECDM is subject to change for a period of up to two years. Reported consumption for 2022 is subject to re-billing up to December 2024; similarly, reported consumption for 2023 is subject to re-billing up to December 2025. This happens for multiple reasons including, but not limited to, inaccessible or damaged meters, calculation errors or data entry errors. To help address this phenomenon, City staff have developed an auditing process to identify utility meters that have repeated estimated consumption for periods meeting specific

criteria according to site operating type. This list of meters is then investigated by City/agency staff and the issue is escalated to the utility companies, as necessary. While this process does not mitigate the issue entirely, it has delivered positive results since its implementation in 2023 and has been incorporated into the larger energy management plan.

Developing effective energy management plans and responses to climate pressures is inherently challenging. This can be additionally complicated by changes in other levels of government and emergencies such as natural disasters or pandemics, which can alter energy consumption patterns and operational needs. This unpredictability necessitates the development of flexible and resilient energy management strategies that can quickly adapt to evolving circumstances and ensure continuity and efficiency in energy use.

Impacts of the COVID-19 Pandemic

To this end, the onset of the COVID-19 pandemic brought unprecedented changes, making it challenging to foresee its impact on building energy consumption. While its effects could not be predicted, the importance of the resulting changes cannot be overlooked. The drastic alterations in occupancy patterns and operational requirements also underscored the necessity for adaptable energy management strategies to manage such sudden shifts.

While a reduction in building occupancy was the most important contributing factor to the across-the-board decreases seen in building energy consumption and GHG emissions, other factors cannot be discounted in the observed fluctuations. Most building types are limited to a set of operating criteria (water treatment, sewage treatment etc.), that being said - during the height of the pandemic restrictions some operations were shifted from one building type to another to assist in the response to the public health emergency. Nine Public Library locations were repurposed in partnership with community groups to support emergency food access for vulnerable residents. In addition to this, the closure of buildings in the City's 'Community Centre' and 'Indoor Recreation Facility' groupings, to the public, was leveraged to provide 24-hour respite and drop-in services as safe spaces to persons in the community experiencing homelessness.

The City's agility to pivot operational types to enhance social infrastructure as a model for future emergency responses, demonstrates resilience and adaptability in times of crisis. The changes spurred by the pandemic and its response have underscored the importance of adaptable energy management strategies and the need to reassess energy conservation measures to accommodate new usage patterns and ensure continued efficiency in a post-pandemic world.

Current City Initiatives and Collaborations

Fleet Services

City vehicles are an essential component in the delivery of City programs and the provision of public services. City vehicles are also the second highest source of the City's corporate emissions at 40%, with buildings at 46%. In its ongoing effort to reduce emissions, the City of Toronto Fleet Services Division introduced the Sustainable City of Toronto Fleets Plan, which includes key objectives to transition 20% of it's fleet to Zero Emission Vehicles (ZEV) by 2025 and 50% by 2030. The delivery of this plan includes the installation of 850 Electric Vehicle (EV) chargers by 2025. While O. Reg. 25/23 does not cover emissions from fleet vehicles, this plan is being highlighted as part of the City's ECDM 2024-2029 report due to the nature of the fuel switching involved. Most EV chargers will be behind building meters. While current emissions from vehicles like Zambonis are already included in building emissions since their fuel delivery is measured behind the building meter, this is not true for current gasoline and diesel-powered vehicles. Transitioning these vehicles to electric, through the installation of EV chargers, will divert the emissions tracking so that it is accounted for within building emissions – thus it will come under the purview of O. Reg. 25/23. As a result, certain sites may see an increase in electric commodity consumption in future years. Location and quantity details for the EV charger deployment can be found in Appendix A.

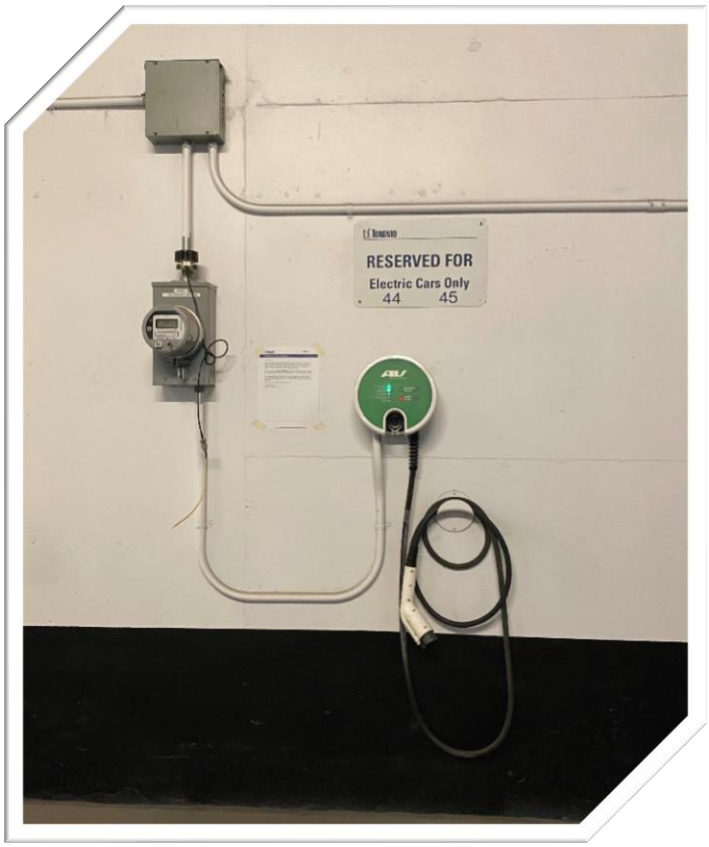


Figure 1: City fleet vehicle EV charging station

Electric Zambonis

As part of the Sustainable City of Toronto Fleets Plan in 2024, Fleet Services – in partnership with Parks, Forestry and Recreation staff began replacing 15 Zambonis in City arenas, which traditionally run on fossil fuels, to all-electric alternatives. These new vehicles will reduce emissions by approximately 160 tonnes per year and contribute to a healthier City.

Figure 2: Electric Zambonis

Table 2: List of Electric Zamboni Types and Locations

Location	Address	Zamboni Type	Cost ($)
Mimico Arena	31 Drummond St.	ZAMBONI 450 ELECTRIC	$155,785
Chris Tonks Arena	95 Black Creek Dr.	ZAMBONI 450 ELECTRIC	$155,785
Bayview Arena	3230 Bayview Ave.	ZAMBONI 450 ELECTRIC	$155,785
Grandravine Community Recreation Centre	23 Grandravine Dr.	ZAMBONI 450 ELECTRIC	$155,785
Malvern Arena	30 Sewells Rd.	ZAMBONI 450 ELECTRIC	$155,785
East York Arena	888 Cosburn Ave.	ZAMBONI 450 ELECTRIC	$155,785

Location	Address	Zamboni Type	Cost ($)
Fenside Arena	30 Slidell Cres.	ZAMBONI 450 ELECTRIC	$155,785
Albion Arena	1501 Albion Rd.	ZAMBONI 450 ELECTRIC	$155,785
Long Branch Arena	75 Arcadian Circle.	ZAMBONI 450 ELECTRIC	$155,785
John Innes Community Recreation Centre	140 Sherbourne St.	ZAMBONI 650 ELECTRIC	$207,745
Roding CC	600 Roding St.	ZAMBONI 450 ELECTRIC	$155,785
Baycrest	160 Neptune Dr.	ZAMBONI 450 ELECTRIC	$155,785
Habitant Arena	3383 Weston Rd.	ZAMBONI 450 ELECTRIC	$155,785
Scarborough Village	3600 Kingston Rd.	ZAMBONI 450 ELECTRIC	$155,785
Future Deployment – Location TBD	N/A	ZAMBONI 450 ELECTRIC	$155,785

Municipal Energy Managers Community of Practice

The City of Toronto continues to strive for collaboration across all levels of the corporation and between various levels of government. Through the participation in challenges and programs geared towards energy and emissions reduction, operated by both private and public partners, City staff work towards common goals to lead by example towards achieving net zero targets. As part of these initiatives City staff also participate in a Municipal Energy Manager's Community of Practice (facilitated by the Clean Air Partnership). Participating in a community of practice offers numerous benefits, including access to shared knowledge and innovative solutions, valuable networking opportunities and professional development through workshops and quarterly meetings. Staff members benefit from collaborative problem-solving, specialized resources related to energy management and idea sharing driven by diverse perspectives. Overall, such participation fosters a commitment to continuous

improvement and greater impact in professional and organizational contexts enabling staff to collaborate on energy management related initiatives.

Net Zero Training Videos

Reaching Net Zero goals by 2040, will require participation and collaboration from all levels of the City organization. In order to facilitate this, the City will be introducing training videos dedicated to energy management and emission reduction strategies. These videos will be made available to all staff through internal training modules, specifically those that work in and on buildings, such as building operators and project managers.

Training videos will cover the following topics:

- Net Zero Equipment and Technology
- Building Operations and Project management
- Energy Management
- Energy Accounting

IESO – Save ON Energy Strategic Energy Management (SEM) Program

Beginning in May of 2024 the City of Toronto will be participating in the Strategic Energy Management Program delivered by Save ON Energy and the IESO (Independent Electricity System Operator). The City of Toronto's participation in an SEM Cohort for 24 months will help strengthen staff capacity to lead energy management initiatives, including building technical skills, support for scaling capacity for energy management programs and documented support from senior management. With this strengthened foundation in place, the City of Toronto will continue to identify and prioritize energy savings opportunities. Performance will be monitored using energy performance models, allowing City staff to maintain course toward the City's incremental targets and larger long-term energy efficiency goals.

Methodology

This section will discuss the methods used to obtain and report on utility data and projects in this report.

Data Analysis

In the 2019-2023 ECDM reporting period the following components are being reported on:

- energy consumption and associated emissions,

- renewable energy generated,
- completed energy and renewable energy efficiency projects, and
- projects planned between 2024-2029.

The 2020-2023 consumption data will be compared to a baseline year of 2019. This year represents consistent consumption prior to the COVID-19 pandemic while data from years following is impacted by occupancy and operational disruptions. In regards to the project data, individual City groups supplied project information that can be found in Appendix D, Appendix E, Appendix F and Appendix G.

Monthly utility bills were used to obtain energy cost and consumption data for natural gas, electricity, steam and chilled and hot water commodities. Analysis of the data was completed using the City's energy management information system. Units of measurement for all utilities are converted from their standard units of measurement (see Units of Measurement section) to equivalent kilowatt hours (ekWh) to ensure a fair comparison between utility types.

For this report natural gas and electricity emissions factors were provided by the Canadian Federal Government's National Inventory Report. It is important to note that Ontario has a diverse electrical grid, one of the cleanest in North America -- which means the electricity is produced from a variety of sources. These include nuclear, natural gas, hydro, wind, solar and biofuel. With the majority being generated from low GHG emitting resources, the electricity emissions factors will be lower compared to natural gas. Additionally, emissions factors for steam, chilled water and hot water were provided by the Enwave Energy Corporation.

Due to the described impact of the COVID-19 pandemic, it is difficult to attribute energy and GHG savings, in most cases, to retrofit projects. For this reason, the report will simply include a percentage change for each year compared to the baseline energy consumption and GHG emissions. The report will not discuss the impacts of retrofit projects unless it was a deep retrofit project and energy/GHG emission savings were significant.

A small number of City facilities use other forms of fuel for heating, these include propane and heating oil. These installations are predominantly located in less accessible park sites or as part of heritage buildings. Due to the bulk nature of purchasing contracts for these commodity types, staff are currently unable to report on yearly consumption and cost patterns. Fuel switching for these sites may be explored as part of future feasibility studies.

Individual building data, by commodity can be found on the Open Data Portal and has been submitted to the province in compliance with O. Reg 25/23 as part of the City's submission through Energy Star Portfolio Manager.

Categorizing Data

The City of Toronto will be reporting on the required building divisions by separating buildings into operating types as required by O. Reg. 25/23. There are many building factors that impact energy consumption, some include building age, size, building occupancy and building use. Separating buildings into similar operating types ensures a realistic representation of energy profiles. The following operation types are considered:

- Administrative Offices and Related Facilities
- Ambulance Stations and Related Facilities
- Animal Centres
- Child Care Facilities
- Community Centres
- Cultural Facilities
- Fire Stations and Related Facilities
- Greenhouses
- Indoor Recreation Facilities
- Indoor Sports Arenas
- Indoor Swimming Pools
- Long-Term Care Homes
- Indoor Parking Garages
- Performing Arts Centres
- Police Stations and Related Facilities
- Public Libraries and Related Facilities
- Sewage Treatment Plants and Pumping Stations
- Shelters, Support and Housing Administration
- Storage Facilities
- Transfer Stations
- Transit Hub
- Water Treatment Plants and Pumping Stations

Energy efficiency retrofits can be grouped into three types structural, electrical and mechanical:

Structural retrofits include any building envelope upgrade e.g., increased insulation, air leakage sealing, window upgrades, roof upgrades and new building extensions.

Electrical retrofits include lighting upgrades or any other upgrades that reduce electrical consumption, along with BAS systems.

Mechanical retrofits include higher efficiency heating and cooling systems.

Energy Efficiency Measures

This section describes non-renewable energy efficiency measures the City of Toronto has taken to reduce GHG emissions.

Lighting

Non-energy efficient lighting, like incandescent lightbulbs, create a great deal of heat. This is because some of the electricity that should be used to produce light is instead being used to create heat. This is known as heat waste. Energy efficient lightbulbs, like LEDs, do not create as much heat waste, as such less electricity is needed to create the same amount of light.

Due to the amount of heat waste from incandescent lighting, non-energy efficient lighting also creates more carbon emissions compared to energy efficient lighting due to higher levels of consumption.

Building Envelope

The building envelope separates the indoor from the outdoor environment. This includes wall, floor and roof components/materials, windows and doors. The goal is to keep a comfortable indoor environment free from extreme temperatures, rain or other moisture and wind. Buildings can have different envelope components made from varied materials depending on the local climate. Over time the building envelope will deteriorate from temperature and weather effects. Performing routine maintenance to improve the building envelope reduces heat loss/gain into a building, saving on heating and cooling costs and reducing GHG emissions. Improving the building envelope is one of the best techniques to reduce GHG emissions and lower energy costs for an older building.

Energy Tracking

Energy tracking is the most crucial step when implementing energy efficiency measures, especially on a large scale. If you can track energy consumption, you can identify areas for improvements. Tracking energy consumption lets the building owner know when a building is starting to deteriorate and would require energy efficiency measures. It would also allow building owners to track which efficiency measures improved building energy performance and which did not. The City of Toronto uses an

energy management information system to track building energy consumption and performance, which feeds into Energy Star Portfolio Manager.

Fuel Switching

Fuel switching for buildings involves transitioning from high-carbon energy sources, such as heating oil, propane or natural gas, to cleaner alternatives like electricity, or renewable energy. This practice significantly reduces greenhouse gas emissions, improves energy efficiency and supports sustainability goals by leveraging low-carbon and renewable technologies.

Renewable Energy Measures

This section details the renewable energy efficiency measures the City of Toronto takes to reduce energy consumption.

Solar Photovoltaic (PV)

Photovoltaic (PV) cells convert sunlight into electrical energy, which can be stored or immediately used to power building mechanical equipment like a heat pump or other electrical equipment. If building equipment can use electricity generated from these PV systems, the amount of grid electricity used by the building is reduced, which can then reduce electricity costs. One PV module by itself is not able to produce enough electricity to power large equipment or appliances, thus the City usually installs multiple modules that are linked together to form a PV panel system, also known as a solar array.

PV systems are known as variable renewable energy sources, which means the energy they produce changes based on some factor. In the case of a PV system, its energy supply varies based on available sunlight. PV systems have trouble supplying electricity at night, when there are clouds, or when there is something over the PV system blocking the sunlight. For optimal performance, these systems can be coupled with other renewable energy initiatives.

Currently most systems in the City's Solar PV portfolio fall into the Feed In Tariff (FIT) and microFIT category - most of this electricity is sold back to Toronto Hydro and fed directly into the local electricity grid. Newer Solar PV installations fall under the Net Metering category which allows electricity generated onsite (that was not consumed by the building) to be sent to Toronto Hydro's distribution system in return for a credit towards electricity costs. Excess generation credits can be carried forward for a consecutive 12-month period to offset future electricity costs.

These systems can include storage systems so that harnessed electricity can be utilized

to directly offset energy consumption and provide back-up power in times of an emergency. Future Solar PV installations will continue to take the latter approach.

Table 3: Current Solar PV Systems

Location	Address	Total Generation 2019-2023 (kWh)	System Capacity (kW)
Parliament Public Library	269 Gerrard St. E.	47,401	10
Ellesmere Library Admin	1076 Ellesmere Rd.	54,228	10
Disco Yard	150 Disco Rd.	1,860,374	300
McGregor Park Arena (Phase I)	2231 Lawrence Ave. E.	485,234	75
Police Cranfield Garage	18 Cranfield Rd.	865,768	150
Warden Hilltop Community Centre (Phase I)	25 Mendelssohn St.	45,428	40
Victoria Village Arena	190 Bermondsey Rd.	540,574	90
North York Animal Centre	1300 Sheppard Ave. W.	53,693	10
Oriole Park Community Centre & Arena	2975 Don Mills Rd.	1,337,564	220
York Civic Centre	2700 Eglinton Ave. W.	49,152	10
Albion Arena	1501 Albion Rd.	817,893	140
Kipling Acres Phase II	2234 Kipling Ave.	488,657	75
Fire Hall 145	20 Beffort Rd.	55,088	10
Disco Transfer Station	120 Disco Rd.	584,544	100
Habitant Arena	3383 Weston Rd.	735,604	120
Commander Park Arena & Community Centre	140 Commander Blvd.	1,587,233	240

Location	Address	Total Generation 2019-2023 (kWh)	System Capacity (kW)
Fire Hall 424	462 Runnymede Rd.	4,239	1.2
King Yard	1116 King St. W.	1,061,879	175
Mimico Arena	31 Drummond St.	356,369	62
EMS Station 12	1535 Albion Rd.	4,174	15
Baycrest Arena	160 Neptune Dr.	731,309	140
Warden Hilltop Community Centre (Phase II)	25 Mendelssohn St.	260,194	10
Cummer CC	6000 Leslie St.	660,272	100
Gwendolen Tennis Clubhouse	3 Gwendolen Cres.	36,211	10
High Park Teaching Kitchen	105 Colborne Lodge Dr.	14,996	4
York Woods Public Library	1785 Finch Ave. W.	221,336	46
1052 Victoria Park	1052 Victoria Park	12,694	N/A
Kipling Acres Phase I	2233 Kipling Ave.	924,861	150
Clairlea Park - Scarborough Indoor Soccer Centre	45 Fairfax Cres.	599,704	100
Stores Warehouse	799 Islington Ave.	800,116	150
Herbert Carnegie North York Centennial Centre	580 Finch Ave.	1084871	240
EMS Station 46	105 Cedarvale Ave.	22,718	10

Location	Address	Total Generation 2019-2023 (kWh)	System Capacity (kW)
Amesbury Park	155 Culford Rd.	758,199	130
Jane/Sheppard Public Library	1906 Sheppard Ave. W.	53,891	10
Fire Hall 413	1549 Albion Rd.	39,607	10
Fire Hall 426	140 Lansdowne	54,200	10
Agincourt Park Arena	31 Glen Watford Dr.	3,22,910	48
Fairbank Memorial Park CC	2213 Dufferin St.	41,896	10
Bayview Arena	3230 Bayview Ave.	664,412	100
Malvern CC	30 Sewells Rd.	1,516,586	210
Goulding Park CC & Arena	45 Goulding Ave.	372,812	75
Ingram Yard - Office & Storage Bldg.	86 Ingram Dr.	580,490	100
Grandravine CC & Arena	23 Grandravine Dr.	652,183	100
Ted Reeve Community Arena	175 Main St.	934,457	130
Traffic Services and Garage	9 Hanna Ave.	231,925	50
Albion Community Centre & Pool & Fit Centre	1485 Albion Rd.	315,650	49.9
Fairfield Senior Centre	80 Lothian Ave.	46,849	10
715 Milner Ave	715 Millner Ave.	3,337,988	500

Location	Address	Total Generation 2019-2023 (kWh)	System Capacity (kW)
East York Civic Centre	850 Coxwell Ave.	203,575	30
Police Division 14	350 Dovercourt Rd.	61,022	10
Gord and Irene Risk Community Centre	2650 Finch Ave. W.	594822	100
Annette Recreation Centre	333 Annette St.	47,421	10
Centennial Galaxy Arena	1967 Ellesmere Rd.	808,862	130
Edithvale CC	131 Finch Ave. W.	46,034	10
ParkWay Forest Community Centre	55 Forest Manor Rd.	444,121	80
Bendale Public Library	1515 Danforth Rd.	51,943	10
Birchmount Park Yard - Maintenance Shop	101 Ridgetop Rd.	289,367	49.9
Scarborough Transfer Station	1 Transfer Place	1,967,555	300
Fire Hall 334	339 Queens Quay W.	17,309	3.2
EMS Station 18	643 Eglinton Ave. W.	43,163	10
Toronto Parking Authority	2 Church St.	48,254	21
Bentworth Park Yard Administration Building	140 Bentworth Ave.	520,675	80
Roding CC & Arena	600 Roding St.	390,252	75
Ramsden Yard	1008 Yonge St.	35,912	10

Location	Address	Total Generation 2019-2023 (kWh)	System Capacity (kW)
Bermondsey Yard - Office & Garage Building	25 Old Eglinton Ave.	328,139	50
S. Walter Stewart Public Library	170 Memorial Park Ave.	47,318	10
Wallace Emerson Community Centre & Indoor Pool	1260 Dufferin St.	573,583	100
Angela James Arena	165 Grenoble Dr.	569,789	100
Don Montgomery Arena & Gym	2467 Eglinton Ave. E.	1,453,514	240
Scarborough Civic Centre	150 Borough Dr.	585,986	100
Finch Yard	1026 Finch Ave. W.	2,728,601	500
EMS Station 33	760 Dovercourt Rd.	19,466	4
Scarborough Village Recreation Centre & Arena	3600 Kingston Rd.	824,647	130
York Mills Arena	2539 Bayview Ave.	495,586	75
Elections Building	89 Northline Rd.	890,354	140
Corporate Office Building	18 Dyas Rd.	601,996	100
Toronto Police Services Training Facility & D22 Substation Phase II	70 Birmingham St.	1,227,207	216
71 Rexdale Blvd	71 Rexdale Blvd.	2,476,354	500

Location	Address	Total Generation 2019-2023 (kWh)	System Capacity (kW)
Palmerston Public Library	560 Palmerston Ave.	50,343	10
Fire Hall 415	2120 Kipling Ave.	56,769	10
Police College - Shooting Range Phase I	70 Birmingham St.	1,376,806	200
Stan Wadlow Park - East York Memorial Arena	888 Cosburn Ave.	735,188	130
Etobicoke Olympium	590 Rathburn Rd.	877,245	150
Waterfront Neighbourhood Centre	627 Queens Quay W.	264622	94
Police Division 11	2054 Davenport Rd.	25,342	10
Brentwood Public Library	36 Brentwood Rd. N.	46,914	10
Neilson Creative Centre	56 Neilson Dr.	47,493	10
Mitchell Field Community Centre & Arena	89 Church Ave. N.	817,157	120
EMS Station 38	259 Horner Ave.	54,279	10
West Fire Training Division	947 Martin Grove Rd.	42,320	10
Beaches Recreation Centre	6 Williamson Rd.	48,804	10
Albion Library	1515 Albion Rd.	262,527	40
Humber Bay Park	2225 Lakeshore Blvd. W.	52,974	10
F.J. Horgan	201 Copperfield Rd.	338,538	86.4

Location	Address	Total Generation 2019-2023 (kWh)	System Capacity (kW)
Ancaster Child Care Centre	45 Ancaster Rd.	43,824	10
McCormick RC	66 Sheridan Ave.	929,435	175
Danforth/Coxwell Library	1675 Danforth Ave.	48,415	10
McGregor Park Arena (Phase II)	2231 Lawrence Ave. E.	599,095	120
York Community Centre	115 Black Creek Dr.	57,680	10
Mount Dennis Public Library	1123 Weston Rd.	51,421	10
EMS Station 44	887 Pharmacy Ave.	54,915	10
Ellesmere Yard Carport	2020 Midland Ave.	53,981	10

The City is looking to expand its Solar PV generation by adding in new systems (approximately 2,315kW).

Table 4: Proposed Locations for Solar PV System

Location	Address	System Size (kW)
East York Curling Club	901 Cosburn Ave.	150
Fairfield Senior Centre (Expansion)	80 Lothian Ave.	50
O'Connor Community Centre	1386 Victoria Park Ave.	50
Corporate Printing	2 Hobson Ave.	240
Ellesmere A Building	1050 Ellesmere Rd.	160
Forest Hill Public Library	666 Eglinton Ave. W.	160

Location	Address	System Size (kW)
North West Station	1300 Wilson Ave.	100
Albion Childcare Centre	1545 Albion Rd.	34.2
Willowridge Childcare Centre	30 Earldown Dr.	34.2
Regent Park Childcare Centre	30 Regent St.	50
EMS 43	126 Pape Ave.	10
East Animal Shelter	821 Progress Ave.	50
HUSAR Building	21 Old Eglinton Ave.	43
Police Services - 41 Division	2222 Eglinton Ave. E.	118.8
Western North York Community Recreation Centre (New Building)	60 Starview Lane	740
Scarborough Gardens Arena	70 Birchmount Ave.	375
Toronto Paramedic Services Multifunction Station (New Building)	300 Progress Ave.	>1,000 proposed

Solar Thermal

Solar thermal systems use the sun as a source for heating or cooling. The solar collector will become hot, this heat is collected by a medium (e.g., water or air) and transferred via a pump for hot water heating, pool heating, floor heating or ventilated air heating.

Table 5: Current Solar Thermal Systems

Location	Address	Type (Air/Water)
Agincourt Recreation Centre Indoor Pool	31 Glen Watford Dr.	Solar Hot Water
Albion Community Centre	1485 Albion Rd.	Solar Hot Water

Location	Address	Type (Air/Water)
Armour Heights Community Centre	2140 Avenue Rd.	Solar Air Heating
Birchmount Recreation Centre	93 Birchmount Rd..	Solar Hot Water
Centennial Recreation Centre Indoor Pool	1967 Ellesmere Rd	Solar Hot Water
Central Maintenance Garage	843 Eastern Ave.	Solar Air Heating
Fire Hall 212	8500 Sheppard Ave. E.	Solar Hot Water
Fire Hall 231	740 Markham Rd.	Solar Hot Water
Fire Hall 426	140 Lansdowne Ave.	Solar Hot Water
Gihon Spring Outdoor Pool	75 Gihon Spring Dr.	Solar Hot Water
Jimmie Simpson Recreation Centre	870 Queen St. E.	Solar Hot Water
Park Lawn Outdoor Pool	340 Park Lawn Rd.	Solar Hot Water
Police Garage	2050 Jane St.	Solar Air Heating
Rotary Outdoor Pool	25 11th St.	Solar Hot Water
Scadding Court Community Centre	707 Dundas St. W.	Solar Air Heating
True Davidson Acres	200 Dawes Rd.	Solar Hot Water
Warden Hilltop Community Centre	25 Mendelssohn St.	Solar Hot Water
Wesburn Manor	400 The West Mall	Solar Hot Water
Weston Lions Outdoor Pool	2125 Lawrence Ave. W.	Solar Hot Water

Heat Pump

Heat pumps are an energy efficient replacement for space heating technology, such as a furnace. Instead of a natural gas burning furnace, heat pumps can heat a building using grid electricity.

Heat pumps can function as an air conditioner, a heater or both. Heat pumps work by extracting heat from the air and either putting it into a building or dumping it outside. When the heat is taken from outside and goes into a building the heat pump acts as a heater. When the heat is taken from inside a building and dumped outside the heat pump acts as an air conditioner.

The two most common heat pumps are called Air-Source Heat Pumps (ASHP) or Ground source Heat pumps (GSHP). An ASHP takes/dumps heat from the air while a GSHP takes/dumps heat from the ground. GSHP is also commonly referred to as a Geo-exchange system.

Table 6: Current Geothermal Systems

Location	**Address**
Police Division No.14	350 Dovercourt Rd.
Police Division No.11	2054 Davenport Rd.
Toronto Police College	70 Birmingham St.
Warden Hilltop Community Centre	25 Mendelssohn St.
Waterfront Neighbourhood Centre	627 Queens Quay W.
Young Hearts Child Care Centre	5176 Yonge St.

Coupled Technology

The efficiency of variable renewable energy items can increase when coupled with a secondary renewable energy item. Some common coupled technologies are listed below:

- Photovoltaic-Heat pump (PV-HP)
    - Electricity generated from the PV system is used to power the heat pump, offsetting grid electricity consumption.

- Photovoltaic-Storage (PV-S)
    - Electricity generated from the PV system is stored in a battery, which can be used later when the PV system cannot generate electricity.
- Photovoltaic-Thermal (PV/T)
    - The PV system doubles as a solar thermal collector. When the PV system generates electricity, it can make the system extremely hot, having a solar thermal system integrated below the PV panels allows the medium to collect the generated heat, which can be used for hot water heating.

Currently, the City is using PV-storage systems at Waterfront Neighbourhood Centre, Toronto Paramedic Station #46 and Toronto Paramedic Station #12 and is exploring other opportunities.

Renewable Natural Gas

When organic matter breaks down via anaerobic digestion it produces methane, which can be used to generate energy as a natural gas replacement. The gas produced is known as biogas or Renewable Natural Gas (RNG). In 2020, City Council approved a strategy to produce and use green bin organics as an alternative to natural gas. In partnership with Enbridge Gas Inc., the City has installed equipment at Dufferin Solid Waste Management Facility which turns green bin organics into RNG, which is then injected into the City's natural gas grid. This blended gas is used as a lower-caron fuel to power vehicles and heat City-owned facilities, allowing for a reduction in GHG emissions. A similar installation is being developed at Disco Road Transfer Station and Keele Valley Landfill.

RNG production began in November 2022, below is the RNG consumption since 2022 and projected consumption in 2025.

- Nov.2022-Oct.2023 656,780 m3
- Nov.2023-Oct.2024 659,280 m3
- Nov.2024-Oct.2025 4,755,550 m3 (Est)

To learn more about the City of Toronto's RNG initiative, visit Turning Waste into Renewable Natural Gas.

Deep Lake Water Cooling

Deep lake water cooling systems use the cold temperature of water bodies to cool buildings. The City of Toronto, in partnership with Enwave Energy Corporation, uses the City's Island Water Treatment Plant to draw cold water from the depths of Lake Ontario. This chilled water is turned into drinking water, then passes through a heat exchanger, where the cooling energy is transferred from the City's drinking water to Enwave's

District Energy Supply (EDES). Once the cooling energy has been transferred, it is distributed to roughly 80 buildings throughout the City. The City of Toronto currently purchases chilled water from Enwave to cool the following buildings:

Table 7: List of Current Deep Lake Water Cooling Systems

Building Name	Address
City Hall	100 Queen St. W.
Metro Hall	55 John St.
Old City Hall	60 Queen St. W.
Police Headquarters	40 College St.
Union Station	71 Front St. W.

To learn more about the City of Toronto's Deep Lake Water Cooling initiative, visit Deep Lake Water Cooling Supply Expansion.

City of Toronto Buildings

This section summarizes energy use and cost for 2019, details total energy use and cost from 2019-2023 along with efficiency measures and lists proposed energy efficiency measures. This is done for each building type listed in the Methodology section. Some buildings will display zero consumption data for certain commodities. This can be due to many factors including; the building does not consume that commodity, the building uses electric heating equipment instead of natural gas, or the meter is being shared with another building so consumption appears as a part of another buildings' consumption data.

Administrative Offices and Related Facilities

The City of Toronto is reporting on 42 administrative offices with a total area of 4,194,895 ft^2. These offices are occupied by various divisions and agencies within the City of Toronto and hours of operation vary accordingly. Some locations also contain food services, call centres and data centres.

Of the 42 administrative buildings described in this report, steam and chilled water are utilized at Metro Hall, City Hall and Old City Hall for building heating and cooling,

respectively. Other sites utilize either electricity or natural gas for space and hot water heating.

Table 8: Administrative Offices and Related Facilities Locations

Locations Name	**Address**	**Floor Area (ft^2)**
175 Memorial Park Ave	175 Memorial Park Ave.	6,394
18 Dyas Rd.	18 Dyas Rd.	73,927
2 Civic Centre Court	2 Civic Centre Crt.	46,145
21 Connell Crt	21 Connell Crt, Unit 1	19,262
275 Merton St	275 Merton St.	66,747
50 Richmond St. E	50 Richmond St. E.	13,800
51 Lisgar	51 Lisgar St.	10,053
Archives and Records Centre	255 Spadina Rd.	39,590
Atlantic Ave Storage Building	98 Atlantic Ave.	43,002
Beaches Employment & Social Services	1631 Queen St. E.	25,327
Chaplin Crescent Storage	329 Chaplin Cres.	18,299
City Clerk's Office (2 Hobson Ave)	2 Hobson Ave.	34,843
City Hall	100 Queen St. W.	780,061
City Hall Ancillary Office Building	75 Elizabeth St.	14,768
Communication, Traffic, & Computer Centre	703 Don Mills Rd.	132,999
Dee Avenue Lab	30 Dee Ave.	14,994
Dyas Road Archive Building	14 Dyas Rd.	28,589
East Court & Municipal Services	1530 Markham Rd.	120,104
East York Civic Centre	850 Coxwell Ave.	67,544

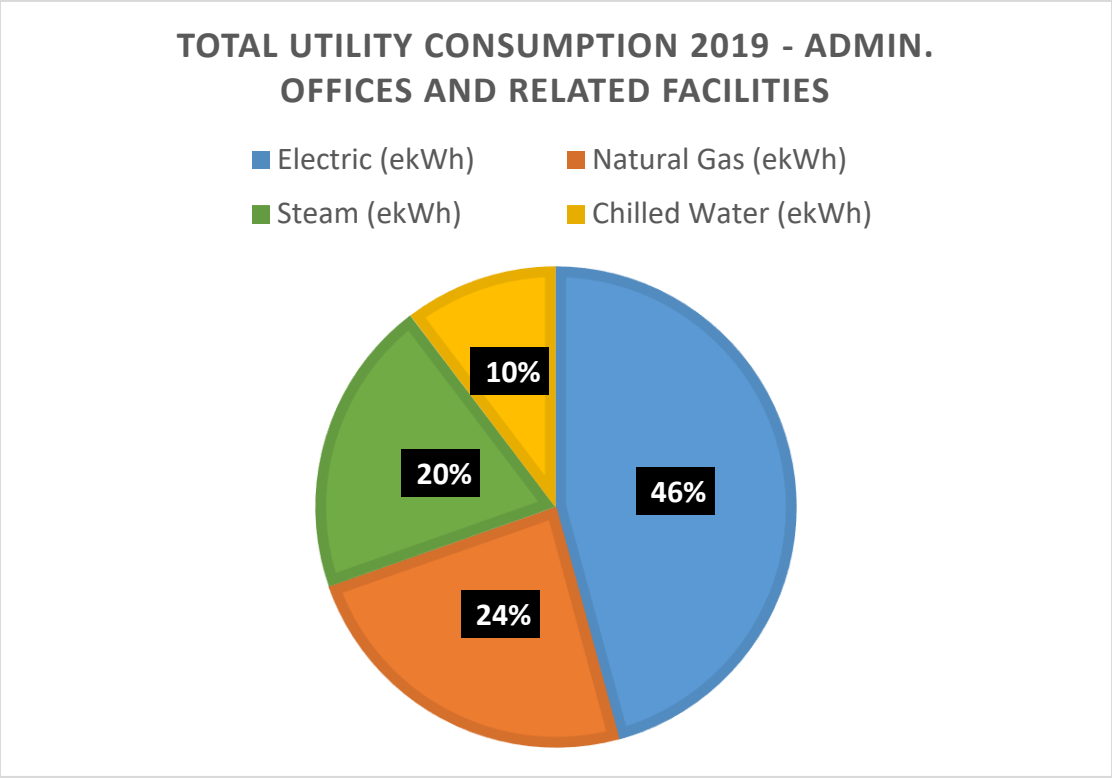
Locations Name	Address	Floor Area (ft^2)
Eastville Training Centre	1 Eastville Ave.	19,849
Election Services Building	89 Northline Rd.	55,004
Etobicoke Civic Centre	399 The West Mall	154,925
Former Hydro Building	1652 Keele St.	22,497
Health Office - Jane Street Clinic	662 Jane St.	2,540
High Park Office	140 Colborne Dr.	2,228
High Park Training Centre	142 Colborne Lodge Dr.	2,874
Metro Hall	55 John St.	787,186
North York Civic Centre	5100 Yonge St.	303,518
North York District Office	1118 Finch Ave. W.	11,501
Old City Hall	60 Queen St. W.	350,494
Property Dept Workshop	786 Dundas St. E.	39,170
Public Health HQ	277 Victoria St.	111,385
Rexdale Community Hub	21 Panorama Crt.	96,369
Scarborough Civic Centre	150 Borough Dr.	372,868
South District Office & Workshop	149 River St.	13,487
St Lawrence Hall	157 King St. E.	55,413
Toronto Island Service Office	1 Lakeshore Ave.	20,968
Toronto Water Centre	60 Tiffield Rd.	64,831
Toronto Water Operations Building	2126 Kipling Ave.	16,952
TPS Station #43/Amelie House	126 Pape Ave.	9,365

Locations Name	Address	Floor Area (ft^2)
Wellesley Place Employment & Social Services	111 Wellesley St. E.	52,108
York Civic Center	2700 Eglinton Ave. W.	72,915

2019 Energy Consumption and GHG Emissions

In 2019, the largest utility consumer was electricity accounting for 46% of all utility consumption. Following behind electricity was natural gas with 24%, steam with 20%, then chilled water with 10% of all utility consumption. Administrative office buildings consumed 139,185,855 ekWh of energy in 2019.

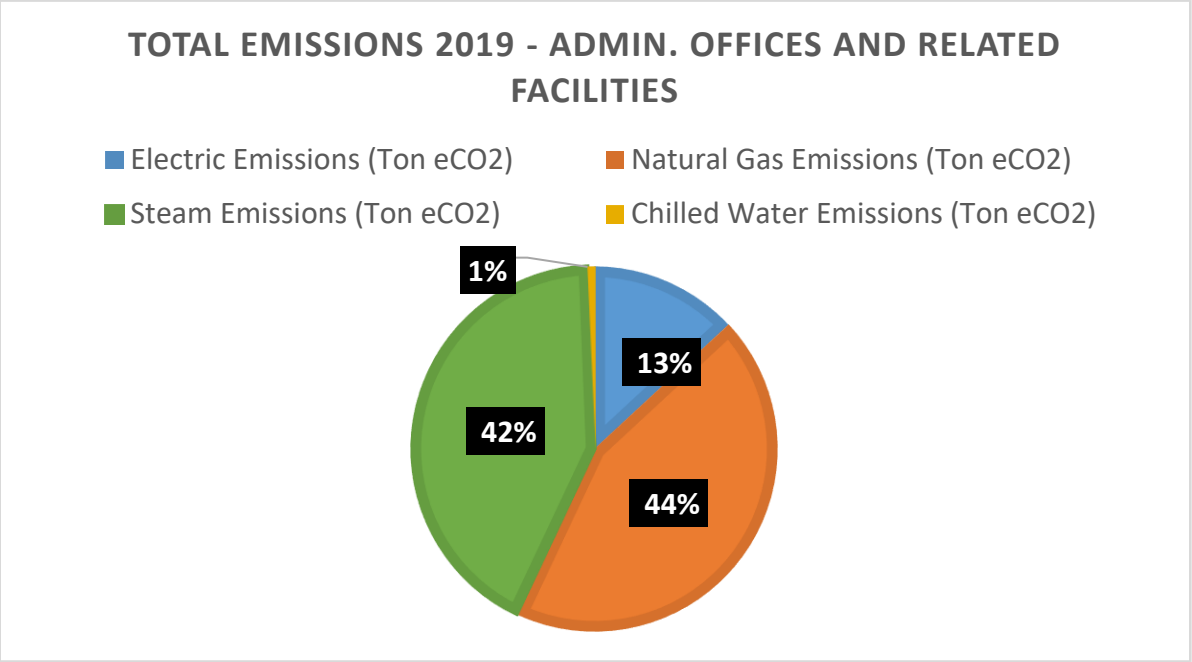
Chart 1: 2019 Utility Consumption for Administrative Offices and Related Facilities



Even though electricity is the largest utility consumption, it only accounts for 13% of total GHG emissions, the second smallest portion of total emissions next to chilled water, which accounts for 1%. Whereas natural gas accounts for 44% and steam accounts for

42% of total GHG emissions. Much of this is due to the high emissions factors associated with both commodities. Administrative office buildings produced 14,122 Ton eCO_2 in 2019.

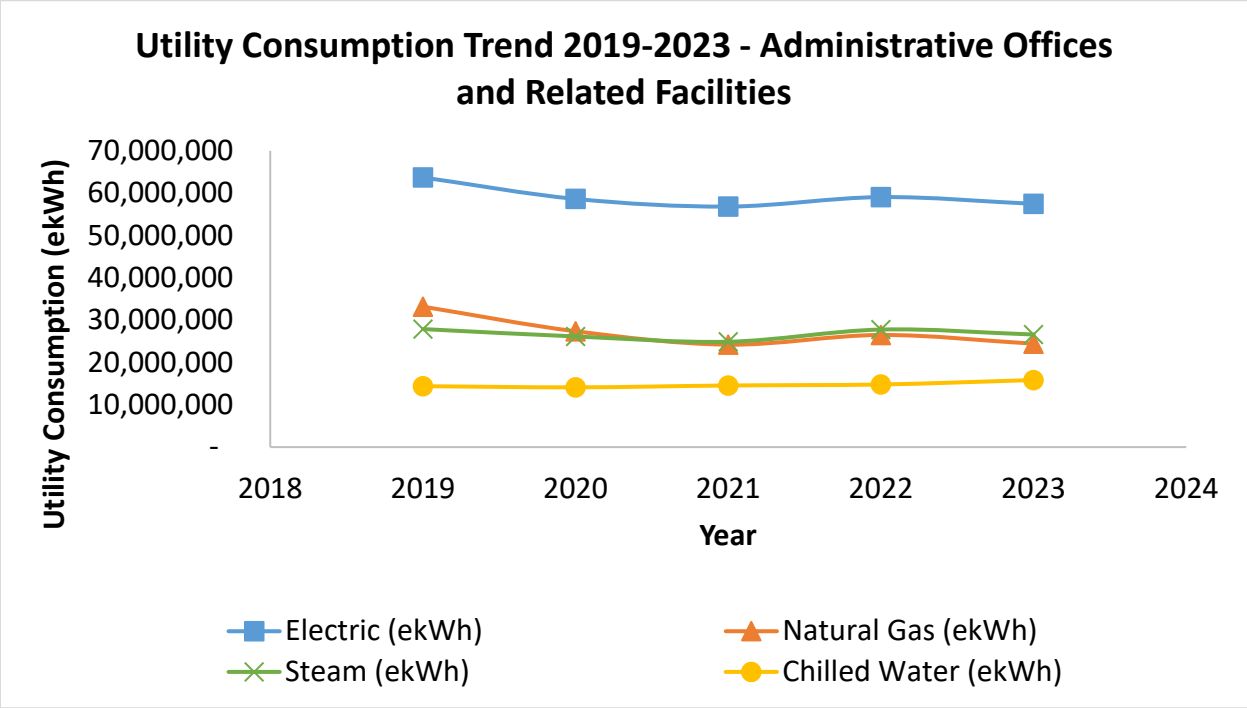
Chart 2: 2019 Emissions for Administrative Offices and Related Facilities



2019-2023 Energy Consumption and GHG Emissions

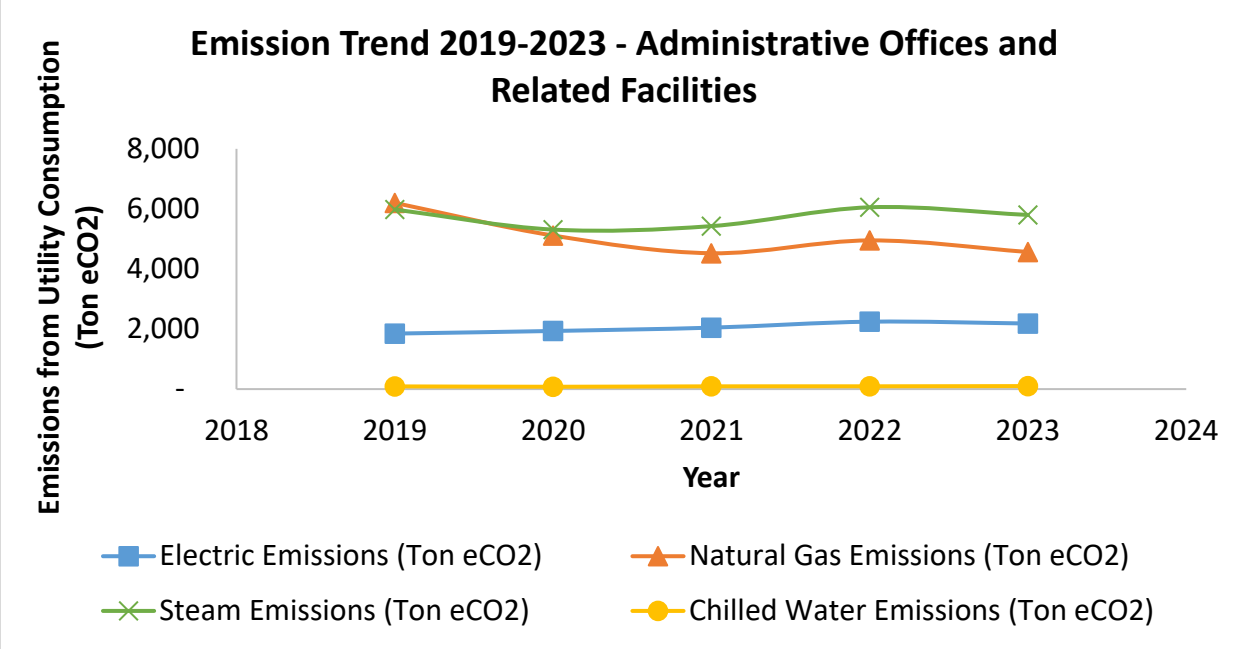
There were a total of 13 Administrative Office buildings that had projects completed during the 2019-2020 reporting cycle. All projects were either mechanical or electrical retrofits with a majority focusing on BAS installations or upgrades.

Chart 3: Utility Consumption 2019-2023 - Administrative Offices and Related Facilities



Between 2019 and 2023 electricity consumption remained the highest utility type consumed. This was followed by natural gas and steam consuming almost similar amounts, with chilled water having the lowest consumption. Electricity, natural gas and steam all had slight decreases in consumption from 2019 to 2021, due to the ripple effects from office vacancies during the pandemic. This was then followed by an increase in consumption during the gradual return to office which began during the fist quarter of 2022.

Chart 4: Emission 2019-2023 - Administrative Offices and Related Facilities



As expected, GHG emissions from natural gas, steam and electricity follow a similar trend as seen in the utility consumption figure, with a decrease in emissions from 2019-2021 and then a slight increase. Like 2019, emissions were highest for natural gas and steam, followed by electricity and then chilled water. Interestingly, steam and natural gas have a similar consumption pattern, but steam produced more emissions during the 2019-2023 period. This is due to steams' larger emissions factor, which increased by 6.7% in 2021.

Along with electricity's larger consumption, it also had the largest cost followed by steam, chilled water, then natural gas.

Administrative office buildings were able to decrease their energy consumption and GHG emissions compared to the 2019 base levels for each year and overall.

Table 9: Energy and GHG emissions Change from 2019 - Admin Office Buildings and Related Facilities

2020 Change from 2019 (%)		**2021 Change from 2019 (%)**		**2022 Change from 2019 (%)**		**2023 Change from 2019 (%)**	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-9%	-12%	-13%	-14%	-8%	-6%	-11%	-10%

Ambulance Stations and Related Facilities

The City of Toronto is reporting on 30 ambulance stations and related facilities with a total area of 324,343 ft^2. Most of these locations are ambulance stations, but also included are the Ambulance Headquarters and associated office space. Note that the Ambulance Headquarters and Station #10 are shared with Fire Services.

These locations are run by Toronto Paramedic Services, which is the largest municipal paramedic service in Canada. TPS staff members are trained to provide emergency and nonemergency care and transportation to appropriate medical facilities for injuries and illnesses. Many of these sites operate 24 hours a day, seven days a week.

Stations vary in size from 1,572 ft^2, TPS Station 46, which houses a garage and modest living space, to Ambulance Headquarters/TPS Station #53, 4330 Dufferin St, which is 143,494 ft^2. This building services Toronto Paramedic Services, Fire Services and Toronto Police Services, and is currently undergoing a comprehensive deep energy retrofit to become one of the City's most energy-efficient buildings.

Of the 30 sites described in this report, all currently consume both electricity and natural gas, the latter of which is utilized for space heating and/or domestic hot water heating.

Table 10: Ambulance Stations and Related Facility Locations

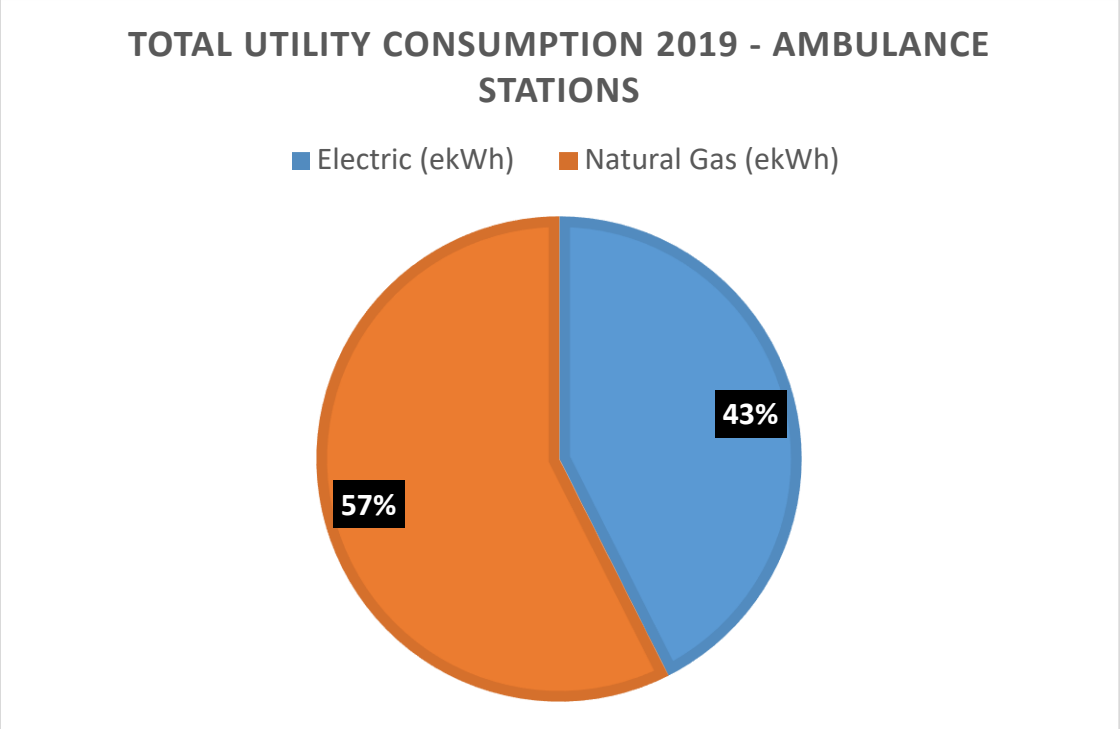
Locations Name	**Address**	**Floor Area (ft^2)**
Ambulance Headquarters/TPS Station #53	4330 Dufferin St.	143,494
Community Paramedicine/Post 17	50 Toryork Dr.	13,153
TPS Multi-Function Station #1	1300 Wilson Ave.	29,503
TPS Station #10	2015 Lawrence Ave. W.	5,005
TPS Station #11	1135 Caledonia Rd.	3,574
TPS Station #12	1535 Albion Rd.	1,938
TPS Station #13	555 Martin Grove Rd.	2,756
TPS Station #14	321 Rexdale Blvd.	4,252
TPS Station #18	643 Eglinton Ave. W.	4,930
TPS Station #20/District 2 Office	2430 Lawrence Ave. E.	7,782

Locations Name	Address	Floor Area (ft^2)
TPS Station #22	3100 Eglinton Ave. E.	2,583
TPS Station #24	3061 Birchmount Rd.	2,659
TPS Station #28	2900 Lawrence Ave. E.	1,905
TPS Station #30/District 3 Office	100 Turnberry Ave.	16,380
TPS Station #31	4219 Dundas St. W.	2,831
TPS Station #32	9 Clendenan Ave.	3,218
TPS Station #33	760 Dovercourt Rd.	3,132
TPS Station #34	674 Markham St.	13,939
TPS Station #37	1288 Queen St. W.	4,413
TPS Station #38	259 Horner Ave.	5,102
TPS Station #39	155 The East Mall	1,927
TPS Station #40	58 Richmond St. E.	12,798
TPS Station #41	1300 Pape Ave.	4,970
TPS Station #42/District 4 Office	1535 Kingston Rd.	6,997
TPS Station #44	887 Pharmacy Ave.	2,799
TPS Station #45	135 Davenport Rd.	11,496
TPS Station #46	105 Cedarvale Ave.	1,572
TPS Station #47	3600 St Clair Ave. E.	1,787
TPS Station #54	4135 Bathurst St.	5,790
TPS Station #9	866 Richmond St. W.	1,658

2019 Energy Consumption and GHG Emissions

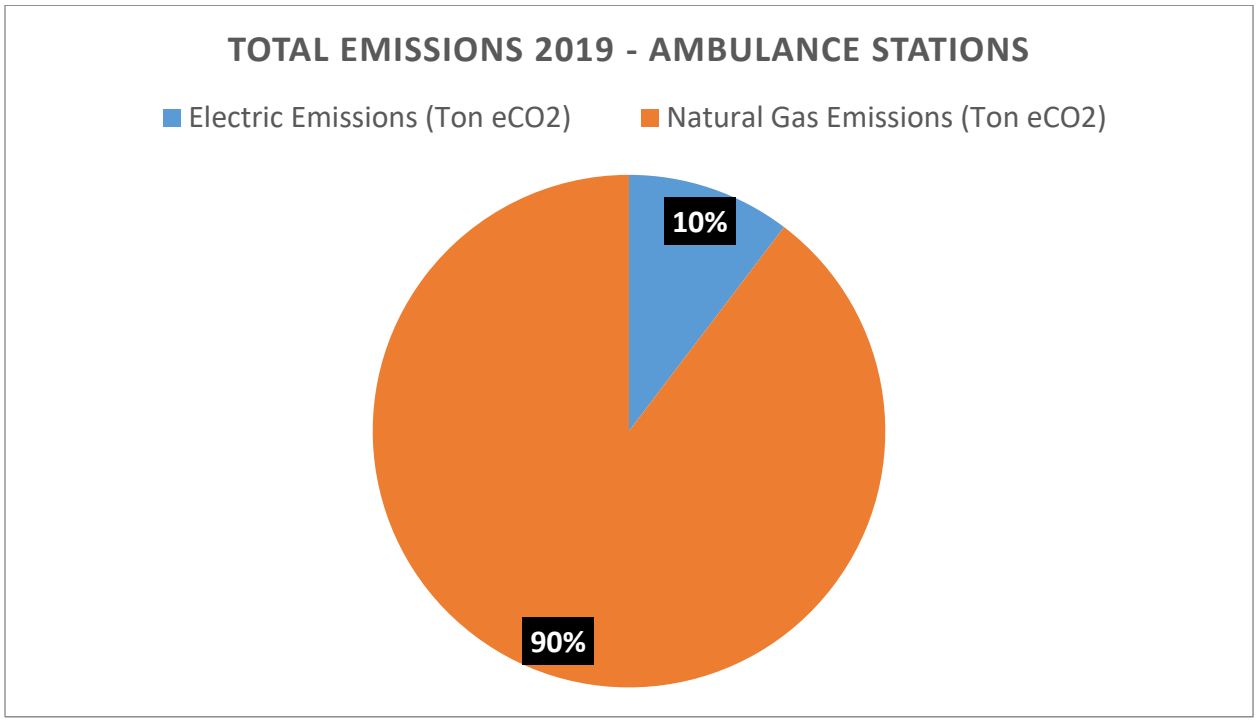
In 2019, the largest utility consumer was natural gas accounting for 57% of all utility consumption, followed by electricity consumption at 43%. This trend is to be expected in a facility that operates 24/7 annually. Ambulance stations and related facilities consumed 12,885,600 ekWh of energy in 2019.

Chart 5: 2019 Utility Consumption for Ambulance Stations and Related Facilities



With such a large natural gas consumption compared to electricity, it follows that GHG emissions due to natural gas consumption account for 90% of all GHG emissions while electricity accounts for 10%. Ambulance stations and related facilities produced 1,542 tons eCO_2 in 2019.

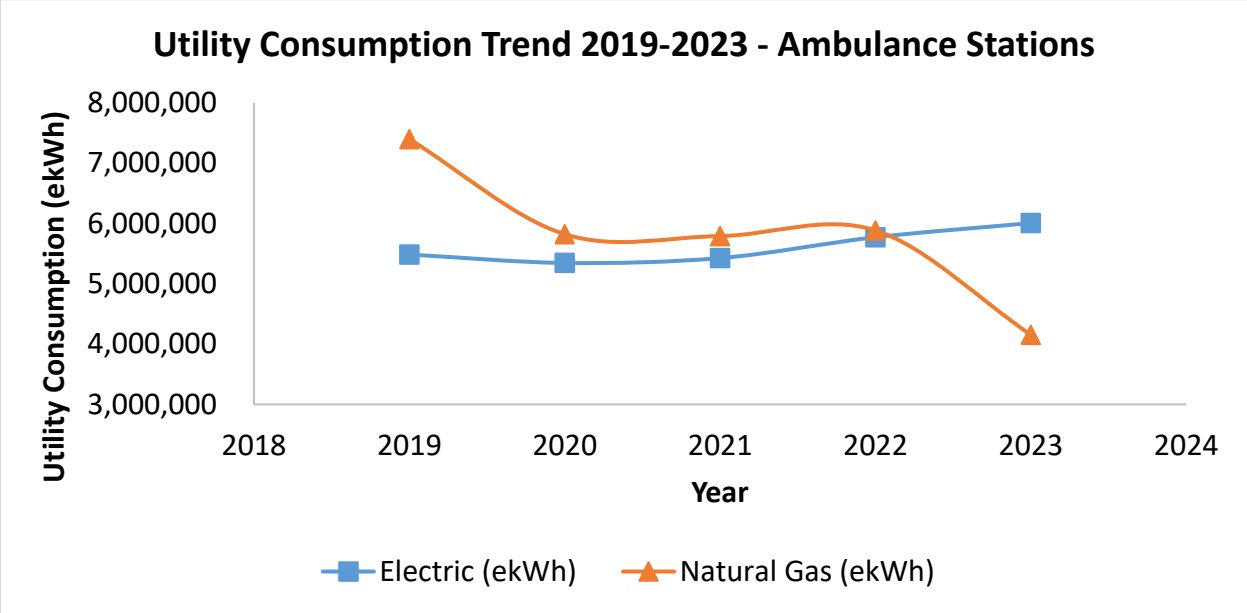
Chart 6: 2019 Emissions for Ambulance Stations and Related Facilities



2019-2023 Energy Consumption and GHG Emissions

There were seven major energy efficiency retrofits completed between 2019-2023 at one location, Ambulance Headquarters/TPS Station #53 (4330 Dufferin St.). More detail and impacts of this project can be found in the following section Featured Building – 4330 Dufferin Street. Along with the energy efficiency retrofits, there were two renewable PV systems implemented at two locations: EMS 46 and EMS 12. These two PV systems generated a total of 5,373,455 kWh during the 2019-2023 period, both systems include battery storage capacity.

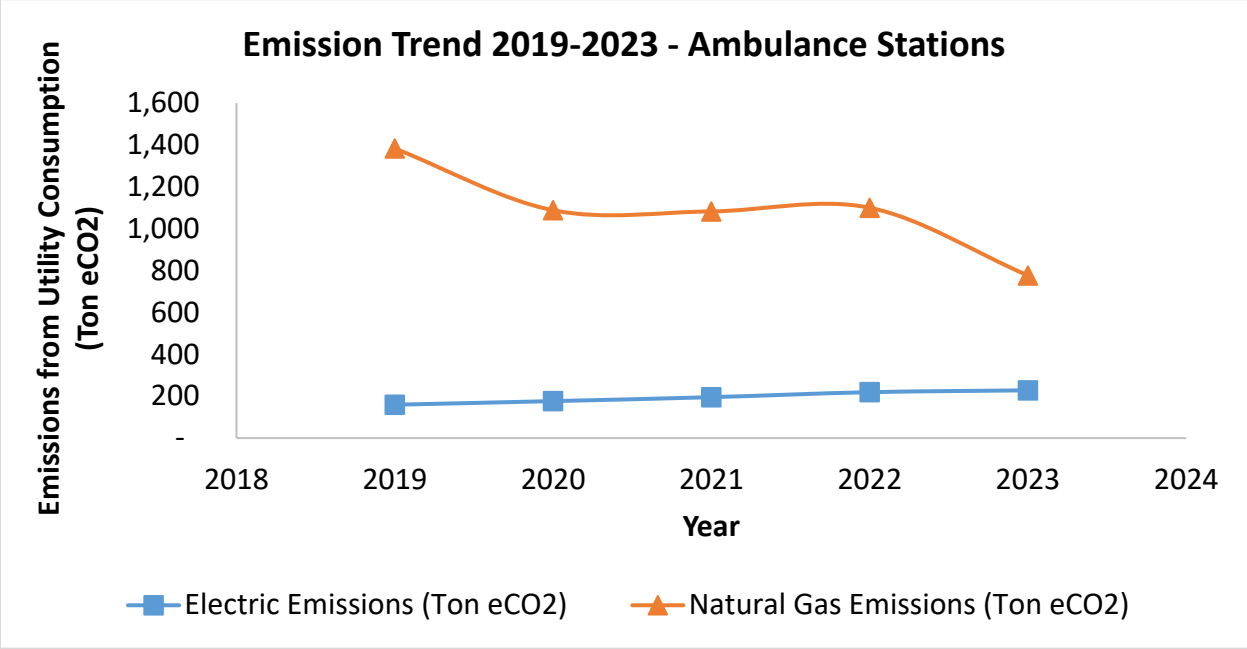
Chart 7:Utility Consumption 2019-203 - Ambulance Stations



Between 2019 and 2022, natural gas remained the largest consumer but had a large decrease between 2019 and 2020. This can be attributed to some locations receiving a significant re-billing by Enbridge gas, which has skewed the data. In 2023 natural gas had a large decrease and electricity consumption became the largest energy consumer. This is due to the deep energy retrofits that took place at Ambulance Headquarters/TPS Station #53. This location was the largest consumer of natural gas of all 30 locations, accounting for roughly 42% of all-natural gas consumption. By implementing renewable energy and energy efficiency retrofits, this location was able to reduce its natural gas consumption by over 75%.

Due to the large decrease in natural gas, electricity consumption increased when compared to 2019 levels. This is because the new mechanical equipment that is used for space and hot water heating utilizes electricity rather than natural gas.

Chart 8: Emissions 2019-2023 - Ambulance Stations



Naturally, with a large decrease in natural gas consumption there is a large decrease in its associated GHG emissions. Although natural gas consumption has decreased to below electricity consumption in 2023, its GHG emissions are still larger than electrical GHG emissions.

While natural gas had the highest energy consumption and GHG emissions, electricity had a higher cost in 2019. This is due to the higher unit cost of electricity compared to natural gas.

Ambulance stations and related facilities were able to decrease their energy consumption and GHG emissions compared to the 2019 base levels for each year and overall. The largest decrease was seen in 2023, with a consumption and GHG emissions decrease of 21% and 35%, respectively.

Table 11: Energy and GHG emissions Change from 2019 - Ambulance Stations and Related Facilties

2020 Change from 2019 (%)		**2021 Change from 2019 (%)**		**2022 Change from 2019 (%)**		**2023 Change from 2019 (%)**	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-13%	-18%	-13%	-17%	-10%	-14%	-21%	-35%

Featured Building – 4330 Dufferin Street

The Emergency Medical Services Headquarters (EMS HQ) is a critical building which serves three crucial control centres - Toronto's Paramedic Services, Fire Services and Toronto Police Services. The EMQ HQ recently underwent a comprehensive deep energy retrofit, becoming one of the most energy-efficient buildings in Toronto. This transformation contributes to the City's goal to eliminate community-wide emissions by 2040 and is a primary objective of the TransformTO Net Zero Climate Action Strategy.

At EMS HQ, there have been upgrades in seven major areas:

- Building Automation System - integrates systems to work efficiently together,
- Solar PV carport - panels generate green electricity using solar energy,
- Air source hear pumps - provides efficient heating using energy from the air,
- Rooftop unit with heat recovery wheel - provides efficient heating using energy from the air and recovers waste heat,
- Heat recovery chiller - recycles waste heat back into the building for heating,
- High efficiency boiler - provides efficient heating,
- Geo-exchange system - provides heating and cooling using energy from the earth.

As a result of these seven major upgrades, the EMS HQ will consume 55% less energy, emit 72% fewer greenhouse gas (GHG) emissions and create clean, decentralized electricity locally. The EMQ HQ will also employ sustainable energy for heating and cooling, provide easier operation and maintenance and operate at a lower cost than other City buildings. This will enhance user comfort within the building and function as a more robust critical asset for the City.

Figure 3: 4330 Dufferin Street

Animal Centres

The City of Toronto is reporting on three animal centres with a total area of 32,637 ft^2.

These locations are operated by Municipal Licensing & Standards and are integral to delivering the following services:

- Providing dog and cat licensing services,
- Taking in stray and surrendered animals or those in need of protective care,
- Providing quality care for homeless animals that are sick or injured,
- Reuniting lost animals with their guardians through the City's lost and found pets program,
- Providing vaccinations and microchip implants to the more than 4,000 animals who are adopted out each year by the City of Toronto,
- Spay and neuter cats, dogs and rabbits to reduce pet overpopulation.

Adoptions occur at all three shelters, which are open to the public seven days a week between 10:30am-6:30pm. The West and East Animal Centre locations also operate crematoriums for disposal of wildlife cadavers.

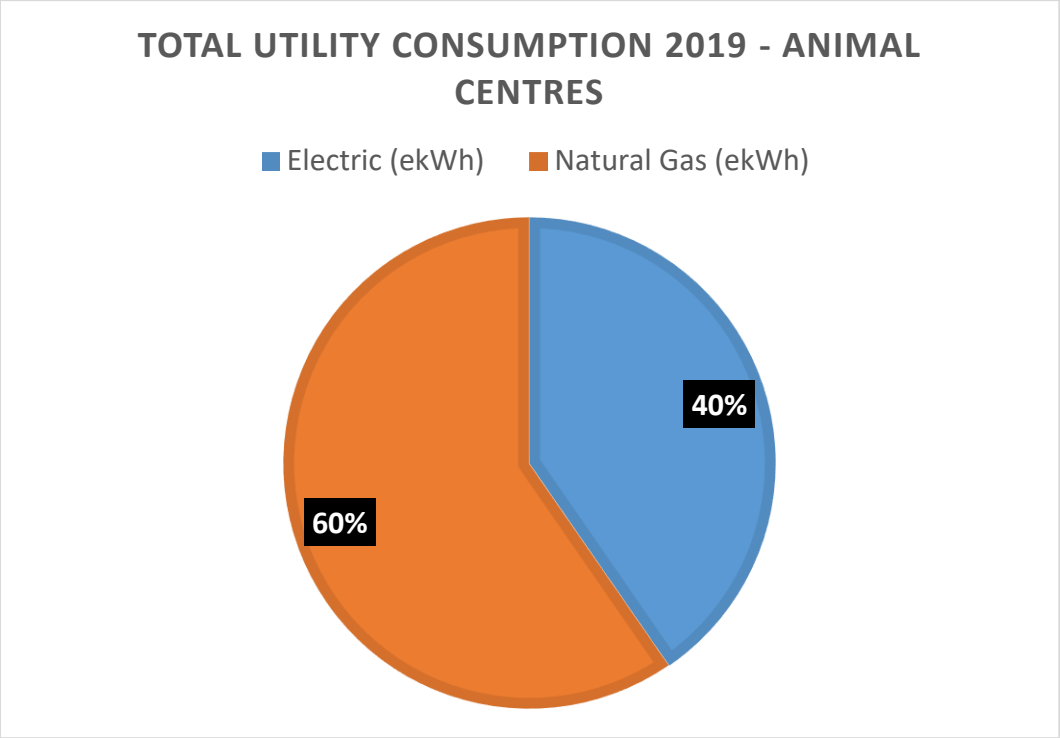
Table 12: Animal Centre Locations

Locations Name	Address	Floor Area (ft^2)
East Animal Centre	821 Progress Ave.	12,831
North Animal Centre	1300 Sheppard Ave W.	13,218
West Animal Centre	146 The East Mall	6,588

2019 Energy Consumption and GHG Emissions

In 2019, the largest utility consumer was natural gas accounting for 60% of all energy consumption, followed by electricity consumption account for 40%. This trend is to be expected in a facility that operates 24/7 annually. Animal centres consumed 2,403,636 ekWh of energy in 2019.

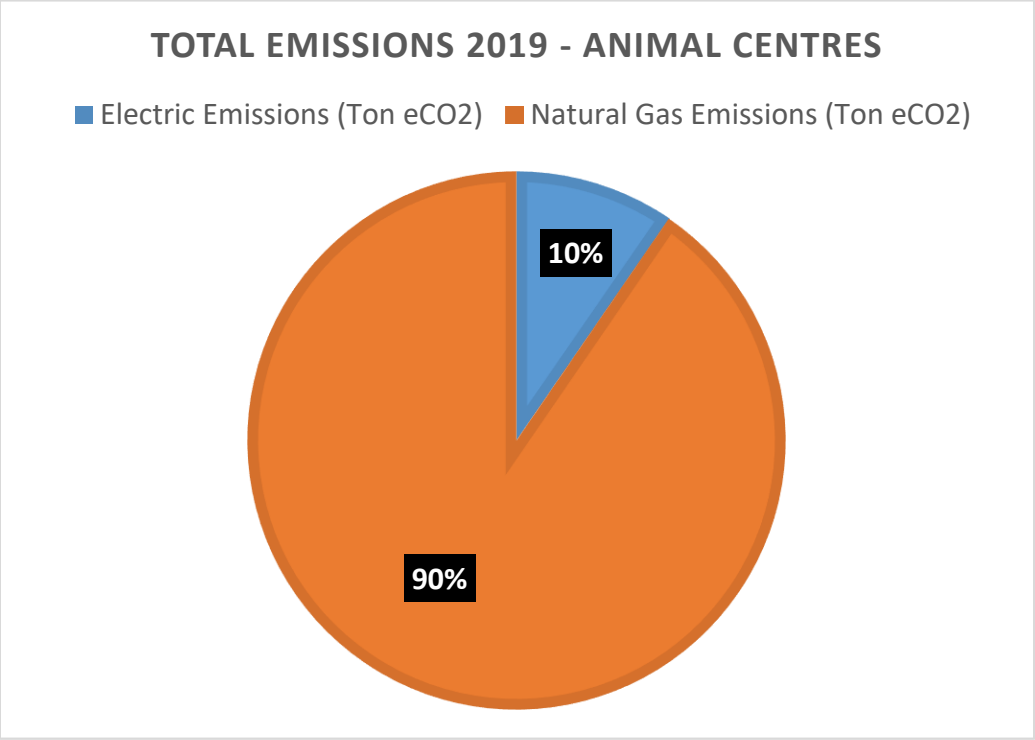
Chart 9: 2019 Utility Consumption - Animal Centres



With such a large natural gas consumption compared to electricity, it follows that GHG emissions due to natural gas consumption account for roughly 90% of all GHG

emissions while electricity accounts for roughly 10%. Animal centres produced 296 Ton eCO_2 in 2019.

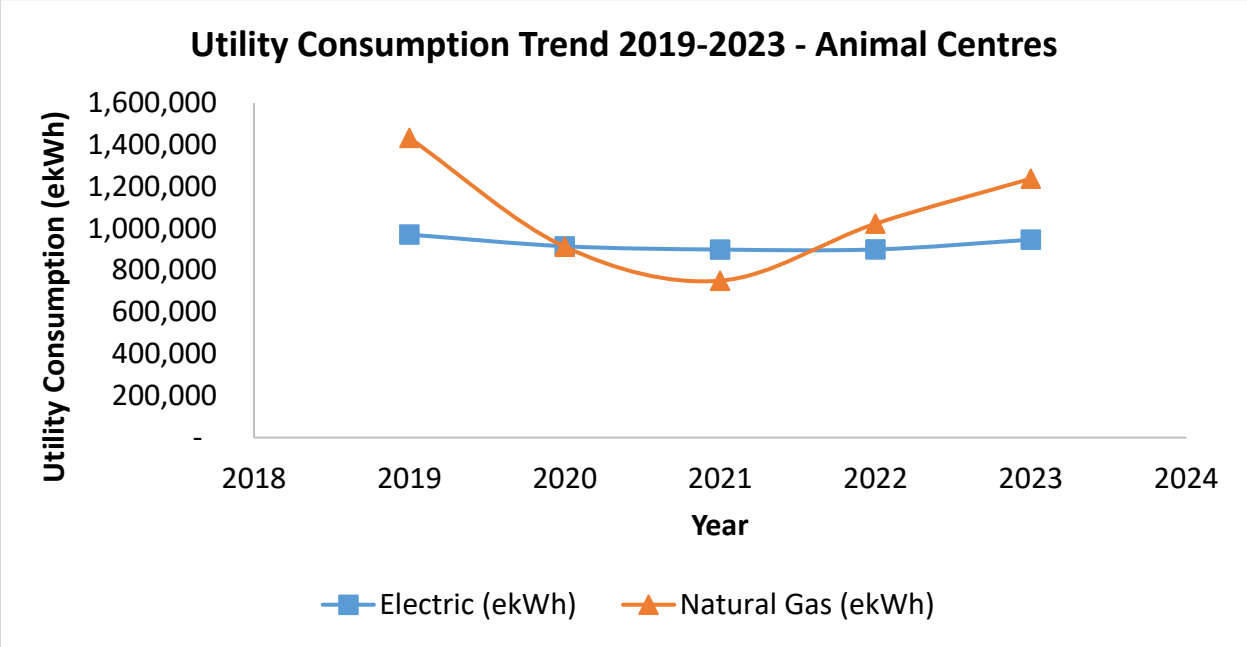
Chart 10: 2019 Emissions - Animal Shelters



2019-2023 Energy Consumption and GHG Emissions

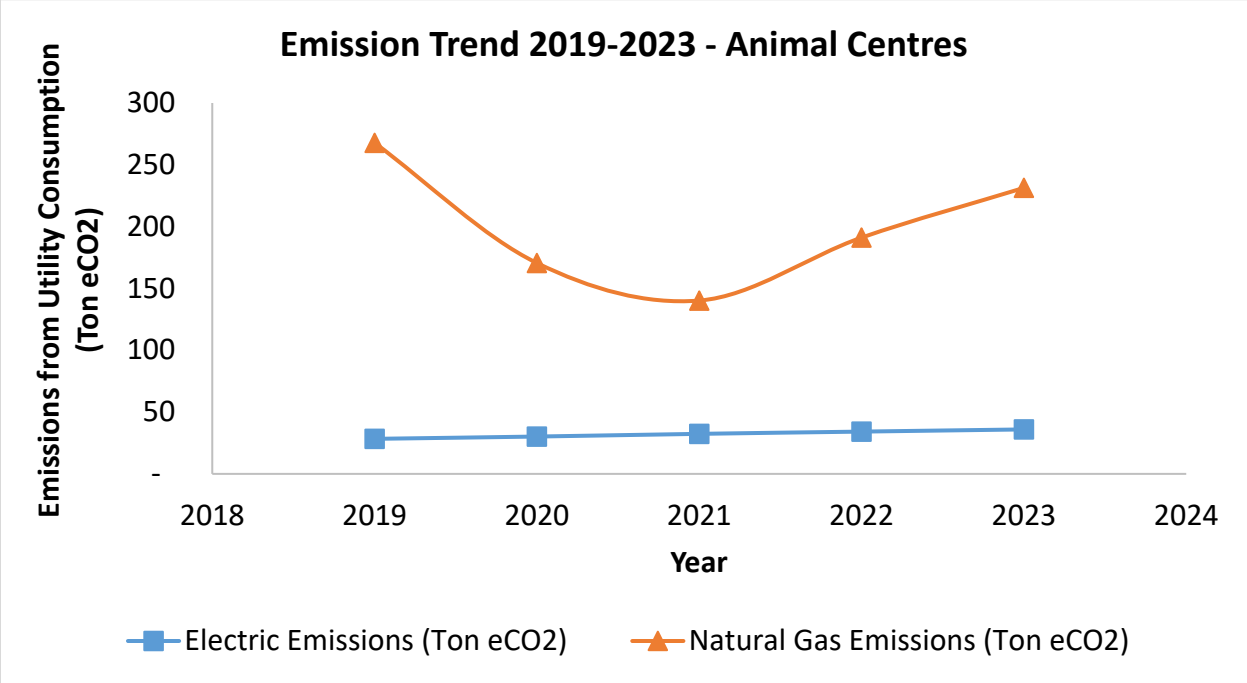
Due to the COVID-19 pandemic, many of the public facing operations that normally take place at these locations were put on hold. Fortunately, many of its former operations have returned and there is a major deep retrofit underway at East Animal Centre, see section Featured Building – East Animal Shelter (821 Progress Ave) for details.

Chart 11: 2019-2023 Utility Consumption - Animal Centres



As mentioned above, many services were halted or scaled down during the pandemic which would lead to a slight decrease in natural gas consumption. However, there is a notable decrease in natural gas consumption from 2020-2022, which can be attributed to estimated meter readings at the West Animal Centre, with a meter that was not accessible to Enbridge staff. City staff worked to rectify this issue and the meter was relocated by Enbridge as of June 2024. During this time, building electrical consumption remained consistent.

Chart 12: 2019-2023 Emissions - Animal Centres



GHG emissions for natural gas and electricity consumption follow the same trends as energy consumption trends. Natural gas emissions decrease in 2020 with a low in 2021 and then a continued increase from 2022 to 2023. Electricity emissions remained relatively constant.

While natural gas had the highest energy consumption and GHG emissions, electricity had a higher cost in 2019. This is due to the higher unit cost of electricity compared to natural gas.

Due to the substantial reduction in natural gas consumption a decrease is seen each year in energy consumption and GHG emission when compared to 2019 levels.

Table 13: Energy and GHG emissions Change from 2019 - Animal Centres

2020 Change from 2019 (%)		**2021 Change from 2019 (%)**		**2022 Change from 2019 (%)**		**2023 Change from 2019 (%)**	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-24%	-32%	-31%	-42%	-20%	-24%	-9%	-10%

Featured Building – East Animal Shelter (821 Progress Ave)

The East Animal Shelter is a 11,074 square foot building that was originally built in 1990. This building is home to Municipal Licensing & Standards division. There were major renovations during the year 2011 and additional renovations will take place soon. The East Animal Shelter qualified for a Net Zero feasibility study which resulted in the approval of construction to meet key initiatives in the Net Zero Carbon Plan. Construction at the East Animal Shelter is expected to run from 2024 to 2025 with an estimated GHG reduction of 75%. The scope of the work at East Animal Shelter includes:

- Air-source heat pumps,
- Electric domestic hot water heater,
- LED lighting retrofit,
- BAS installation,
- Rooftop and carport solar PV, 50kW system,
- Envelope upgrades.

Figure 4: East Animal Shelter

Child Care Facilities

The City of Toronto is reporting on 14 child care facilities with a total area of 103,014ft^2.

These locations are run by Children's Services, except for High Park Children's Teaching Kitchen and High Park Forest School. Children's Services operates over 50 early learning and childcare programs throughout Toronto for children up to 12 years old. The 12 buildings described in this report represent those that are owned and managed directly by the City and, consequently, those locations over which the City has direct control in relation to energy management. High Park Children's Teaching Kitchen and High Park Forest School operate under the City's Parks, Forestry, and Recreation Division.

Of the 14 child care facilities described in this report, electricity is used at every location and natural gas is used at all locations except Mount Dennis Child Care Centre and Regent Park Child Care Centre. Natural gas is utilized for space heating and/or domestic water heating.

Table 14: Child Care Facility Locations

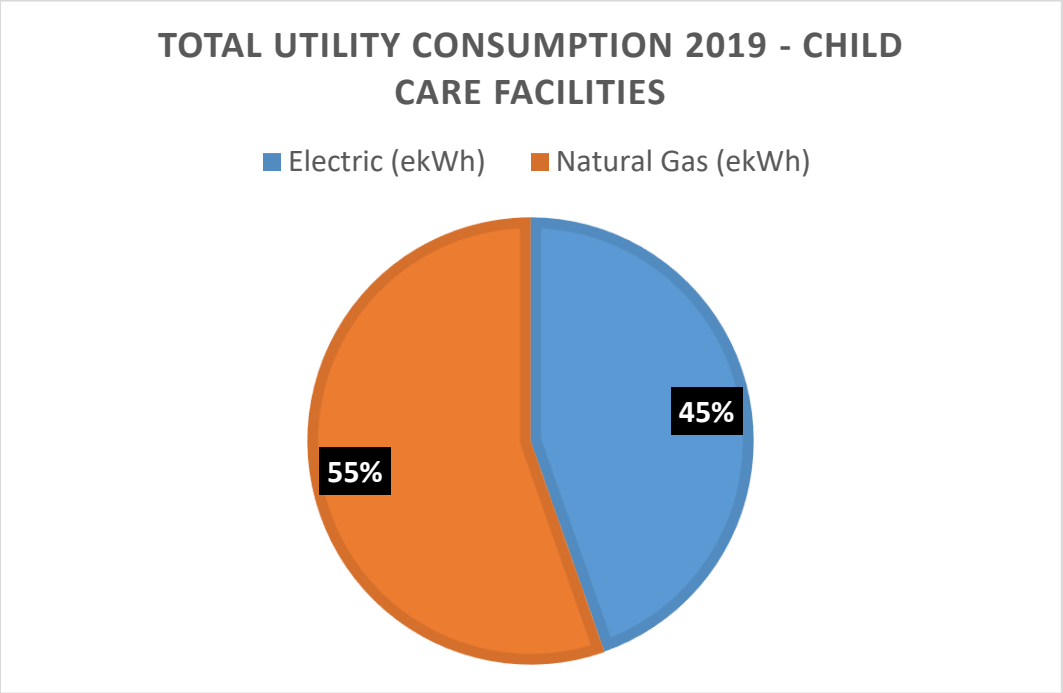
Locations Name	**Address**	**Floor Area (ft^2)**
Albion Road Early Learning & Child Care Centre	1545 Albion Rd.	5,543
Ancaster Early Learning & Child Care Centre	45 Ancaster Rd.	7,018
City Kids Early Learning & Child Care Centre	34 Bathurst St.	8,460
Danforth Early Learning & Child Care Centre	1125 Danforth Ave.	6,351
High Park Children's Teaching Kitchen	105 Colborne Lodge Dr.	835
High Park Forest School	1873 Bloor St. W.	9,181
Jesse Ketchum Early Learning & Child Care Centre	7 Berryman St.	11,550
Kingston Rd Early Learning & Child Care Centre	3392 Kingston Rd.	5,500
Malvern Early Learning & Child Care Centre	1321 Neilson Rd.	6,501

Locations Name	Address	Floor Area (ft^2)
Mount Dennis Early Learning & Child Care Centre	1296 Weston Rd.	7,350
Regent Park Early Learning & Child Care Centre	40 Regent St.	15,963
Thomas Berry Early Learning & Child Care Centre	3495 Lake Shore Blvd. W.	9,117
Willowridge Early Learning & Child Care Centre	30 Earldown Dr.	4,844
Woodbine Early Learning & Child Care Centre	700 Milverton Blvd.	4,801

2019 Energy Consumption and GHG Emissions

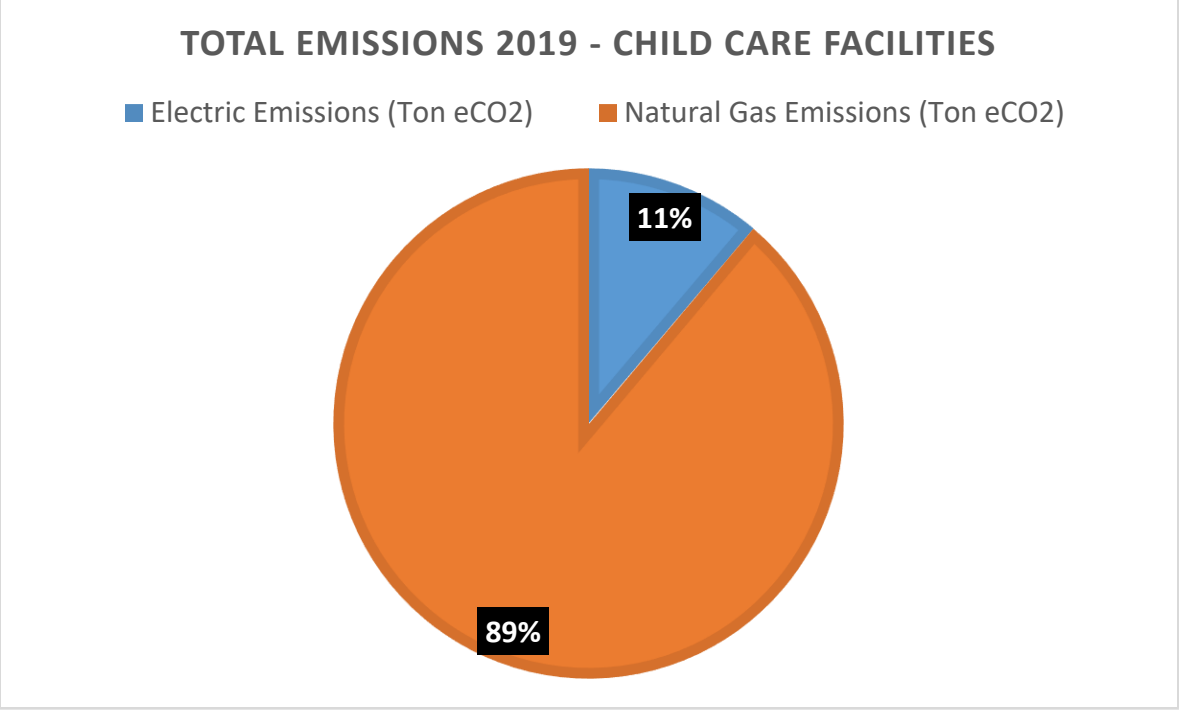
In 2019, the largest utility consumer was natural gas accounting for 55% of all energy consumption, followed by electricity consumption accounting for 45%. Total energy consumption was 3,035,101 ekWh.

Chart 13: 2019 Utility Consumption - Child Care Facilities



Natural gas GHG emissions account for 89% of total emissions while electricity accounts for 11%. Total GHG emissions were 353 Ton eCO_2.

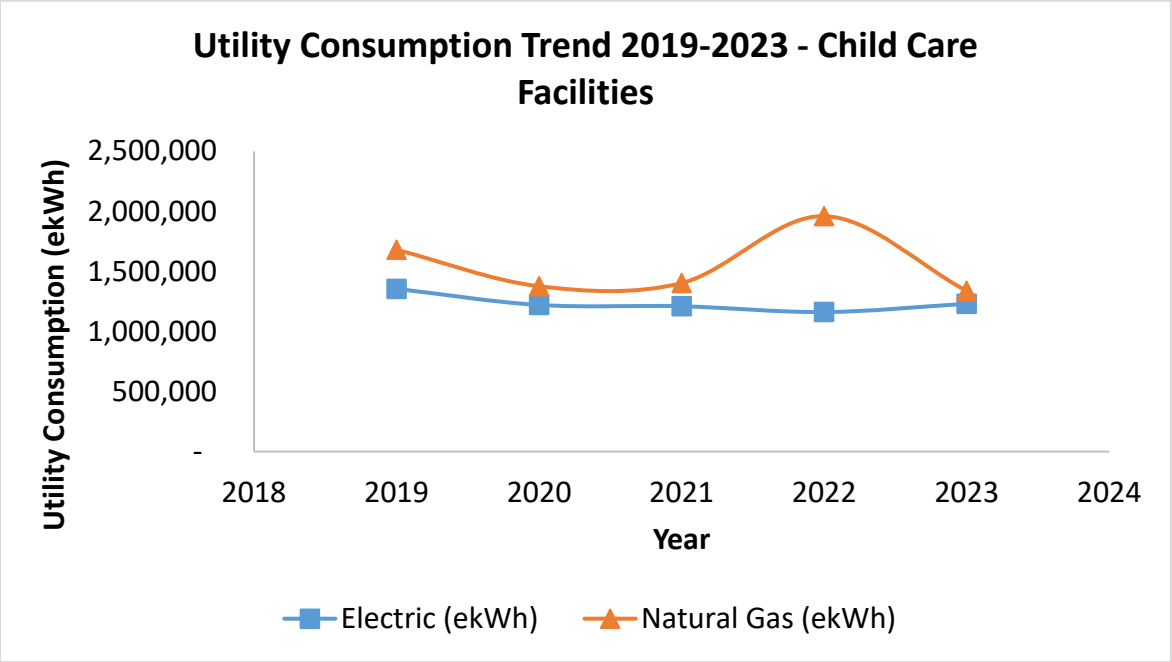
Chart 14: 2019 Emissions - Child Care Facilities



While natural gas had the highest energy consumption and GHG emissions, electricity had a higher cost in 2019. This is due to the higher unit cost of electricity compared to natural gas.

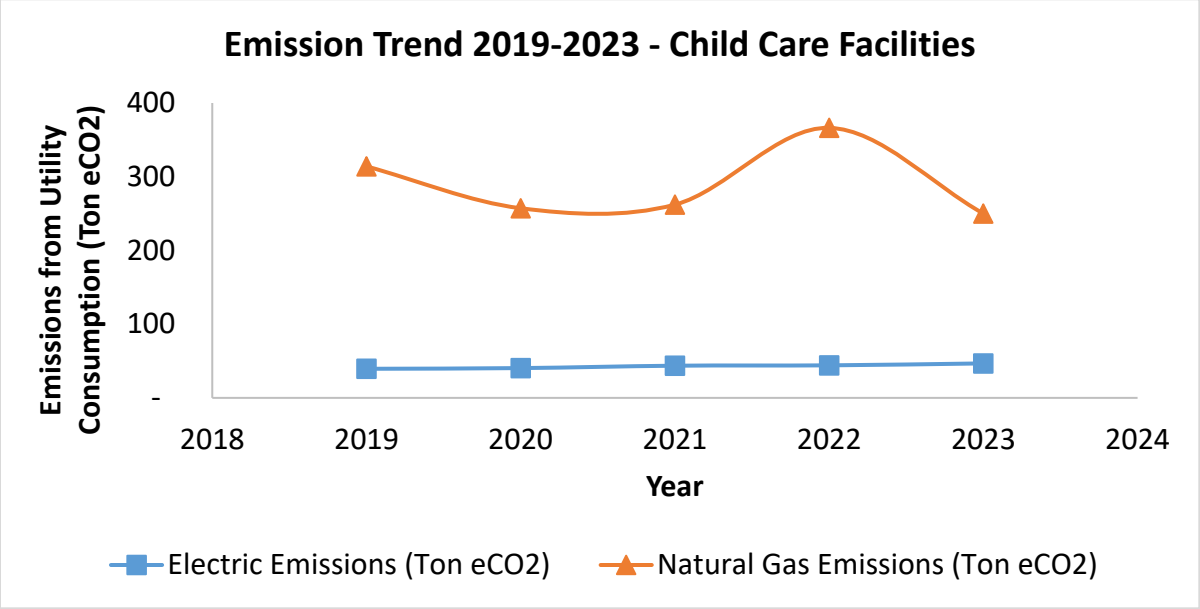
2019-2023 Energy Consumption and GHG Emissions and Cost

Chart 15: 2019-2023 Utility Consumption - Child Care Facilities



From 2019-2021 there is a slight decrease in natural gas consumption, which is to be expected due to the COVID-19 pandemic restrictions. However, there is a large natural gas consumption increase in 2022 then a decrease in 2023. This can be attributed to estimated meter readings at High Park Forest School from 2018-2022 which underestimated natural gas consumption. In 2022 a meter audit was conducted in High Park, as a result an actual meter reading was taken resulting in a high consumption value. If meter readings were completed more frequently there would be slightly higher consumption between 2019-2022 and a leveled natural gas consumption trend between 2019-2023.

Chart 16: 2019-2023 Emissions - Child Care Facilities



Natural gas emissions follow natural gas consumption, with a slight decrease from 2019-2022 and then a spike in 2022. Electricity emissions remained relatively constant.

Energy consumption and GHG emissions for all years decreased when compared to 2019 levels, apart from 2022.

Table 15: Energy and GHG emissions Change from 2019 - Child Care Facilities

2020 Change from 2019 (%)		2021 Change from 2019 (%)		2022 Change from 2019 (%)		2023 Change from 2019 (%)	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-14%	-16%	-14%	-14%	3%	16%	-15%	-16%

Community Centres

The City of Toronto is reporting on 74 community centres with a total area of 1,370,912 ft^2.

Community centres, as defined by this report, will not contain an indoor pool or skating rink, but may contain one or all of the following public-use spaces: gymnasiums, kitchen, multipurpose rooms, computer rooms, lounges, craft rooms, dance studios and fitness/weight rooms.

These locations are managed by Parks, Forestry, & Recreation, Facilities Management or an independent Board of Management and offer a variety of programs and services to the public including, but not limited to arts and crafts, camps, sports programs, fitness and health programs and cooking classes.

These facilities use electricity and natural gas for space heating/cooling and water heating.

Table 16: Community Centre Locations

Locations Name	**Address**	**Floor Area (ft^2)**
Amesbury Community Centre	1507 Lawrence Ave. W.	37,975
Ancaster Community Centre	41 Ancaster Rd.	7,513
Armour Heights Community Centre	2140 Avenue Rd.	19,773
Banbury Community Centre	120 Banbury Rd.	9,537
Bennington Heights Park	76 Bennington Heights Dr.	1,432
Berner Trail Community Centre	120 Berner Trail	10,204
Birkdale Community Centre	1299 Ellesmere Rd.	11,733
Burrows Hall Community Centre	1081 Progress Ave.	43,185
Carmine Stefano Community Centre	3100 Weston Rd.	57,867
Cedarbrook Community Centre	91 Eastpark Blvd.	14,951
Church Isabella Resident Coop	56 Wellesley St. E.	19,106
Curran Hall Community Centre	277 Orton Park Rd.	2,508
Davenport 1347	1347 Davenport Rd.	2,282
David Appleton Community Centre	33 Pritchard Ave.	2,906
Domenico Di Luca Community Recreation Centre	25 Stanley Rd.	12,895

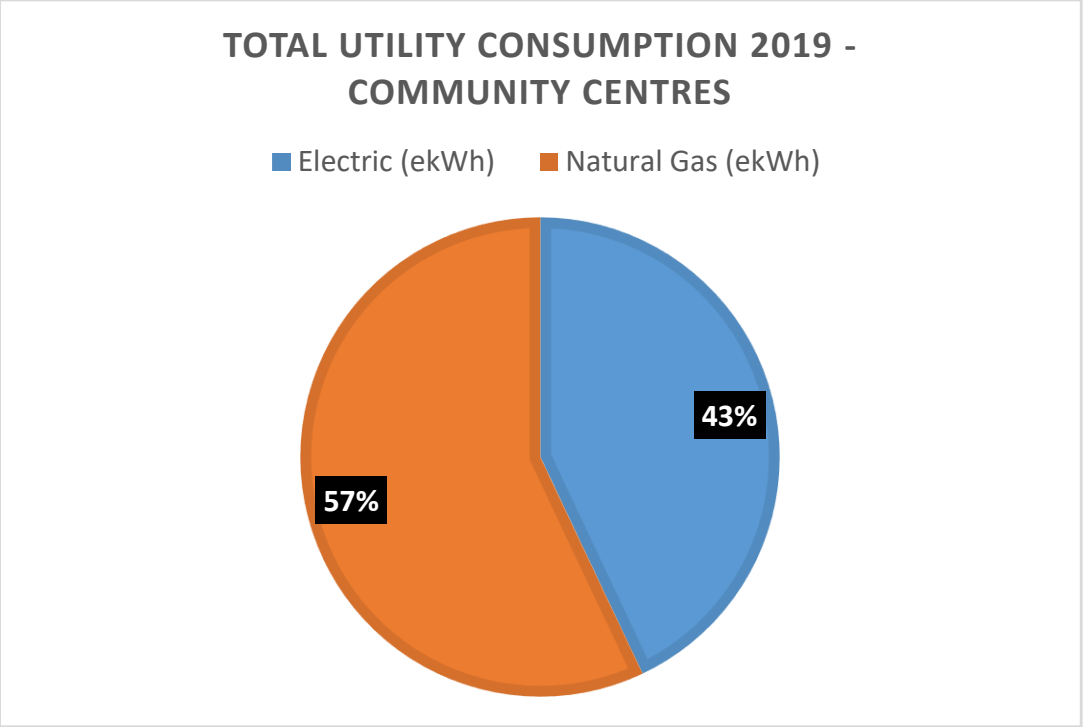
Locations Name	Address	Floor Area (ft^2)
Driftwood Community Recreation Centre	4401 Jane St.	25,015
Earl Bales Community Centre	4169 Bathurst St.	21,657
East Scarborough Boys/Girls Club	100 Galloway Rd.	13,972
Eastview Neighbourhood C.C.	86 Blake St.	25,510
Edgehill Centre	235 Edenbridge Dr.	4,133
Edgehill House	61 Edgehill Rd.	4,844
Edithvale Community Centre	121 Finch Ave. W.	24,725
Ellesmere Community Centre	20 Canadian Rd.	24,402
Elmbank Community Centre	10 Rampart Rd.	14,725
Fairbank Memorial Community Centre	2213 Dufferin St.	19,364
Fairfield Senior Centre	80 Lothian Ave.	14,316
Falstaff Community Centre	20 Falstaff Ave.	13,853
Flemingdon Community Centre	150 Grenoble Dr.	10,000
Forest Hill Community Centre	700 Eglinton Ave. W.	32,841
Franklin Horner Community Centre	432 Horner Ave.	39,500
Harwood Hall	85 Cayuga Ave.	4,306
High Park Nature Centre	438 Parkside Dr.	2,465
Horner Avenue Seniors Centre	320 Horner Ave.	4,252
Islington Seniors Centre	4968 Dundas St. W.	9,967

Locations Name	Address	Floor Area (ft^2)
Jenner Jean-Marie Community Centre	48 Thorncliffe Park Dr.	13,207
June Rowlands Park	220 Davisville Ave.	2,777
L'Amoreaux Community Recreation Centre	2000 McNicoll Ave.	25,995
Lamp Community Health Centre	185 Fifth St.	26,318
Lawrence Heights Community Centre	5 Replin Rd.	22,152
Malvern Recreation Centre	30 Sewells Rd.	106,466
Maple Leaf Cottage	62 Laing St.	2,842
Markdale Preschool	41 Markdale Ave.	1,829
Masaryk-Cowan Community Recreation Centre	212 Cowan Ave.	32,270
Milliken Park Recreation Centre	4325 McCowan Rd.	17,631
Mount Dennis Community Centre	4 Hollis St.	3,003
New Toronto Seniors Club	105 Fourth St.	3,025
Niagara C.C	700 Wellington St. W.	5,296
North York Memorial Hall	5110 Yonge St.	10,473
Northwood Community Centre	15 Clubhouse Crt.	36,167
O'Connor Community Centre	1386 Victoria Park Ave.	16,254
Oakdale Community Centre	350 Grandravine Dr.	10,000
Oakridge Community Centre	63 Pharmacy Ave.	18,600
Oakridge Seniors Bocce Club	6 Thora Ave.	4,004

Locations Name	Address	Floor Area (ft^2)
Ourland Community Centre	18 Ourland Ave.	9,451
Pelmo Park	171 Pellatt Ave.	2,573
Port Union Community Recreation Centre	5450 Lawrence Ave E.	19,978
Power House Recreation Centre	65 Colonel Samuel Smith	5,737
Regent Park	417 Gerrard St. E.	6,168
Regent Park Community Centre	402 Shuter St.	55,004
S.H. Armstrong Community Centre	60 Woodfield Rd.	18,277
Scott Westney House	180 McLevin Ave.	3,046
Seneca Village Community Centre	1700 Finch Ave. E.	9,408
Sir Adam Beck C.C.	525 Horner Ave.	7,341
Stan Wadlow Clubhouse	373 Cedarvale Ave.	10,323
Sunshine Center for Seniors	446 Lakeshore Ave.	2,250
Tall Pines Community Centre	64 Rylander Blvd.	5,188
Thistletown Community Centre	925 Albion Rd.	44,810
Trace Manes Park Clubhouse	110 Rumsey Rd.	6,329
Warden Hilltop Community Centre	25 Mendessohn St.	25,995
Waterfront Neighbourhood Centre	627 Queens Quay W.	123,214
Wellesley Community Centre	495 Sherbourne St.	41,904
West Rouge Community Centre	270 Rouge Hills Dr.	24,402
West Scarborough N.C	313 Pharmacy Ave.	25,198
Willowdale Lawn Bowling Club	150 Beecroft Rd.	2,293

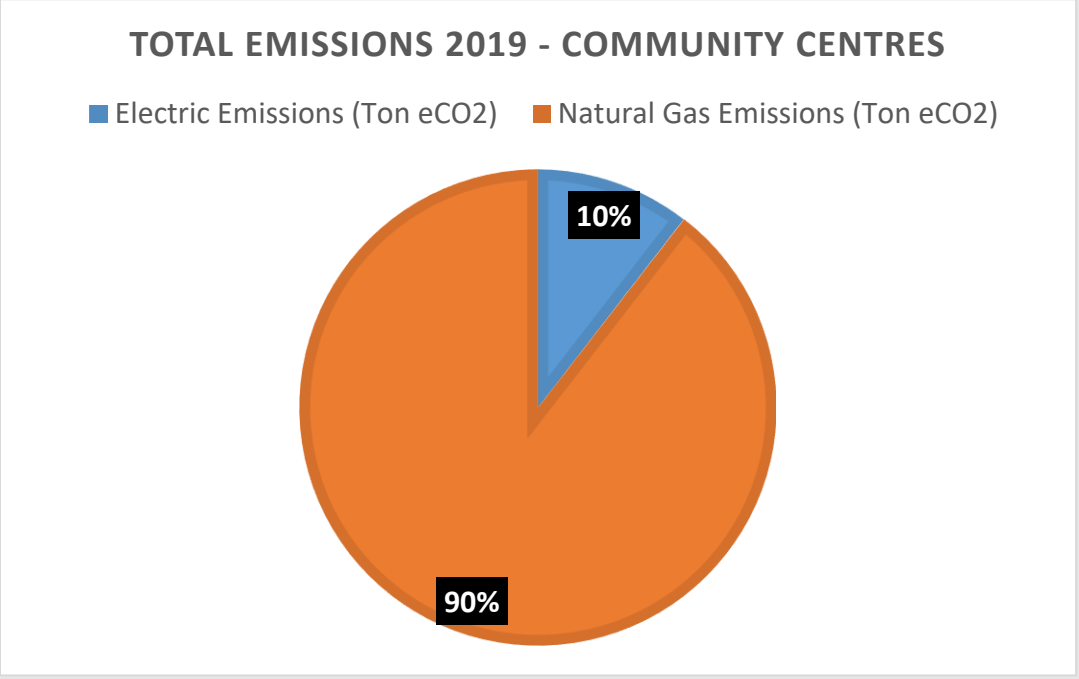
2019 Energy Consumption and GHG Emissions

Chart 17: 2019 Utility Consumption - Community Centres



In 2019, natural gas and electricity consumption accounted for 57% and 43% of all energy consumption, respectively. The total energy consumption was 43,426,268 ekWh.

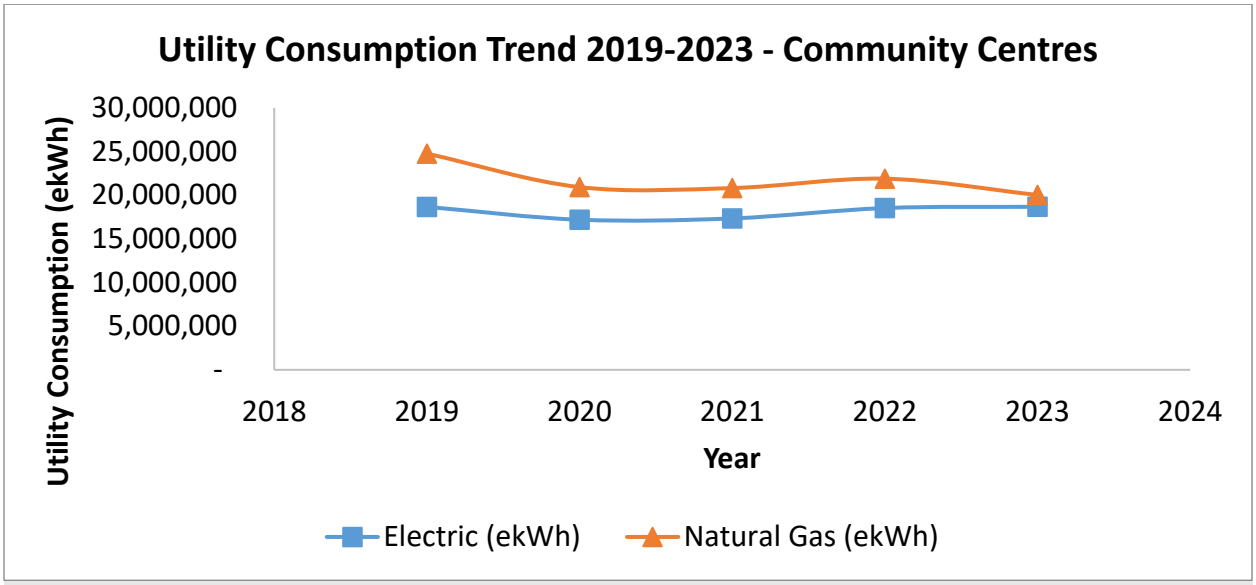
Chart 18: 2019 Emissions - Community Centres



GHG emissions due to natural gas consumption account for 90% of all GHG emissions while electricity accounts for roughly 10%. Community centres produced 5,169 Ton eCO_2 in 2019.

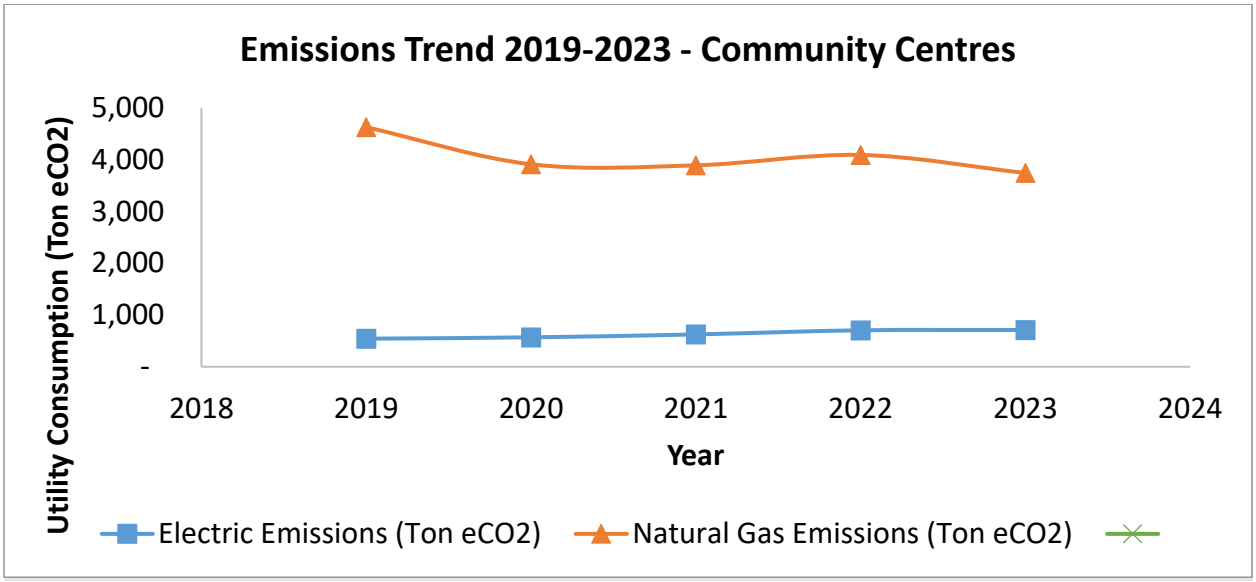
2019-2023 Energy Consumption and GHG Emissions

Chart 19: 2019-2023 Utility Consumption – Community Centres



Between 2019-2023 natural gas consumption saw a decrease in 2020, which can be attributed to COVID-19 restrictions, and then seemed to remain relatively constant until 2023 where there is another slight decrease. Part of the second decrease can be attributed to the renovations at the Waterfront Neighborhood Centre that were completed in 2024. Natural gas consumption at this location was reduced by 98% from 2022 to 2023. Electricity also had a slight dip in 2020 and 2021 but returned to 2019 consumption values for 2023.

Chart 20: 2019-2023 Emissions - Community Centres



Emissions associated with natural gas consumption decreased from 2019, while electrical consumption had a slight upward trend. Overall, energy consumption decreased in 2023 by 11% and GHG emissions reduced by 14% compared to 2019 levels.

Table 17: Energy and GHG emissions Change from 2019 - Community Centres

2020 Change from 2019 (%)		**2021 Change from 2019 (%)**		**2022 Change from 2019 (%)**		**2023 Change from 2019 (%)**	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-12%	-13%	-12%	-13%	-7%	-7%	-11%	-14%

Featured Building – Waterfront Neighbourhood Centre

Figure 5 :Heat exchanger being lowered into Lake Ontario

The Waterfront Neighbourhood Centre (WNC), located at 627/635 Queens Quay West is home to The Waterfront School (grades JK to 8) and City School (grades 9 to 12), Waterfront Neighborhood Centre (an agency of the City and a community centre serving the waterfront community) and St. Stephen's Waterfront Child Care Centre. This building was part of the City's comprehensive energy retrofit project, which was dispersed in stages, starting in 2018 with completion in 2022. This retrofit supports the goals of the Transform TO Net Zero Climate Action Strategy and the City's target to reduce emissions to net zero by 2040.

As a result of three-stage retrofit, the WNC will:

- Use 71% less energy,
- Generate 83% fewer greenhouse gas (GHG) emissions,
- Cost less to operate,
- Serve as a world-class model for sustainability and a model for other buildings looking to significantly reduce emissions through energy efficiency and renewable energy measures,
- Improve comfort for building users,
- Clean local decentralized generation,

- Be more energy efficient, with simplified operations and maintenance.

Figure 6: Solar PV System Supplying WNC

Cultural Facilities

The City of Toronto is reporting on 20 cultural facilities with a total indoor area of 451,187 ft^2. Note that some of these sites have extensive outdoor spaces, which is not included in the floor areas listed or the energy analysis presented.

These sites are managed by multiple divisions within the City of Toronto including Facilities Management, Parks, Forestry, & Recreation and Economic Development & Culture. While all these locations seek to promote the cultural diversity of Toronto and its inhabitants, there is significant variability between sites in terms of building profile. For instance, the Gibson House Museum is a heritage site that was originally built in 1851 and now offers an illuminating glimpse into 19^{th} century living. Programs and services offered at this site include school trips, exhibits, board game nights and community quilting groups. At the other end of the spectrum is Riverdale Farm, which presents guests with a living representation of farm life in rural Ontario and houses waterfowl, turkeys and pigs. All sites within this group are open to the public and collectively they represent an opportunity to learn about Toronto's unique culture and history.

Of the 20 cultural facilities described in this report, electricity and natural gas are utilized at almost all locations for space heating/cooling and/ or domestic hot water heating.

Table 18: Cultural Facility Locations

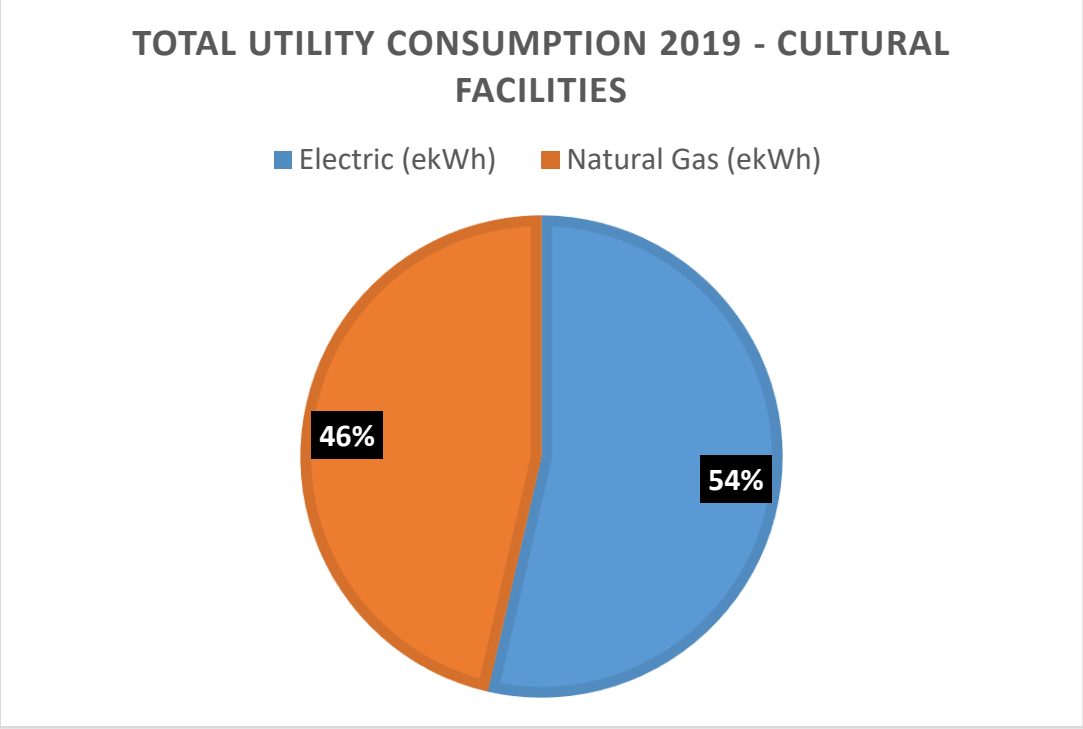
Locations Name	**Address**	**Floor Area (ft^2)**
Campbell House	3620 Kingston Rd.	3,595
Cedar Ridge Creative Centre	225 Confederation Dr.	13,110
Colborne Lodge	11 Colborne Lodge Dr.	7,050
Edenbridge Centre	235 Edenbridge Dr.	5,013
Edwards Gardens	755 Lawrence Ave. E.	10,021
Fort York Visitor Centre	660 Fleet St.	123,946
Gibson House Museum	5172 Yonge St.	8,364
Historic Fort York	100 Garrison Rd.	22,819
Lakeshore Assembly Hall	1 Colonel Samuel Smith Park Dr	14,596
Mackenzie House Museum	82 Bond St.	2,573
Montgomery's Inn	Dundas St. W.	7,642
Neilson Park Creative Centre	56 Neilson Dr.	12,346
Riverdale Farm	201 Winchester St.	23,713
Spadina House Museum	285 Spadina Rd.	27,588
St Lawrence Market South	91 Front St. E.	99,114
Temp - St Lawrence Market North	125 The Esplanade	11,711
Todmorden Mills	67 Pottery Rd.	17,707

Locations Name	Address	Floor Area (ft^2)
Toronto Botanical Gardens	777 Lawrence Ave. E.	36,953
William Goodwin House	355 Lesmill Rd.	1,744
Zion School House	1091 Finch Ave. E.	1,582

2019 Utility Energy Consumption and GHG Emissions

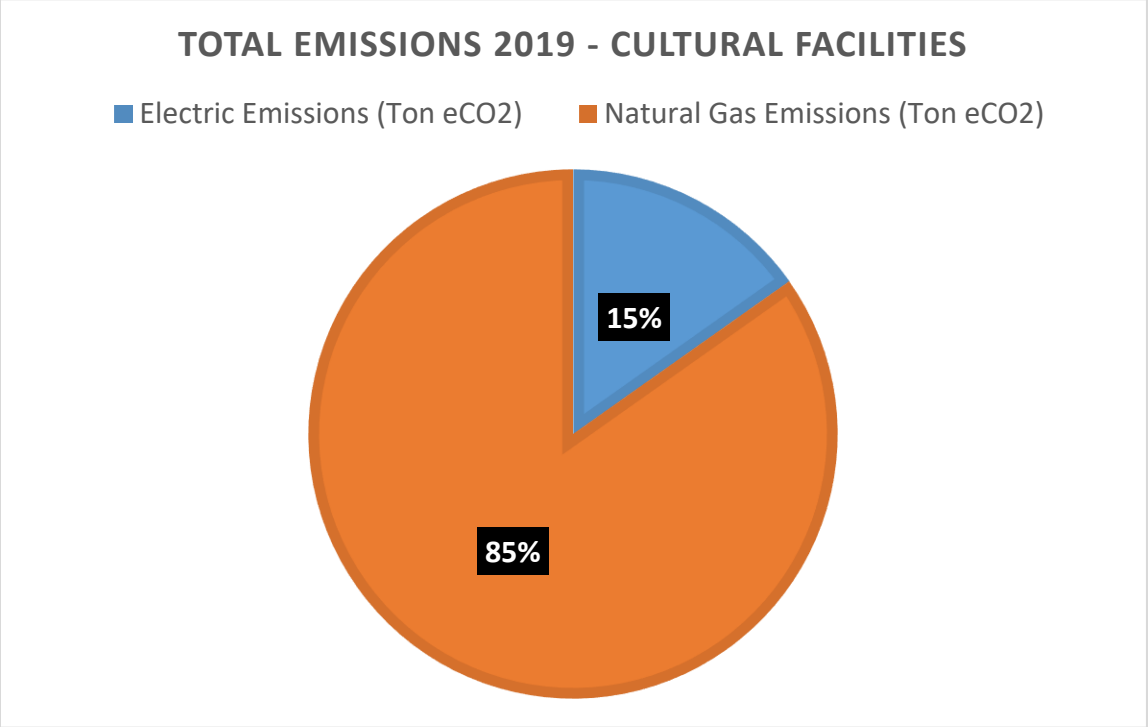
In 2019, the largest utility consumer was electricity accounting for 54% of all energy consumption, followed by natural gas account for 46%. Total energy consumption for cultural facilities was 13,376,473 ekWh in 2019.

Chart 21: 2019 Utility Consumption - Cultural Facilities



Despite electricity having a greater energy consumption, it only accounts for 15% of total GHG emissions, where natural gas accounts for 85%. Total GHG emissions for cultural facilities was 1,368 Ton eCO_2 in 2019.

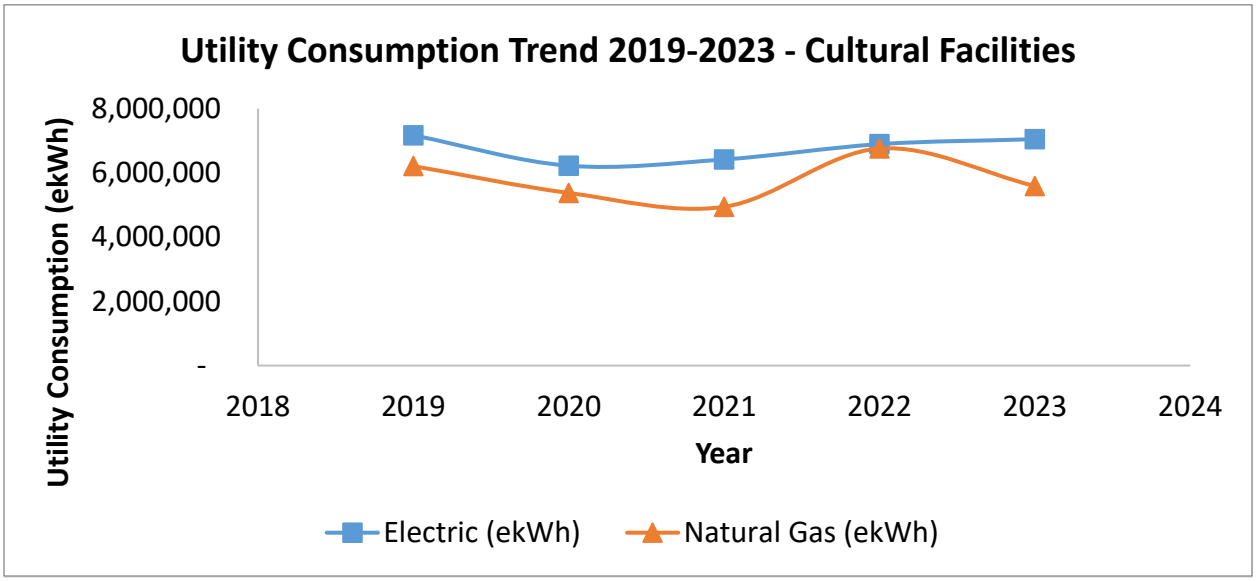
Chart 22: 2019 Emissions - Cultural Facilities



2019-2023 Energy Consumption and GHG Emissions

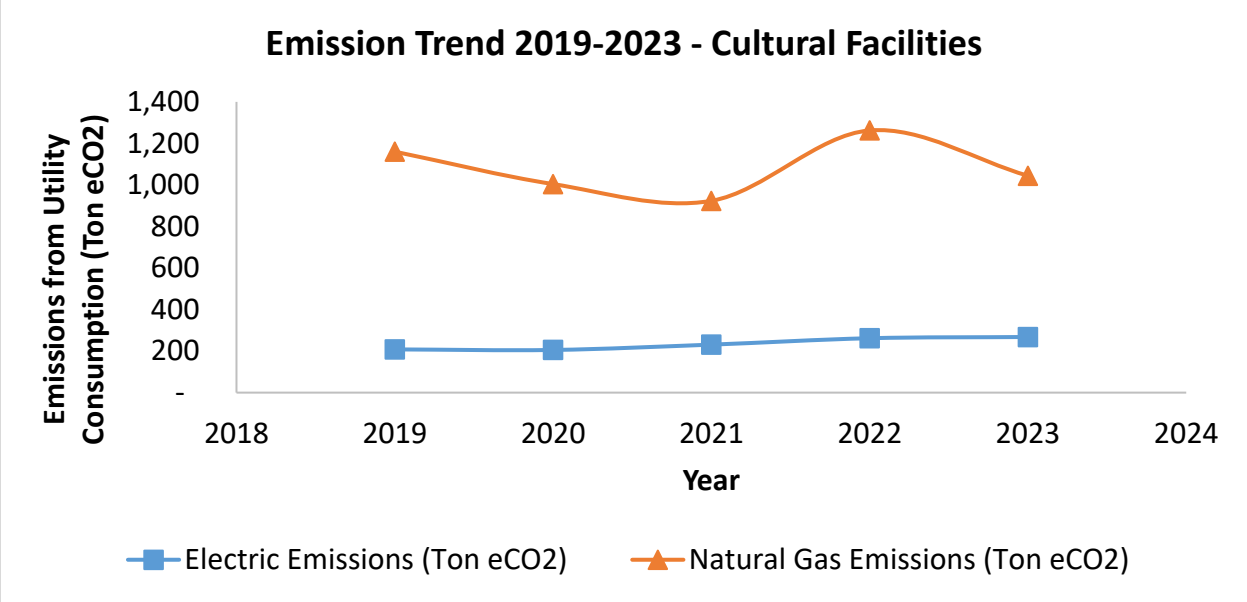
Eight energy retrofit projects were completed between 2019-2023, consisting of mechanical or electrical modifications that cost roughly $539,000.

Chart 23: 2019-2023 Utility Consumption - Cultural Facilities



Electricity remained the largest energy consumer between 2019-2023, with a dip in consumption in 2020 and then a gradual increase until 2023. Natural gas shows a similar trend between 2019 and 2021. However, there is a large natural gas consumption increase in 2022 then a decrease in 2023. This can be attributed to estimated meter readings at various locations until 2022, when actual meter readings were taken. The underestimated meter readings lead to abnormally high consumption readings in 2022.

Chart 24: 2019-2023 Emissions - Cultural Facilities



Natural gas emissions follow natural gas consumption, with a slight decrease from 2019-2022 and then an increase in 2022. Electricity emissions remained relatively constant.

Table 19: Energy and GHG emissions Change from 2019 – Cultural Facilities

2020 Change from 2019 (%)		2021 Change from 2019 (%)		2022 Change from 2019 (%)		2023 Change from 2019 (%)	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-13%	-12%	-15%	-16%	2%	11%	-6%	-4%

Fire Stations and Related Facilities

The City of Toronto is reporting on 91 fire stations and related facilities for a total indoor area of 895,708 ft^2. Most of these locations are fire stations, but the list also includes

training centres, a museum and associated administrative space. Note that Fire Stations 111, 112, 114, 142, 211, 212, 243, 334, 335 and 442 are shared with Toronto Paramedic Services. Also note that Fire Station 144 at 2945 Keele St. was added to the portfolio in 2022.

These sites are managed by Toronto Fire Services (TFS), which is the largest fire service in Canada and the fifth largest fire service in North America.

TFS is Toronto's only hazards emergency response organization and provides residents, visitors and businesses with protection against loss of life or property from various hazards through emergency response, prevention and public education programs.

Most of these locations operate 24/7 and contain both a kitchen and living space, along with parking bays for fire trucks and other emergency vehicles.

Of the 91 sites described in this report, all currently consume both electricity and natural gas, the latter of which is utilized for space heating and/or domestic hot water heating. Some fire stations also utilize natural gas-powered emergency generators.

Table 20: Cire Stations and Related Facility Locations

Locations Name	**Address**	**Floor Area (ft^2)**
Fire Academy	895 Eastern Ave.	61,214
Fire Museum and Storage	351 Birchmount Rd.	3,272
Fire Prevention Office	3 Dohme Ave.	25,898
Fire Station 111/TPS Station #56	3300 Bayview Ave.	5,662
Fire Station 112/TPS Station #55	5700 Bathurst St.	7,018
Fire Station 113	700 Seneca Hill Dr.	4,833
Fire Station 114/TPS Station #58	12 Canterbury Pl.	8,633
Fire Station 115	115 ParkWay Forest Dr.	5,985
Fire Station 116	255 Esther Shiner Blvd.	11,776
Fire Station 121	10 William Carson Cres.	4,219

Locations Name	Address	Floor Area (ft^2)
Fire Station 122	2545 Bayview Ave.	3,046
Fire Station 123	143 Bond Ave.	2,497
Fire Station 125	1109 Leslie St.	5,813
Fire Station 131	3135 Yonge St.	5,845
Fire Station 132	476 Lawrence Ave. W.	7,664
Fire Station 133	1505 Lawrence Ave. W.	8,062
Fire Station 134	16 Montgomery Ave.	7,126
Fire Station 135	325 Chaplin Cres.	12,718
Fire Station 135 - OLD	641 Eglinton Ave. W.	10,592
Fire Station 141	4100 Keele St.	12,500
Fire Station 142/TPS Station #15	2753 Jane St.	5,586
Fire Station 143	1009 Sheppard Ave. W.	2,895
Fire Station 144	2945 Keele St.	12,917
Fire Station 145	20 Beffort Rd.	11,001
Fire Station 146	2220 Jane St.	7,535
Fire Station 211/TPS Station #27	900 Tapscott Rd.	5,005
Fire Station 212/TPS Station #25	8500 Sheppard Ave. E.	16,501
Fire Station 213	7 Lapsley Rd.	5,048
Fire Station 214	745 Meadowvale Rd.	4,887
Fire Station 215	5318 Lawrence Ave. E.	5,737
Fire Station 221	2575 Eglinton Ave. E.	11,916

Locations Name	Address	Floor Area (ft^2)
Fire Station 222	755 Warden Ave.	6,910
Fire Station 223	116 Dorset Rd.	7,459
Fire Station 224	1313 Woodbine Ave.	3,767
Fire Station 225	3600 Danforth Ave.	9,085
Fire Station 226	87 Main St.	11,808
Fire Station 227	1904 Queen St. E.	10,484
Fire Station 231	740 Markham Rd.	14,241
Fire Station 232	1550 Midland Ave.	5,350
Fire Station 233	59 Curlew Dr.	11,001
Fire Station 234	40 Coronation Dr.	5,350
Fire Station 235	200 Bermondsey Rd.	8,902
Fire Station 241	3325 Warden Ave.	5,500
Fire Station 242	2733 Brimley Rd.	5,500
Fire Station 243/TPS Station #29	4560 Sheppard Ave. E.	5,350
Fire Station 244	2340 Birchmount Rd.	5,350
Fire Station 245	1600 Birchmount Rd.	5,608
Fire Station 311	20 Balmoral Ave.	12,755
Fire Station 312	34 Yorkville Ave.	9,806
Fire Station 313	441 Bloor St. E.	12,099
Fire Station 314	12 Grosvenor St.	11,937
Fire Station 315	132 Bellevue Ave.	7,244
Fire Station 321	231 McRae Dr.	7,535

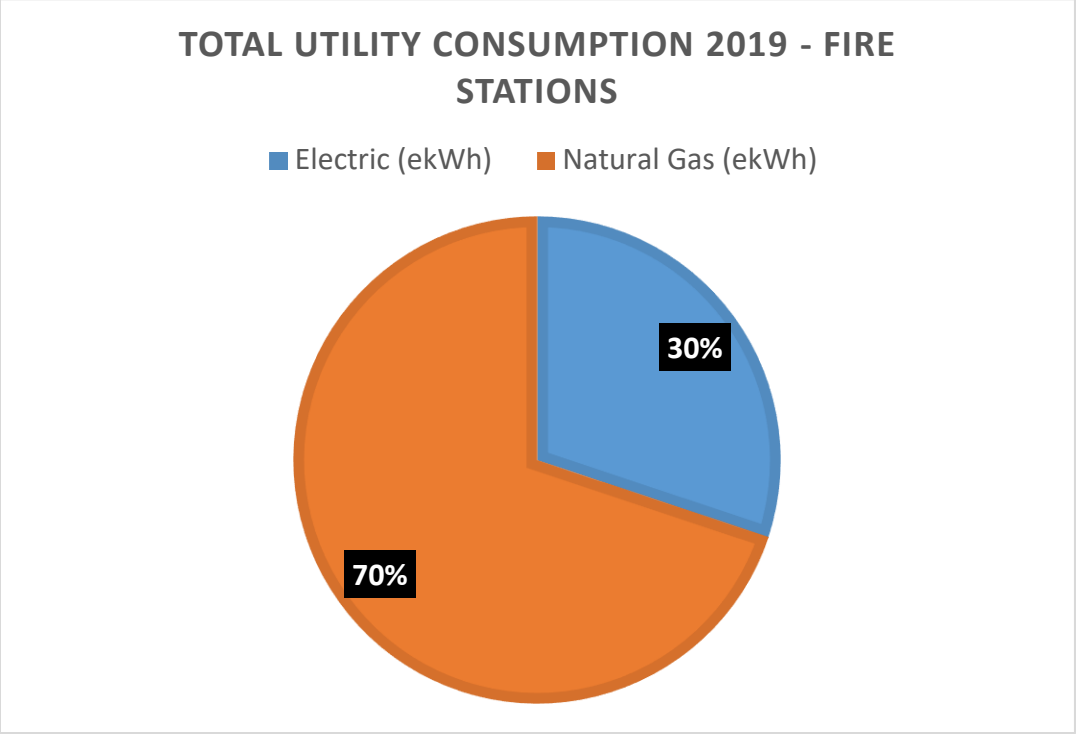
Locations Name	Address	Floor Area (ft^2)
Fire Station 322	256 Cosburn Ave.	7,535
Fire Station 323	153 Chatham Ave.	10,236
Fire Station 324	840 Gerrard St. E.	13,153
Fire Station 325	475 Dundas St. E.	10,129
Fire Station 331	33 Claremont St.	10,979
Fire Station 332	260 Adelaide St. W.	24,865
Fire Station 333	207 Front St. E.	12,723
Fire Station 334/TPS Station #36	339 Queens Quay W.	13,003
Fire Station 335/TPS Station #59	235 Cibola Ave.	4,402
Fire Station 341	555 OakWood Ave.	9,268
Fire Station 342	106 Ascot Ave.	3,057
Fire Station 343	65 Hendrick Ave.	9,827
Fire Station 344	240 Howland Ave.	11,238
Fire Station 345	1285 Dufferin St.	12,809
Fire Station 411	75 Toryork Dr.	8,762
Fire Station 412	267 Humberline Dr.	7,029
Fire Station 413	1549 Albion Rd.	3,929
Fire Station 415	2120 Kipling Ave.	7,804
Fire Station 421	6 Lambton Ave.	9,461
Fire Station 422	590 Jane St.	7,944
Fire Station 423	358 Keele St.	12,335

Locations Name	Address	Floor Area (ft^2)
Fire Station 424	462 Runnymede Rd.	5,866
Fire Station 425	83 Deforest Rd.	7,955
Fire Station 426	140 Lansdowne Ave.	12,486
Fire Station 431	308 Prince Edward Dr. S.	3,907
Fire Station 432	155 The East Mall	11,765
Fire Station 433	615 Royal York Dr.	5,038
Fire Station 434	3 Lunness Rd.	5,188
Fire Station 435	130 Eighth St.	6,889
Fire Station 441	947 Martin Grove Rd.	19,472
Fire Station 442	2015 Lawrence Ave. W.	15,479
Fire Station 443	1724 Islington Ave.	3,929
Fire Station 444	666 Renforth Dr.	3,929
Fire Station 445	280 Burnhamthorpe Rd.	11,765
Fire Training Centre	4562 Sheppard Ave. E.	7,998
Fire Warehouse & Mechanical Building	15 Rotherham Ave.	23,002
HUSAR	21 Old Eglinton Ave.	11,485
Toryork Office	40 Toryork Dr.	42,625

2019 Energy Consumption and GHG Emissions

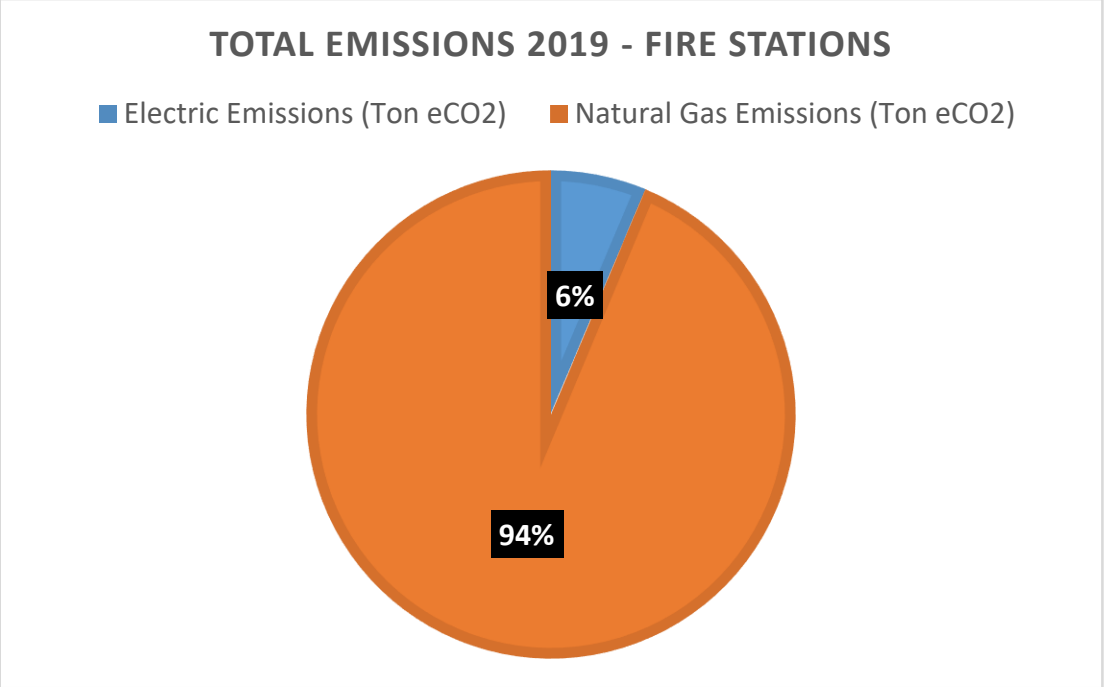
In 2019, natural gas and electricity consumption accounted for 70% and 30% of all energy consumption, respectively. Total energy consumption was 33,953,811 ekWh.

Chart 25: 2019 Utility Consumption - Fire Stations and Related Facilities



Natural gas GHG emissions account for roughly 94% of all GHG emissions while electricity accounts for roughly 6%. Fire stations and related facilities produced 4,731 ton eCO_2 in 2019.

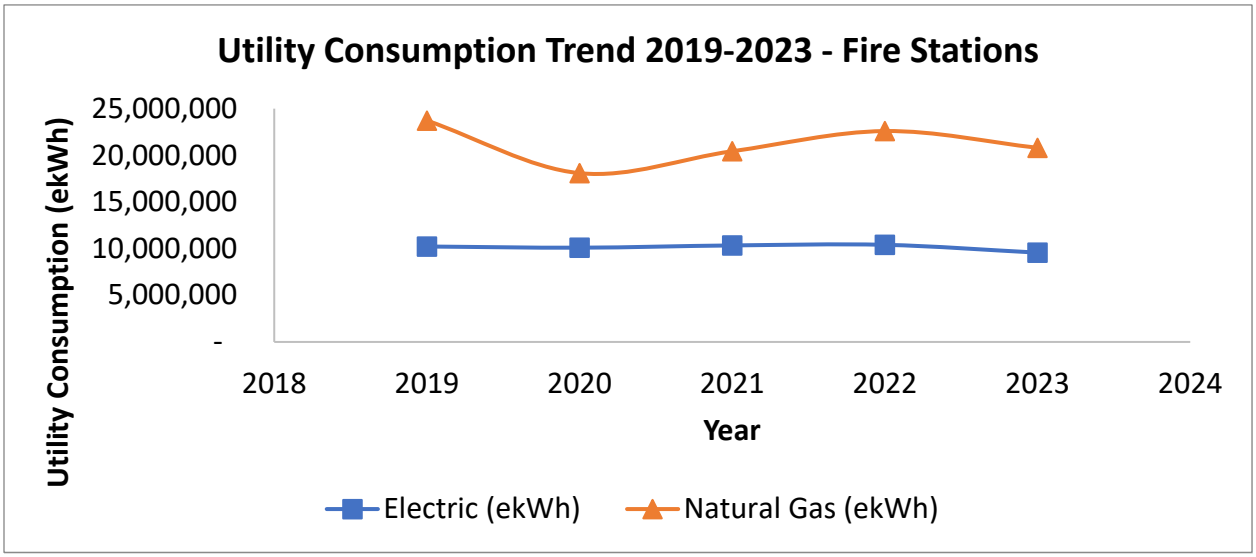
Chart 26: 2019 Emissions - Fire Stations and Related Facilities



2019-2023 Energy Consumption and GHG Emissions

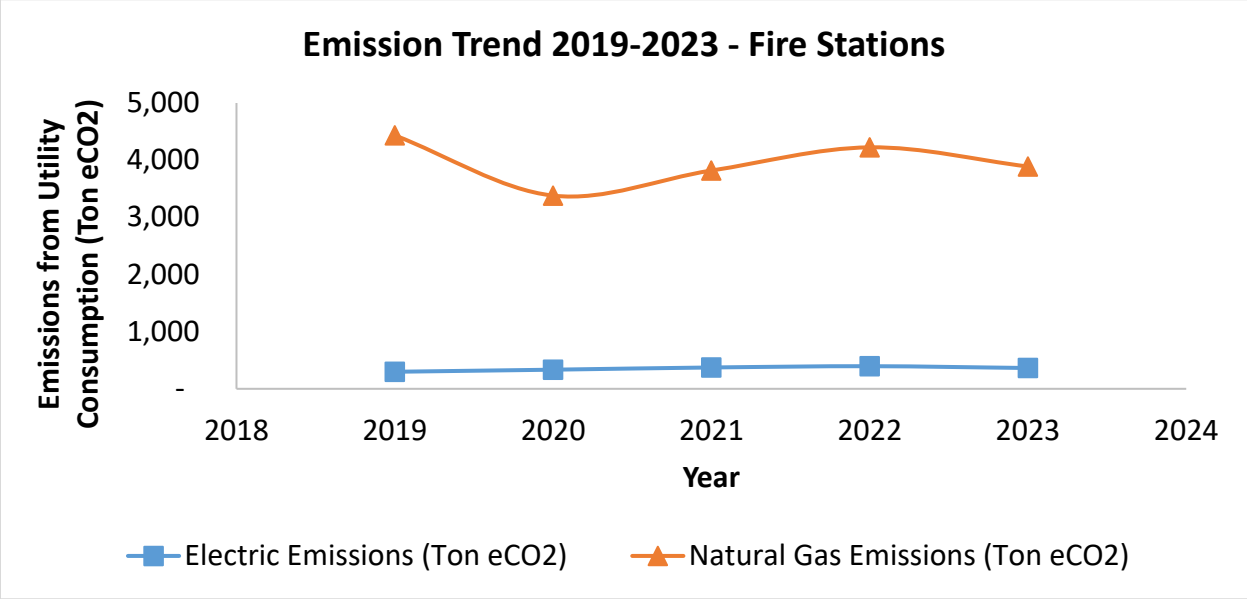
Natural gas consumption dipped from 2019 to 2020 then proceeded to increase and level off in 2023. Note that Fire Station 144 was added in 2021. The decrease in consumption is the result of an accumulation of natural gas consumption decreases from all facilities during COVID-19. From 2020 there is an increase in natural gas, presumably from the gradual return to normal operations. Electricity consumption remains relatively constant.

Chart 27: 2019-2023 Utility Consumption - Fire Stations and Related Facilities



GHG emissions associated with natural gas consumption decreased in 2020 then gradually increased until a levelling off in 2023. Electricity emissions remained relatively constant between 2019-2023.

Chart 28: 2019-2023 Emissions - Fire Stations and Related Facilities



Energy consumption and GHG emissions decreased for all years when compared to 2019 levels. Comparing 2023 levels to 2019, energy consumption decreased by 11% and GHG emissions decreased by 10%.

Table 21: Energy and GHG emissions Change from 2019 - Fire Stations and Related Facilities

2020 Change from 2019 (%)		2021 Change from 2019 (%)		2022 Change from 2019 (%)		2023 Change from 2019 (%)	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-17%	-21%	-9%	-11%	-3%	-2%	-11%	-10%

Greenhouses

The City of Toronto is reporting on six greenhouses with a total indoor area of 150,265 ft^2. Note that some of these sites have extensive outdoor space, which is not included in the floor areas listed or the energy analysis presented.

The City's greenhouses offer year-round exposure to plants from temperate, tropical and arid zones. Additionally, several sites are home to a variety of wildlife including several species of fish, turtles and birds.

Of six greenhouses described in this report, all utilize natural gas for space heating, apart from Cloud Gardens, which uses steam. In addition to this the High Park Greenhouses use supplementary propane, which is not accounted for in this report due

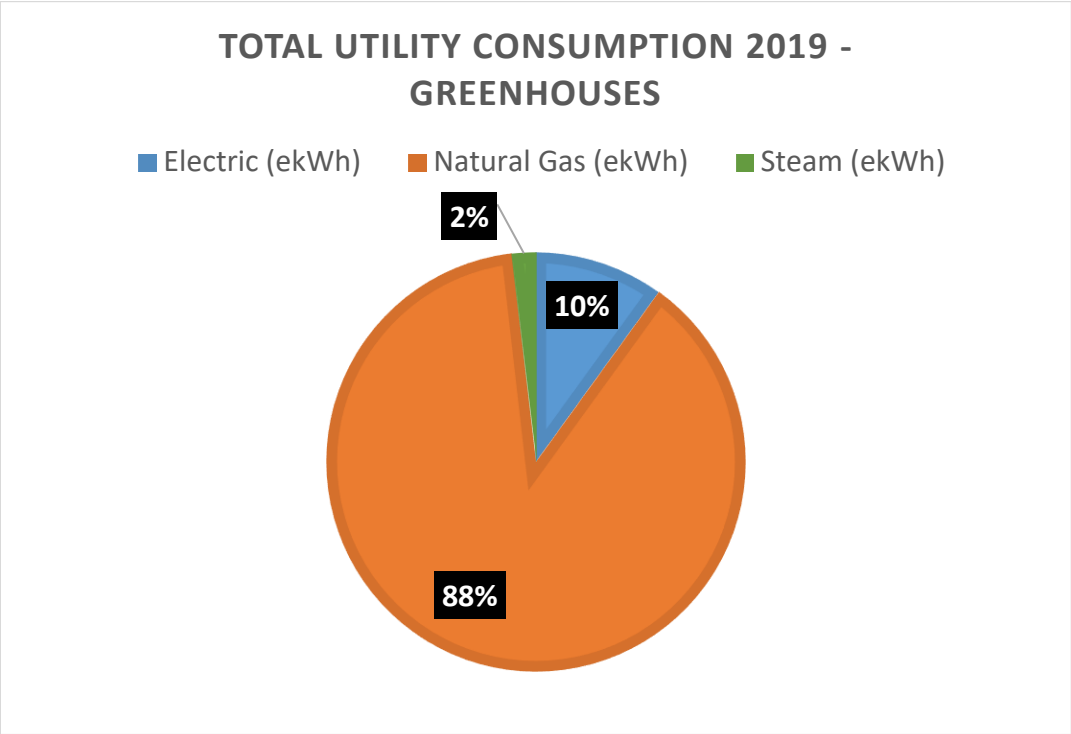
to the inability to split out consumption and cost trends from the bulk purchasing contract as previously mentioned.

Table 22: Greenhouse Locations

Locations Name	Address	Floor Area (ft^2)
Allan Gardens	121 Carlton St.	25,177
Centennial Park Conservatory	151 Elmcrest Rd.	29,170
Cloud Gardens	14 Temperance St.	6,243
High Park Greenhouses	1873 Bloor St. W.	60,386
Riverlea Greenhouse	919 Scarlett Rd.	17,018
Rockcliffe Greenhouse	301 Rockcliffe Blvd.	12,271

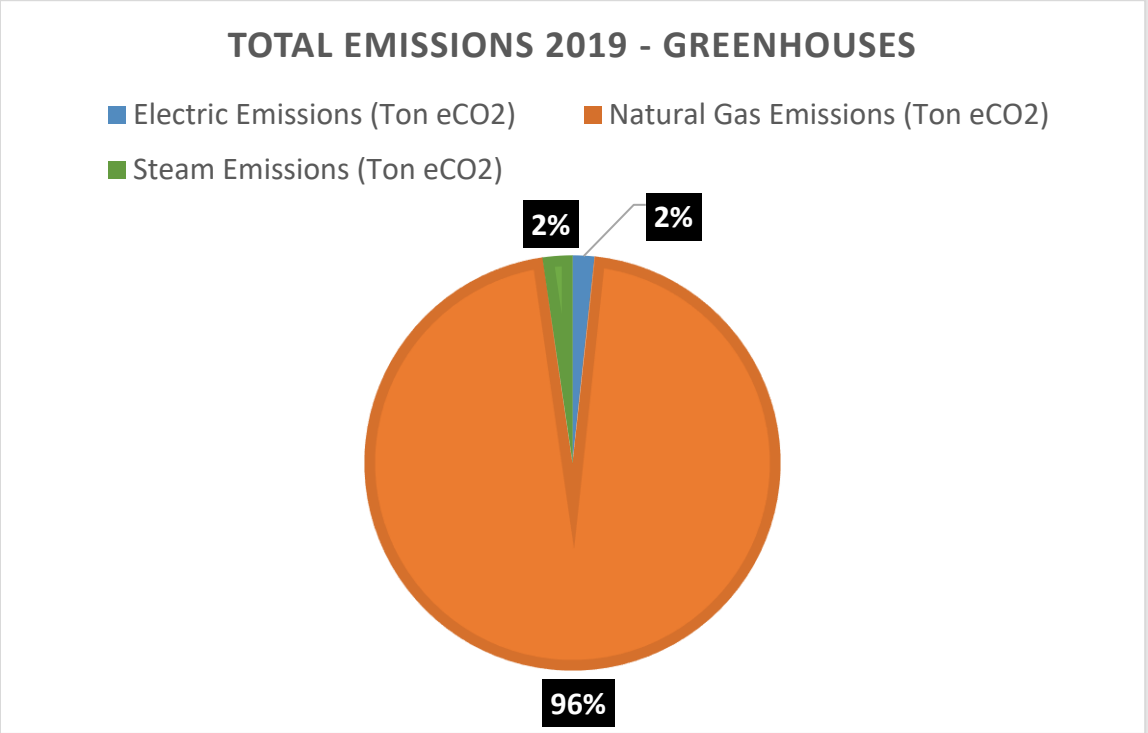
2019 Energy Consumption and GHG Emissions

Chart 29: 2019 Utility Consumption - Greenhouses



In 2019, natural gas, electricity and steam consumption accounted for 88%,10% and 2% of all energy consumption, respectively. The total energy consumption was 13,365,109 ekWh. Natural gas consumption is much larger than electricity and steam because a higher heating setpoint needs to be reached to care for the plants.

Chart 30: 2019 Emissions - Greenhouses

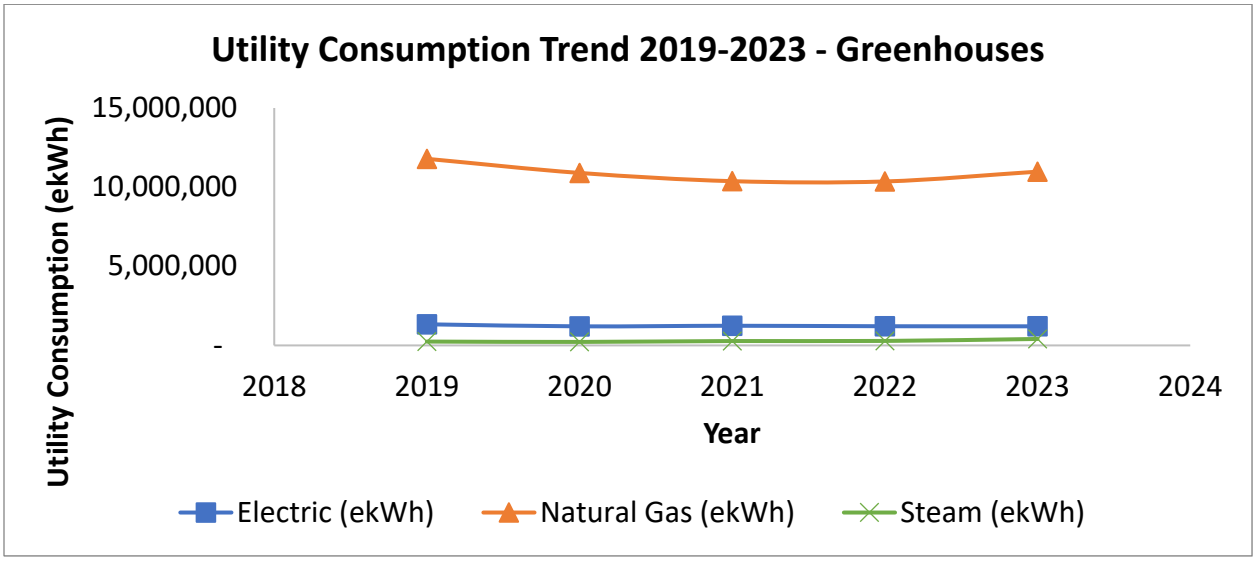


In 2019, natural gas, electricity and steam GHG emissions were 96%,2% and 2% of all total GHG emissions, respectively. Total GHG emissions was 2,294 ekWh. Although electricity consumption accounted for 10% of total energy consumption, its low GHG emissions are due to a low emissions factor compared to steam and natural gas.

2019-2023 Energy Consumption and GHG Emissions

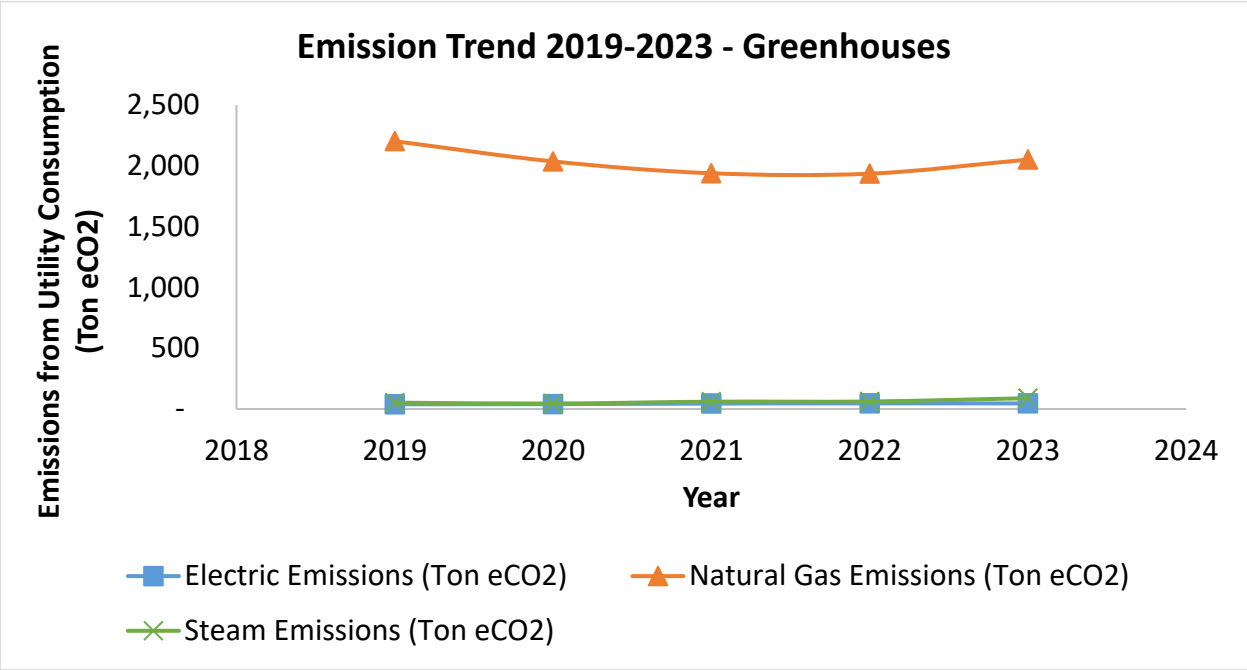
From 2019-2023 natural gas had a slight decrease until 2022 and then a slight increase. Electricity consumption remained constant throughout this period and steam remained constant until 2023.

Chart 31: 2019-2023 Utility Consumption - Greenhouses



Natural gas GHG emissions decreased from 2019 each year to 2023 but showed a slight increased in 2022. Electricity emissions remained constant and steam emissions showed an increase in 2023.

Chart 32: 2019-2023 Emissions - Greenhouses



Total energy consumption for each year decreased compared to 2019 levels, this is also the case for GHG emissions.

Table 23: Energy and GHG emissions Change from 2019 - Greenhouses

2020 Change from 2019 (%)		2021 Change from 2019 (%)		2022 Change from 2019 (%)		2023 Change from 2019 (%)	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-8%	-8%	-11%	-11%	-11%	-11%	-6%	-5%

Indoor Recreation Facilities

The City of Toronto is reporting on 37 indoor recreational facilities with a total indoor area of 1,523,615 ft^2. Two of which were added during the reporting period: Ethennonnhawahstihnen’ CRC & Library at 100 Ethennonnhawahstihnen' Ln. and One Yonge Community Centre at 24 Freeland St.

Indoor recreational facilities, as defined by this report, will contain both a pool or skating rink, one or both of which may be outdoors and an indoor pool. Additionally, these locations may contain one or all of the following public-use spaces: gymnasiums, kitchens, multi-purpose rooms, computer rooms, lounges, craft rooms, dance studios and fitness/weight rooms.

These locations are managed by Parks, Forestry, & Recreation and offer a variety of programs and services to the public including, but not limited to arts & crafts, camps, skating/hockey programs, fitness/health program, cooking classes and swimming lessons.

These locations are open year-round to the public, but outdoor skating rinks and pools are only available on a seasonal basis.

Of the 37 sites described in this report, all currently consume both electricity and natural gas, except for One Yonge Community Centre. This location is unique as it is the first site in the City portfolio to use purchased hot water from Enwave for space heating, it is also the only community recreation centre to use chilled water for space cooling. All other locations utilize natural gas and electricity for space heating, domestic hot water heating, pool water heating and ice maintenance.

Table 24: Indoor Recreation Facility Locations

Locations Name	Address	Floor Area (ft^2)
Agincourt Recreation Centre	15 Heather Rd.	93,398

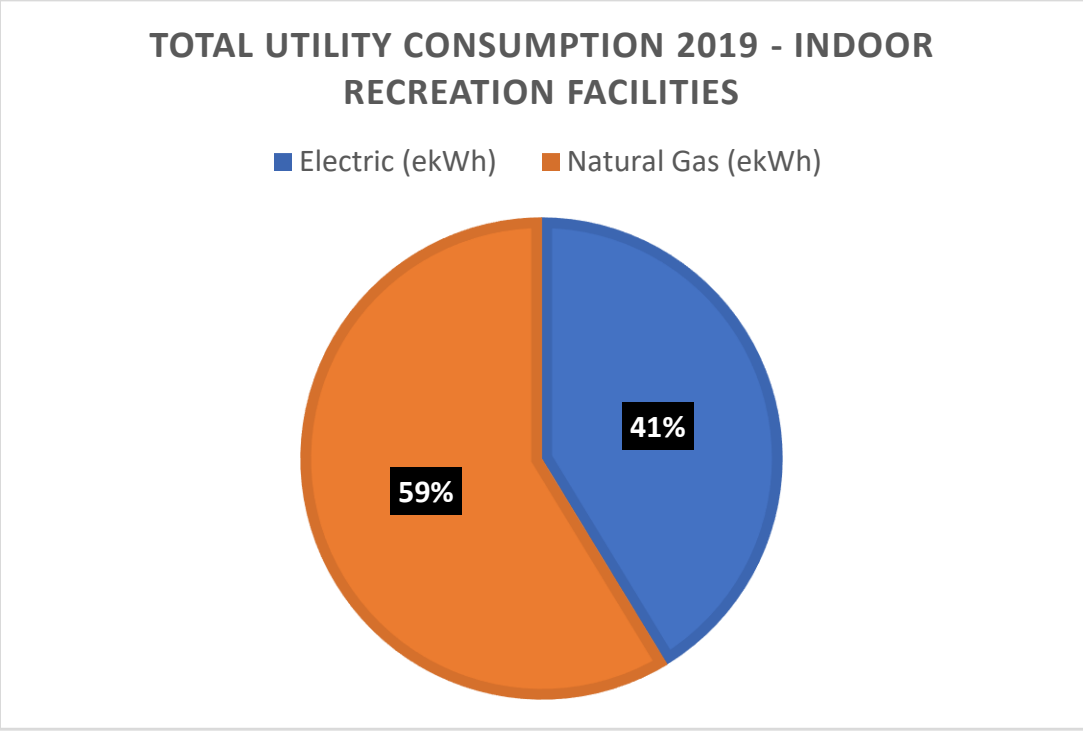
Locations Name	Address	Floor Area (ft^2)
Annette Community Recreation Centre	333 Annette St.	20,774
Antibes Park (Community Centre)	140 Antibes Dr.	18,492
Beaches Recreation Centre	6 Williamson Rd.	14,445
Birchmount Community Centre	93 Birchmount Rd.	46,166
Broadlands Community Centre	19 Castlegrove Blvd.	10,667
Centennial Recreation Centre	1967 Ellesmere Rd.	102,376
Cummer Park Community Centre	6000 Leslie St.	34,348
Dennis R. Timbrell Resource Centre	29 St Dennis Dr.	34,348
East York Community Centre	1081 Pape Ave.	31,000
Ethennonnhawahstihnen' CRC & Library	100 Ethennonnhawahstihnen ' Ln.	132,848
Frankland Community Centre	816 Logan Ave.	15,308
Glen Long Community Centre	35 Glen Long Ave.	10,236
Gord & Irene Risk Community Centre	2650 Finch Ave. W.	44,304
Goulding Community Centre	45 Goulding Ave.	43,540
Grandravine Community Recreation Centre	23 Grandravine Dr.	33,637
Heron Park Community Centre	292 Manse Rd.	52,377
Irving W. Chapley Community Centre	205 Wilmington Ave.	6,997
Jimmie Simpson Recreation Centre	870 Queens St. E.	43,906
John Innes Community Recreation Centre	140 Sherbourne St.	28,055

Locations Name	Address	Floor Area (ft^2)
Joseph J. Piccininni Community Centre	1369 St Clair Ave. W.	70,030
L'Amoreaux Tennis Centre	300 Silver Spring Blvd.	31,474
Ledbury Park	146 Ledbury St.	5,780
Matty Eckler Recreation Centre	953 Gerrard St. E.	47,383
Mary McCormick Recreation Centre	66 Sheridan Ave.	43,099
McGregor Park Community Centre	2231 Lawrence Ave. E.	45,262
Mitchell Field Community Centre	89 Church Ave.	30,182
North Toronto Memorial Community Centre	200 Eglinton Ave. W.	74,820
One Yonge Community Centre	24 Freeland St.	51,365
Oriole Community Centre	2975 Don Mills Rd. W.	64,347
Pleasantview Community Centre	545 Van Horne Ave.	30,559
Roding Community Centre	600 Roding St.	30,494
Scadding Court C.C.	707 Dundas St. W.	46,694
St Albans Boys Club	843 Palmerston Ave.	23,293
St Lawrence Community Recreation Centre	246 The Esplanade	46,113
Trinity Community Recreation Centre	155 Crawford St.	36,909
Wallace Emerson Community Centre	1260 Dufferin St.	51,882
York Recreation Centre	115 Black Creek Dr.	67,879

2019 Energy Consumption and GHG Emissions

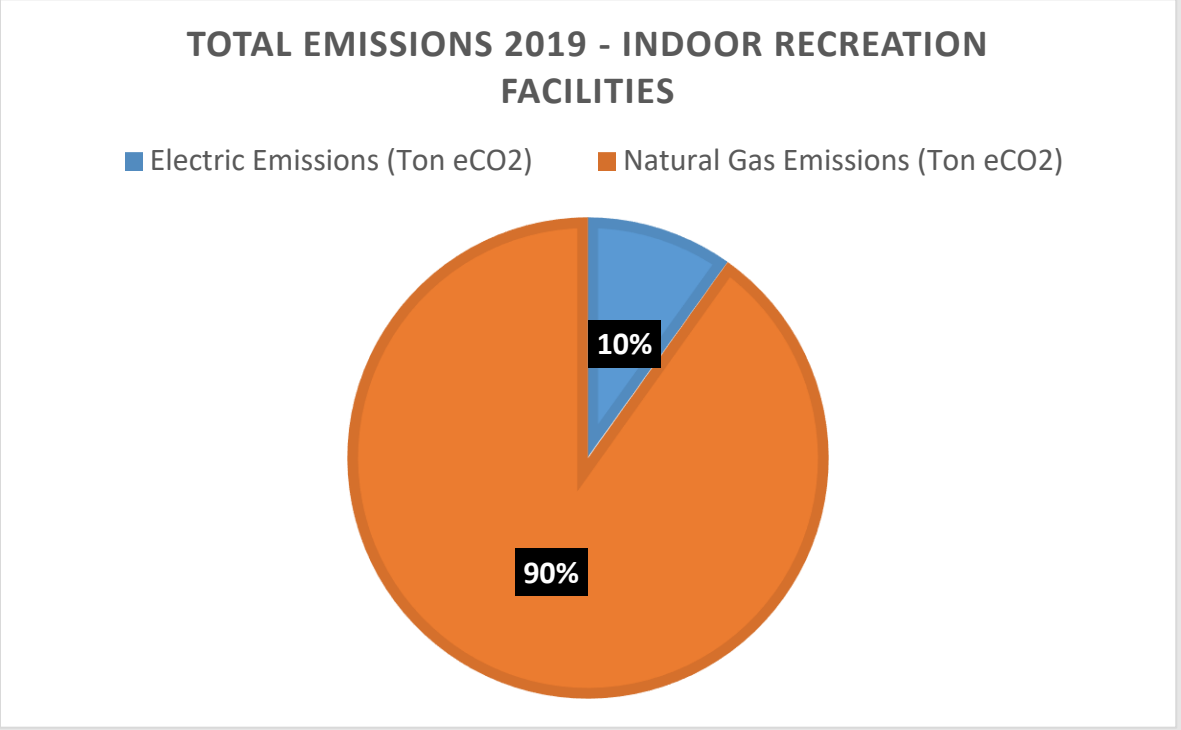
In 2019, natural gas and electricity consumption accounted for 59% and 41% of total energy consumption, respectively. Total energy consumption was 70,695,760 ekWh.

Chart 33: 2019 Utility Consumption - Indoor Recreation Facilities



Natural gas GHG emissions account for roughly 59% of all GHG emissions while electricity accounts for roughly 41%. Indoor recreation facilities produced 8,602 Ton eCO_2 in 2019.

Chart 34: 2019 Emissions - Indoor Recreation Facilities

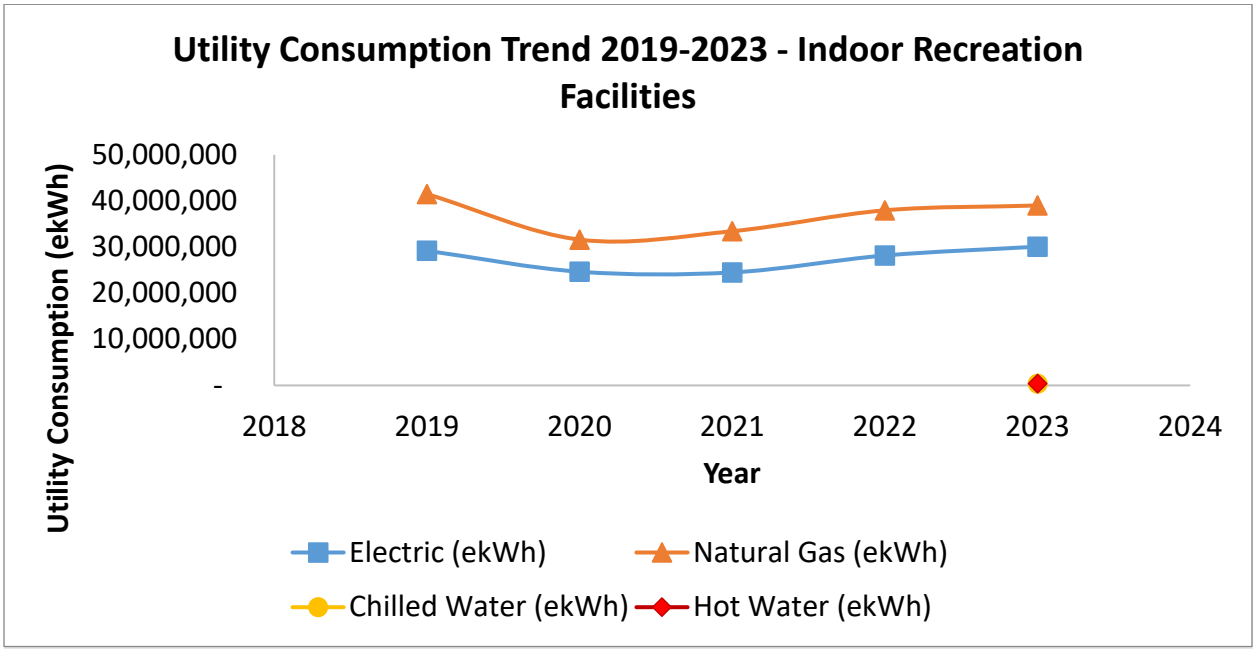


2019-2023 Energy Consumption and GHG Emissions

One location under indoor recreation facilities went through renovations which consisted of electrical upgrades, totaling $450,000.

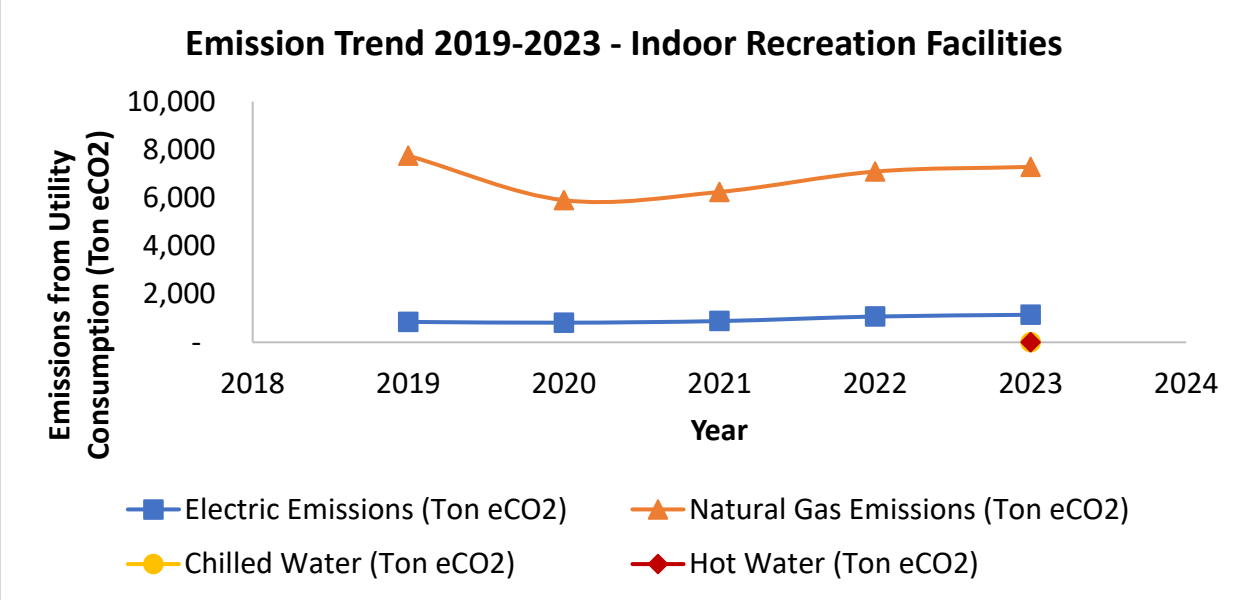
During the 2019-2023 period natural gas and electricity consumption decreased in 2020, presumably due to the COVID pandemic. After 2020, consumption began to increase until leveling off in 2023.

Chart 35: 2019-2023 Utility Consumption - Indoor Recreation Facilities



In 2023, Ethennonnhawahstihnen' CRC & Library was added to the portfolio along with One Yonge Community Centre. The latter location uses chilled water and hot water for space heating and cooling. In Chart 35 there are two data points for hot and chilled water, both commodities consumed similar amounts, creating an overlap in data points. A similar note can be made for Chart 36.

Chart 36: 2019-2023 Emissions - Indoor Recreation Facilities



Emissions for natural gas show a decrease in 2020 with a gradual increase until 2023. A similar trend is true for electricity consumption, but the values are smaller than that of natural gas, making the trend line appear flat.

The largest decrease in energy consumption and GHG emissions was seen in 2020 when compared to 2019. Energy decreased by 20% and GHG emissions decreased by 22%. These reductions would have been due to the reduction in natural gas consumption. In 2023 energy consumption and GHG emissions did not have as large of a decrease when compared to 2019 levels but still showed had decreases of 1% and 2%, respectively.

Table 25: 2019-2023 Utility Consumption, Emissions and Costs - Indoor Recreation Facilities

2020 Change from 2019 (%)		2021 Change from 2019 (%)		2022 Change from 2019 (%)		2023 Change from 2019 (%)	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-20%	-22%	-18%	-17%	-6%	-5%	-1%	-2%

Indoor Sports Arenas

The City of Toronto is reporting on 27 indoor recreational facilities with a total indoor area of 943,626 ft^2.

Indoor sports arenas, as defined by this report, contain an indoor ice rink, but not an indoor pool. Note that outdoor pools may be associated with some of these sites, but they are tracked under separate utility meters and are therefore not included in the energy analysis for these locations. Additionally, these locations may contain one or all of the following public-use spaces: gymnasiums, kitchen, multi-purpose rooms, computer rooms, lounges, craft rooms, dance studios and fitness/weight rooms.

These locations are managed by Parks, Forestry, & Recreation and offer a variety of programs and services to the public including, but not limited to: arts & crafts, camps, skating/hockey programs, fitness/health programs, cooking classes and curling (only at the East York Curling Club).

Of the 27 sites described in this report, all currently consume both electricity and natural gas, the latter of which can be utilized for space heating, domestic hot water heating and ice maintenance.

Table 26: Indoor Sports Arena Locations

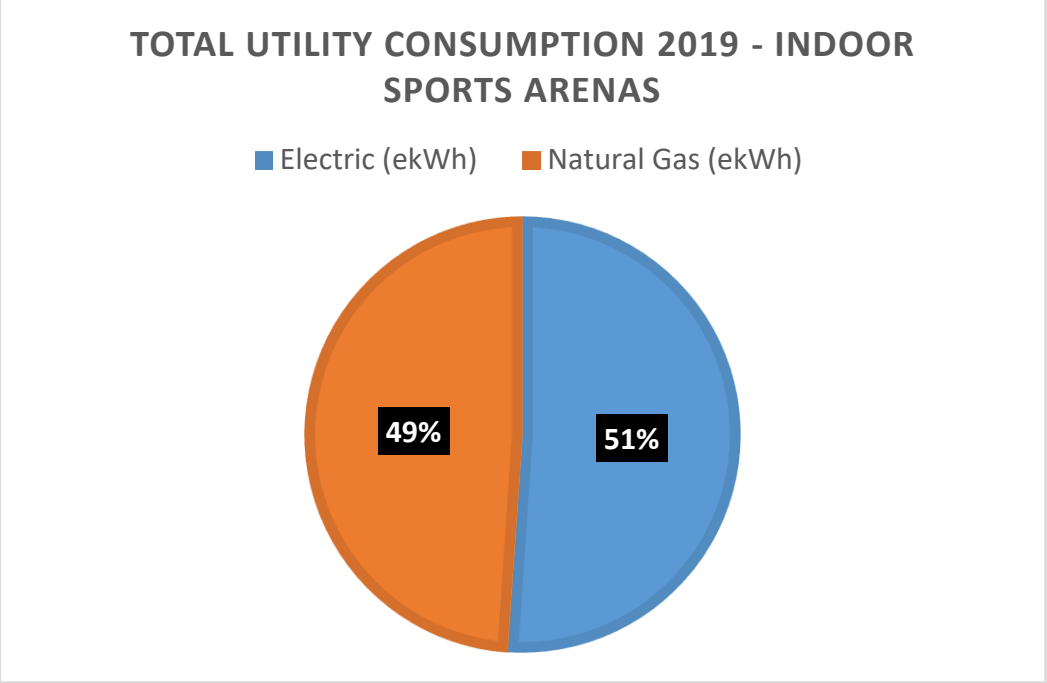
Locations Name	Address	Floor Area (ft^2)
Albion Arena	1501 Albion Rd.	32,658
Amesbury Arena	155 Culford Rd.	26,942
Angela James Arena	165 Grenoble Dr.	25,640
Baycrest Arena	160 Neptune Dr.	27,060
Bayview Arena	3230 Bayview Ave.	28,417
Centennial Park Arena & Stadium	156 Centennial Park Rd.	72,050
Central Arena	50 Montgomery Rd.	32,001
Chris Tonks Arena	95 Black Creek Dr.	23,638
Commander Park Recreation Centre	140 Commander Blvd.	56,317
Don Mills Civitan Arena	1030 Don Mills Rd.	27,857
Don Montgomery Community Centre	2467 Eglinton Ave. E.	89,125
Downsview Arena	1633 Wilson Ave.	34,218
East York Curling Club	901 Cosburn Ave.	17,868
East York Memorial Arena	888 Cosburn Ave.	30,257
Fenside Arena	30 Slidell Cres.	26,307
Habitant Arena	3383 Weston Rd.	26,307
Herbert H. Carnegie Centennial Centre	580 Finch Ave. W.	42,270
John Booth Memorial Arena	230 Gosford Blvd.	27,007
Lambton Arena	4100 Dundas St. W.	24,854

Locations Name	Address	Floor Area (ft^2)
Long Branch Arena	75 Arcadian Circle.	25,629
Mimico Arena	31 Drummond St.	35,607
Phil White Arena	443 Arlington Ave.	25,941
Pine Point Arena	15 Grierson Rd.	32,001
Scarborough Gardens Arena	75 Birchmount Rd.	38,320
Scarborough Village Recreation Centre	3600 Kingston Rd.	58,125
Victoria Village Arena	190 Bermondsey Rd.	33,637
York Mills Arena	2539 Bayview Ave.	23,573

2019 Energy Consumption and GHG Emissions

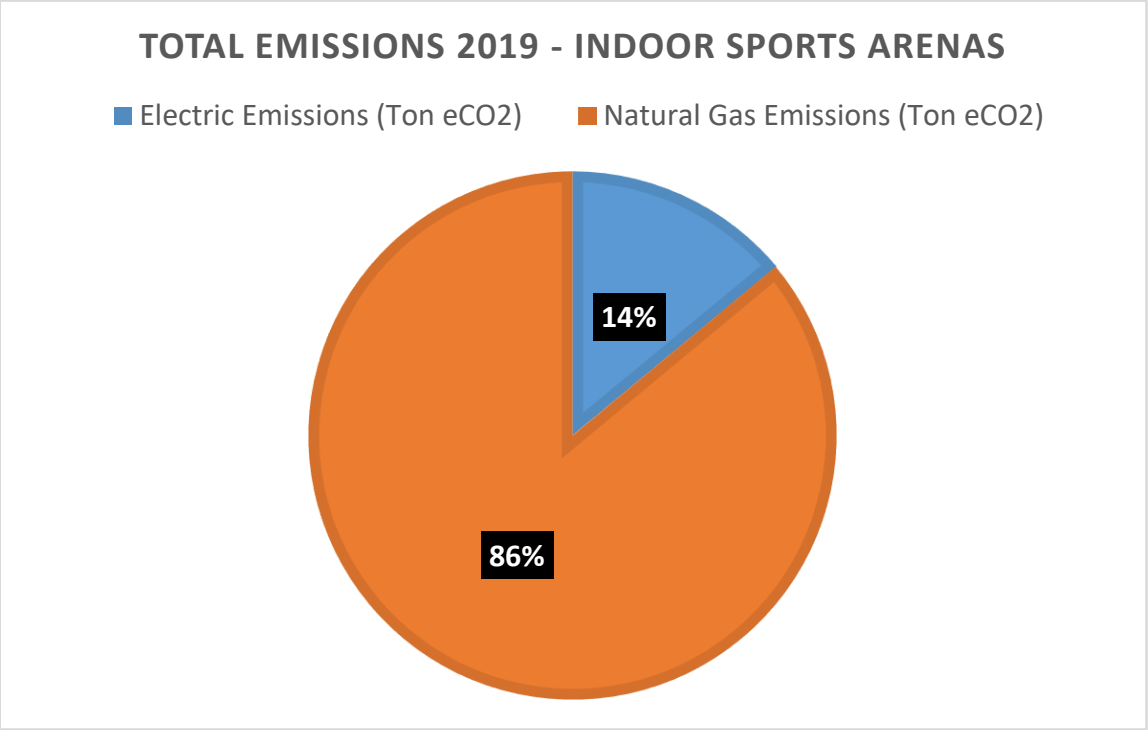
In 2019, natural gas and electricity consumption accounted for 49% and 51% of all energy consumption, respectively. Total energy consumption was 37,902,846 ekWh.

Chart 37: 2019 Utility Consumption - Indoor Sports Arenas



Natural gas GHG emissions account for roughly 86% of all GHG emissions while electricity accounts for roughly 14%. Indoor sports arenas produced 4,027 ton eCO_2 in 2019.

Chart 38: 2019 Emissions - Indoor Sports Arenas

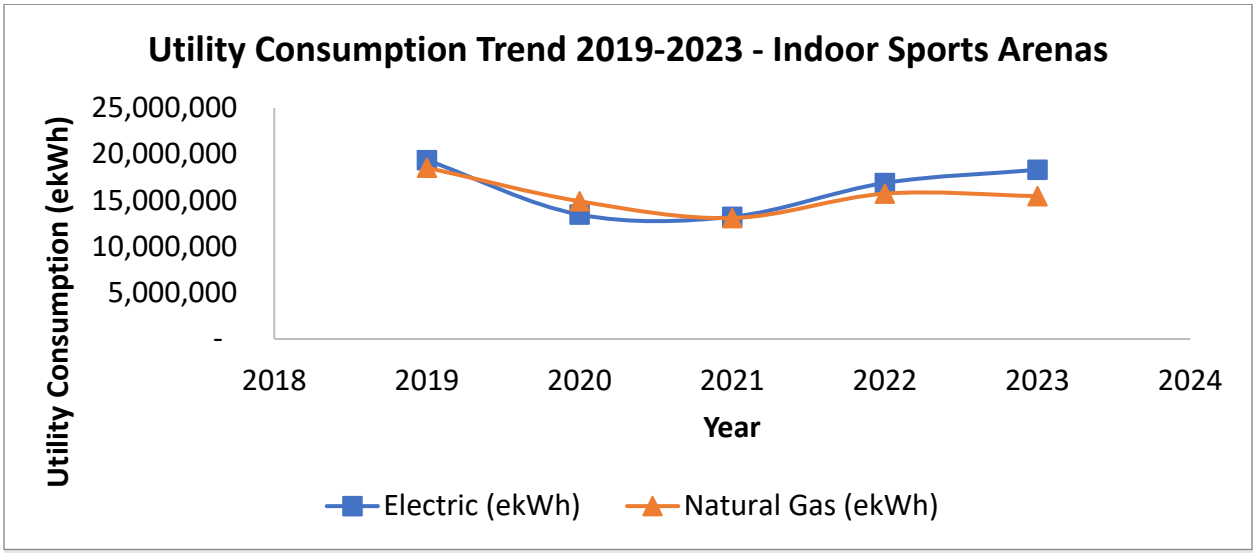


2019-2023 Energy Consumption and GHG Emissions

One location under indoor sports arena went through electrical energy related retrofits, totaling $801,000.

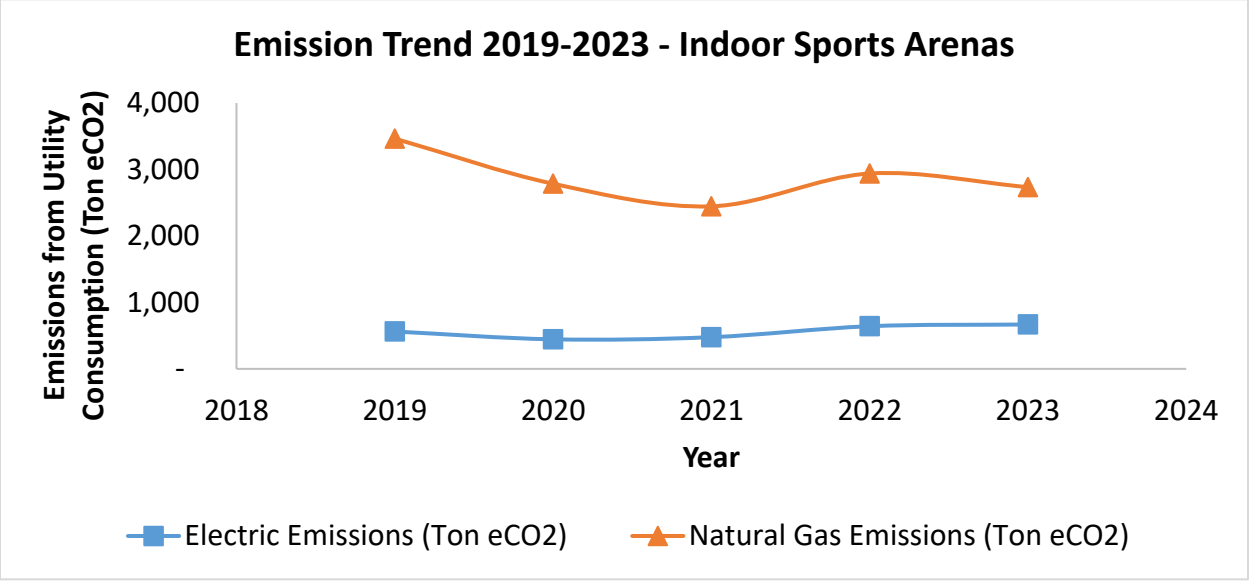
During the 2019-2023 period natural gas and electricity consumption decreased in 2020, presumably due to the COVID pandemic. After 2020, natural gas consumption decreased further and then increased until 2022. Between 2022 and 2023 there was a slight decrease. Electricity began to increase after 2020 until 2023.

Chart 39: 2019-2023 Utility Consumption - Indoor Sports Arenas



Electricity and natural gas GHG emissions followed a similar trend. Natural gas decreased until 2021 and then began to increase. Electricity emissions decreased until 2022, then began to increase.

Chart 40: 2019-2023 Emissions - Indoor Sports Arenas



The largest decreased in energy consumption and GHG emissions was seen in 2021 when compared to 2019. Natural gas decreased by 31% and GHG emissions decreased by 27%. These reductions would have been due to the reduction in natural

gas consumption. In 2023 energy consumption and GHG emissions had decreases of 11% and 15% when compared to 2019 levels, respectively.

Table 27: Energy and GHG emissions Change from 2019 - Indoor Sports Arenas

2020 Change from 2019 (%)		2021 Change from 2019 (%)		2022 Change from 2019 (%)		2023 Change from 2019 (%)	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-25%	-20%	-31%	-27%	-14%	-11%	-11%	-15%

Indoor Swimming Pools

The City of Toronto is reporting on 11 indoor swimming pools with a total indoor area of 354,077 ft^2.

Indoor swimming pools, as defined by this report, contain an indoor swimming pool, but not an indoor ice rink. Note that outdoor ice rinks may be associated with some of these sites, but they are tracked under separate utility meters and are therefore not included in the energy analysis for these locations. Additionally, these locations may contain one or all of the following public-use spaces: gymnasiums, kitchen, multi-purpose rooms, computer rooms, lounges, craft rooms, dance studios and fitness/weight rooms.

These locations are managed by Parks, Forestry, & Recreation or a Board of Management and offer a variety of programs and services to the public including, but not limited to: arts & crafts, camps, swimming lessons, fitness/health programs and cooking classes.

Of the 11 indoor swimming pools described in this report, all currently consume both electricity and natural gas, the latter of which can be utilized for space heating, domestic hot water heating and pool water heating.

Table 28: Indoor Swimming Pool Locations

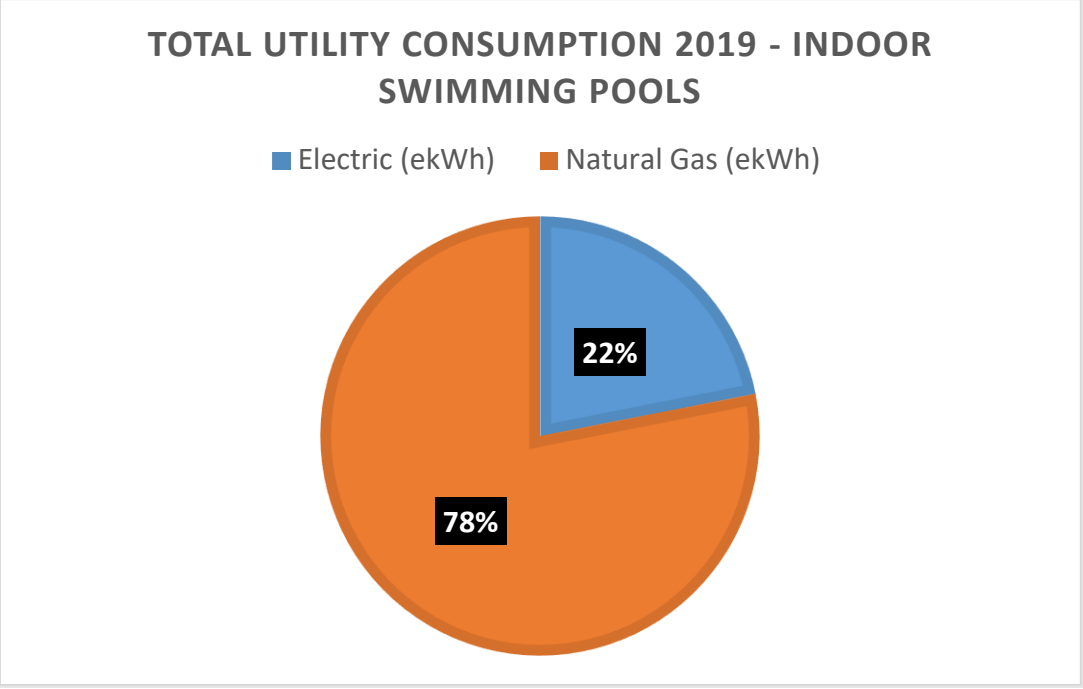
Locations Name	Address	Floor Area (ft^2)
Albion Pool & Health Club	1485 Albion Rd.	20,688
Douglas Snow Aquatic Centre	5100 Yonge St.	40,666
Etobicoke Olympium	590 Rathburn Rd.	139,995

Locations Name	Address	Floor Area (ft^2)
Fairmount Park Community Centre	1725 Gerrard St. E.	4,359
Gus Ryder Pool and Health Club	1 Faustina Dr.	21,097
Harrison Pool	15 Stephanie St.	15,263
Main Square Community Centre	245 Main St.	35,123
Memorial Pool and Health Club	44 Montgomery Rd.	13,444
Norseman Community School and Pool	105 Norseman St.	19,052
Pam McConnell Aquatic Centre	640 Dundas St. E.	30,505
The Elms Pool and Community School	45 Golfdown Dr.	13,885

2019 Energy Consumption and GHG Emissions

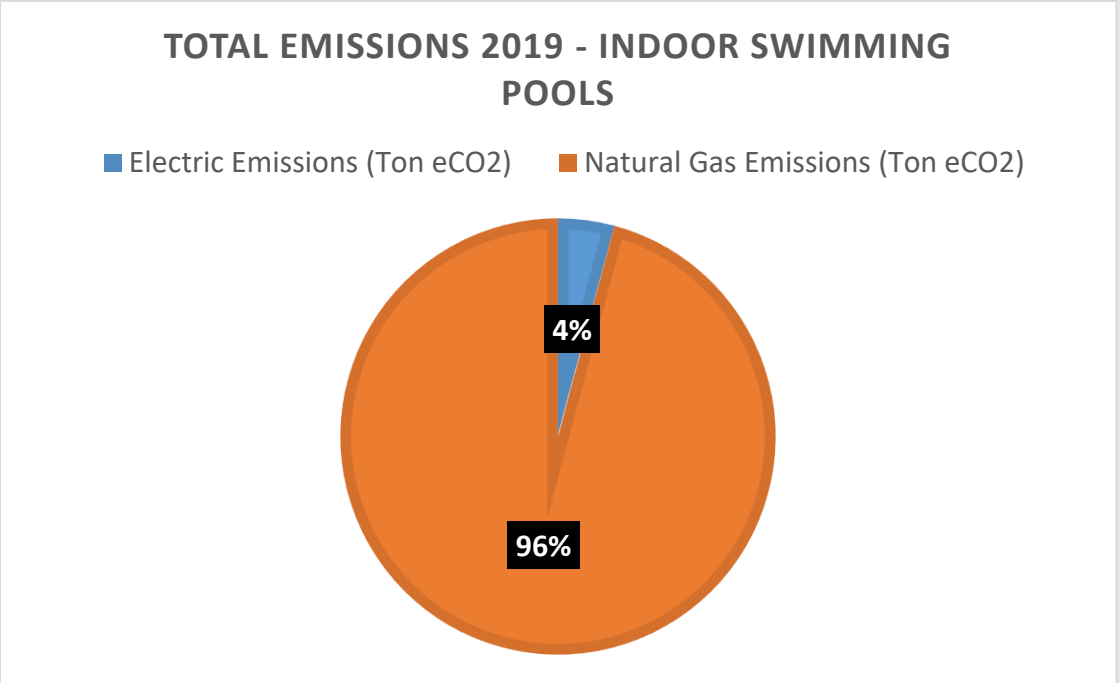
In 2019, natural gas and electricity consumption accounted for 78% and 22% of all energy consumption, respectively. The total energy consumption was 24,906,707 ekWh.

Chart 41: 2019 Utility Consumption - Indoor Swimming Pools



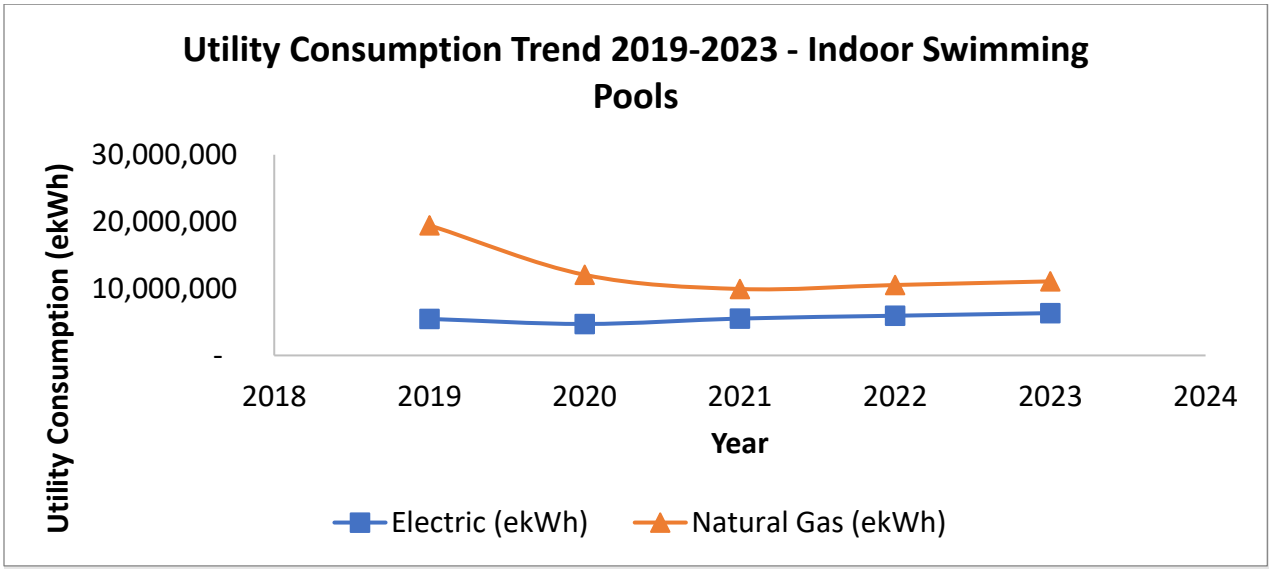
GHG emissions due to natural gas consumption account for roughly 96% of all GHG emissions while electricity accounts for roughly 4%. Indoor swimming pools produced 3,793 Ton eCO_2 in 2019.

Chart 42: 2019 Emissions - Indoor Swimming Pools



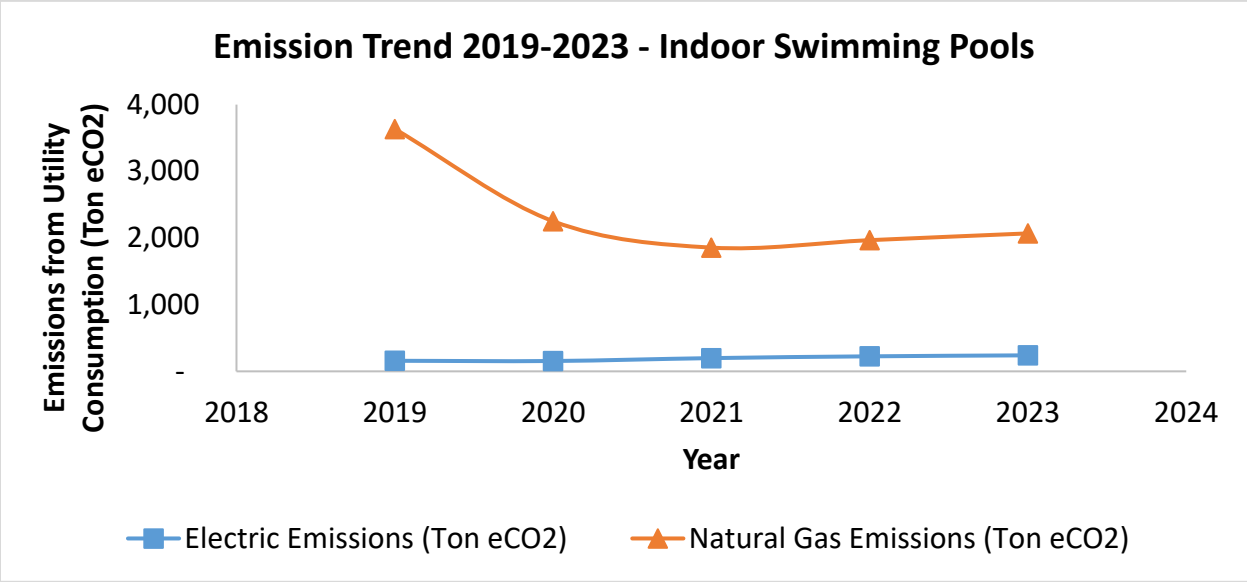
2019-2023 Energy Consumption and GHG Emissions

Chart 43: 2019-2023 Utility Consumption - Indoor Swimming Pools



Between 2019-2023 natural gas consumption decreased until 2021 where it then levelled off. Electricity consumption gradually decreased until 2020, where it then gradually increased and levelled off until 2021.

Chart 44: 2019-2023 Emissions - Indoor Swimming Pools



Emissions associated with natural gas consumption decreased from 2019, while electrical consumption had a slight upward trend. Overall, energy consumption decreased in 2023 by 30% and GHG emissions reduced by 39% compared to 2019 levels. All years show a decrease in energy and GHG emissions when compared to the baseline.

Table 29: Energy and GHG emissions Change from 2019 - Indoor Swimming Pool

2020 Change from 2019 (%)		2021 Change from 2019 (%)		2022 Change from 2019 (%)		2023 Change from 2019 (%)	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-33%	-37%	-38%	-46%	-34%	-42%	-30%	-39%

Long Term Care Homes

The City of Toronto is reporting on 10 long-term care homes with a total area of 1,622,273 ft^2.

All 10 sites are managed by Long-Term Care Homes & Services and provide 24-hour resident-focused care and numerous services including, but not limited to: nursing,

behavioural support programs, medical services, recreational programming, nutritionist and food services, social work and spiritual/religious care. Some locations also have specialized services including; language/cultural partnerships, short-stay respite beds and on-side adult day programs.

In November 2015, Toronto City Council approved the Long-Term Care Homes & Services Capital Renewal Plan. The plan allows the division to proceed with the staged redevelopment of five long-term care homes to meet innovative design standards, explore affordable housing opportunities, and advance the vision to be leaders in excellence and ground-breaking services for healthy aging.

Of the 10 long-term care homes described in this report, all currently consume both electricity and natural gas, the latter of which can be utilized for space heating, domestic hot water heating and kitchen use.

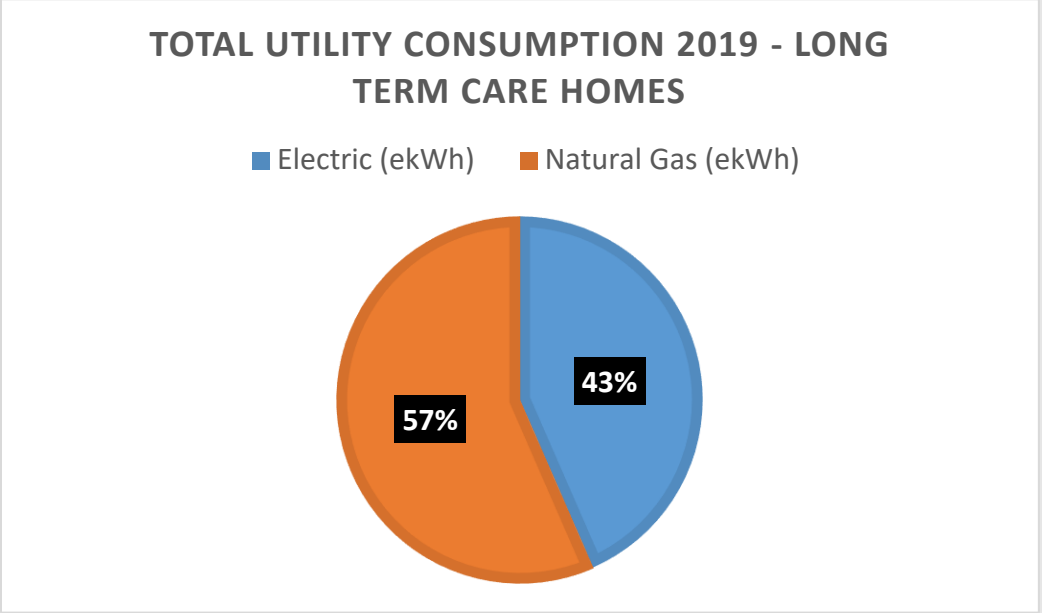
Table 30: Long Term Care Home Locations

Locations Name	**Address**	**Floor Area (ft^2)**
Bendale Acres	2920 Lawrence Ave. E.	210,327
Carefree Lodge	306 Finch Ave. E.	67,490
Castleview Wychwood Towers	351 Christie St.	294,447
Cummer Lodge	205 Cummer Ave.	243,200
Fudger House	439 Sherbourne St.	118,995
Kipling Acres	2233 Kipling Ave.	184,590
Lakeshore Lodge	3197 Lake Shore Blvd. W.	88,964
Seven Oaks	9 Neilson Rd.	133,311
True Davidson Acres	200 Dawes Rd.	130,082
Wesburn Manor	400 The West Mall	150,867

2019 Energy Consumption and GHG Emissions

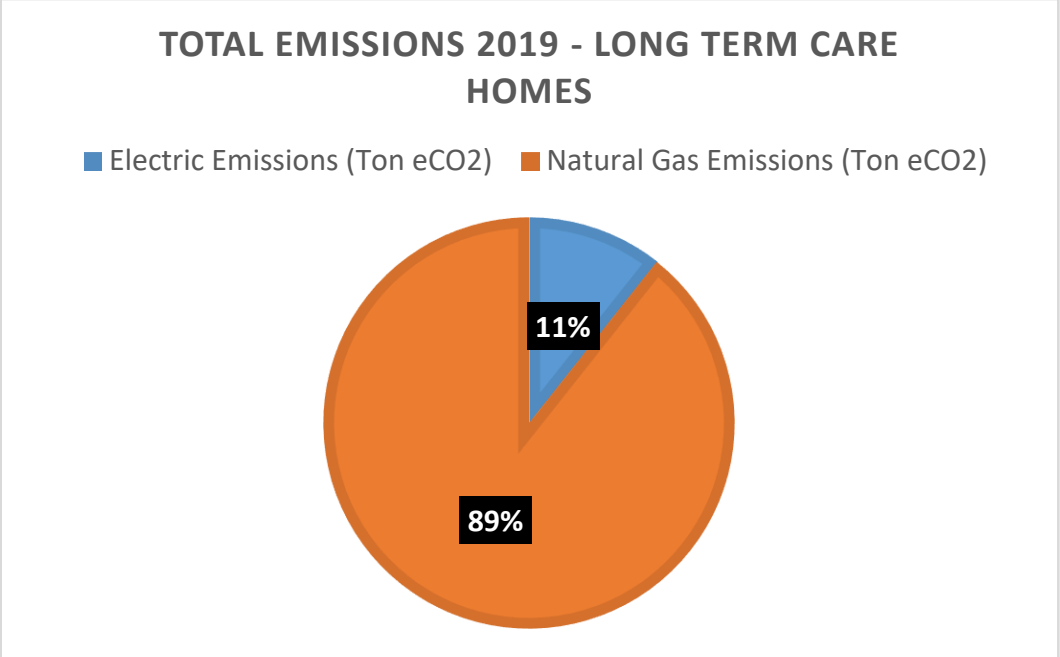
In 2019, natural gas and electricity consumption accounted for 57% and 43% of all energy consumption, respectively. Long term care homes consumed 335,967,610 ekWh of energy in 2019.

Chart 45: 2019 Utility Consumption - Long Term Care Homes



GHG emissions due to natural gas consumption account for roughly 89% of all GHG emissions while electricity accounts for roughly 11%. Long term care homes produced 25,519,960 Ton eCO_2 in 2019.

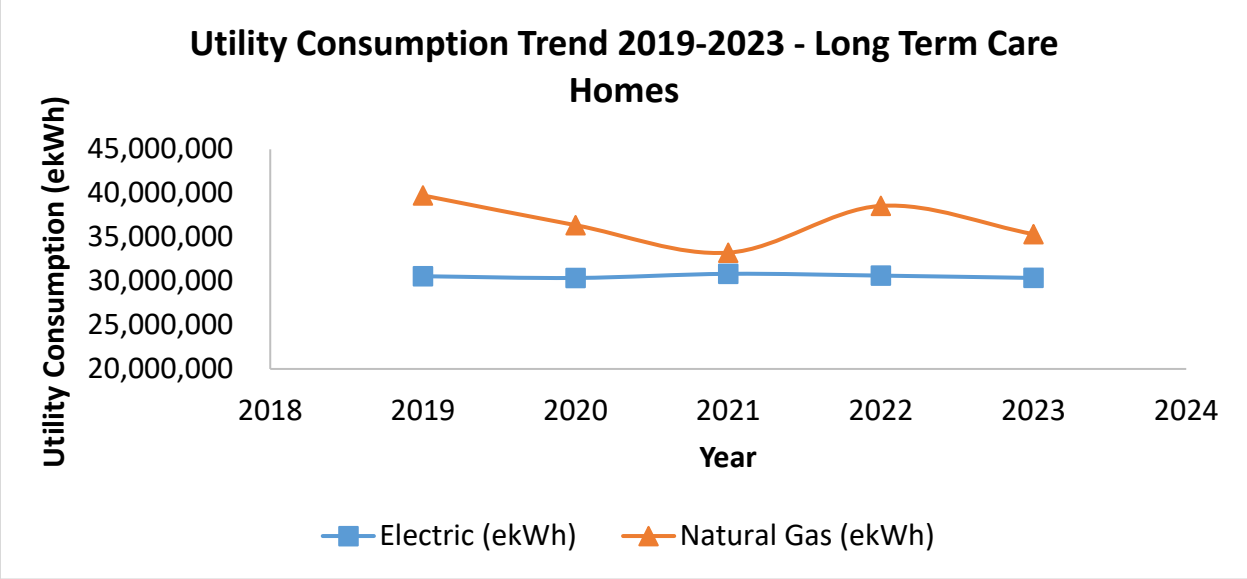
Chart 46: 2019 Emissions - Long Term Care Homes



2019-2023 Energy Consumption and GHG Emissions

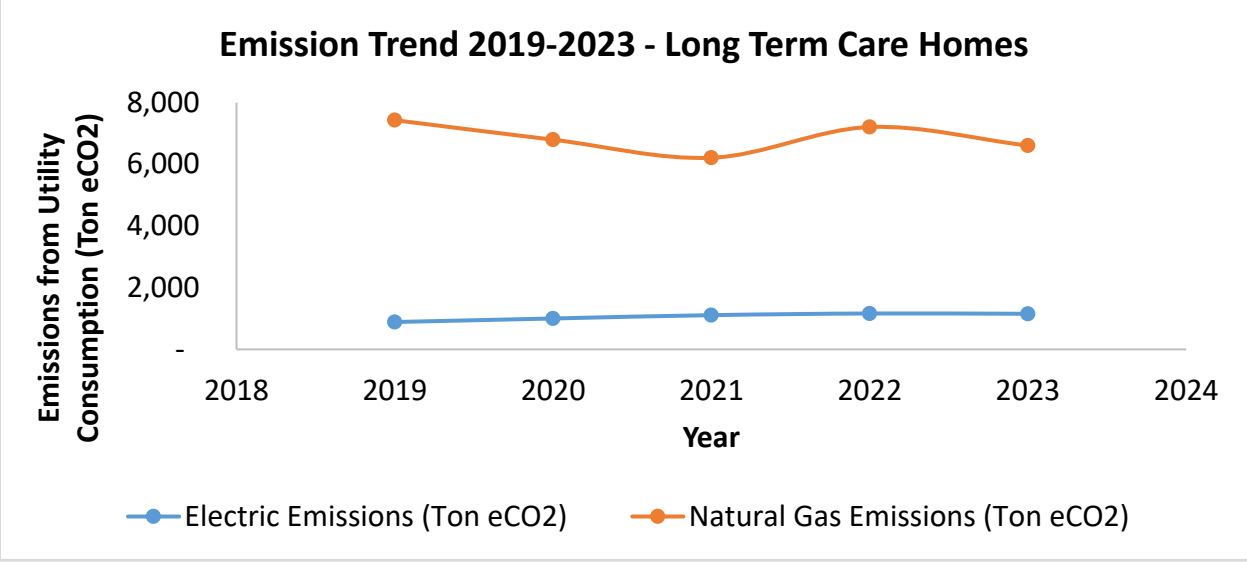
Natural gas consumption decreased until 2021, where we see a gradual increase until 2022 and then a second decrease in 2023. Electricity consumption remained stable between 2021-2024.

Chart 47: 2019-2023 Utility Consumption - Long Term Care Homes



Between 2019-2023 the GHG emissions for natural gas reflect the consumption trend from the previous chart, with a decrease until 2021, a slight increase and then a second decrease. Electricity emissions were relatively stable during this period.

Chart 48: 2019-2023 Emissions - Long Term Care Homes



Long term care homes were able to decrease consumption and GHG emissions compared to 2019 base levels each year and overall. In 2023, energy consumption and GHG emissions both decreased by 7%.

Table 31: Energy and GHG Emissions Change from 2019 - Long Term Care Homes

2020 Change from 2019 (%)		2021 Change from 2019 (%)		2022 Change from 2019 (%)		2023 Change from 2019 (%)	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-5%	-6%	-9%	-12%	-2%	1%	-7%	-7%

Parking Garages

The City of Toronto is reporting on 16 parking garages with a total indoor area of 1,467,049 ft^2. Note that Carpark 262 was added to the portfolio in 2020 and 11 Wellesley St. W. was added in 2022.

These sites are operated by the Toronto Parking Authority and represent only a fraction of the on- and off-street parking available throughout the City. The TPA currently operates over 200 municipal parking lots containing over 38,000 spaces and the City's Bike Share program.

Of the 16 parking garages described in this report, natural gas is utilized for heating at Carpark 1, Carpark 36 (Nathan Phillips Square) and Carpark 404. All other sites use electricity for lighting and heating needs.

Table 32: Parking Garage Locations

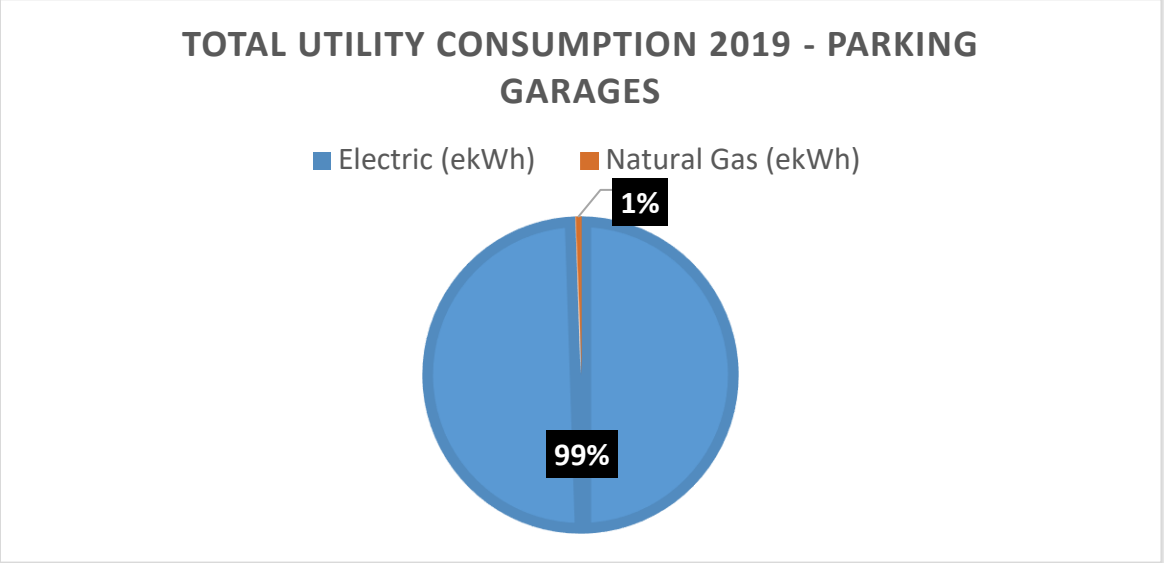
Locations Name	Address	Floor Area (ft^2)
11 Wellesley St W	11 Wellesley St. W.	5,150
Carpark 1	20 Charles St. E.	43,000
Carpark 11	21 Pleasant Blvd.	55,700
Carpark 111	72 Clinton St.	18,299
Carpark 150	40 Larch St.	77,887

Locations Name	Address	Floor Area (ft^2)
Carpark 26	33 Queen St. E.	173,030
Carpark 262	300 Queen St. W.	27,214
Carpark 29	75 Holly St.	70,849
Carpark 34	1 Dundas St. E.	26,500
Carpark 36 (Nathan Phillips Square)	100 Queen St. W.	598,473
Carpark 404	95 Beecroft Rd.	120,297
Carpark 42	91 Via Italia	39,647
Carpark 43	2 Church St.	125,023
Carpark 52	40 York St.	32,300
Carpark 68	20 St Andrew St.	45,000
Carpark 96	2 Portland St.	8,680

2019 Energy Consumption and GHG Emissions

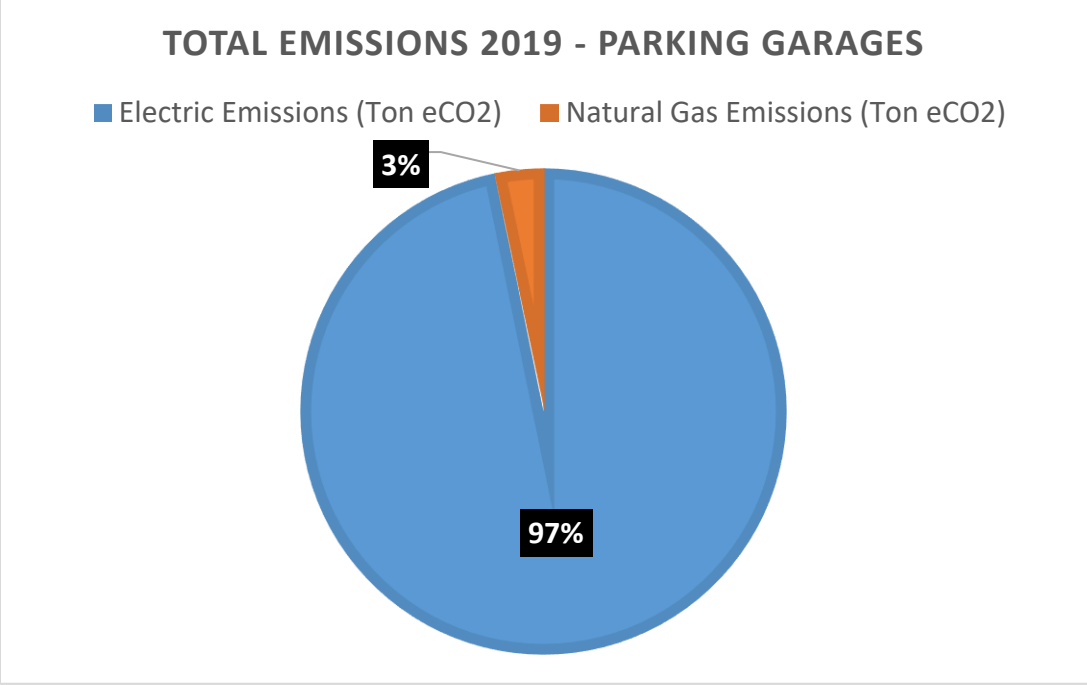
In 2019, natural gas consumption accounted for 1% of total energy consumption while electricity accounted for 99%. This is due to the small number of locations utilizing natural gas. Total energy consumption in 2019 was 14,262,853 ekWh.

Chart 49: 2019 Utility Consumption - Parking Garages



Natural gas GHG emissions account for roughly 3% of all GHG emissions while electricity accounts for roughly 97%. Parking garages produced 425 Ton eCO_2 in 2019.

Chart 50: 2019 Emissions - Parking Garages

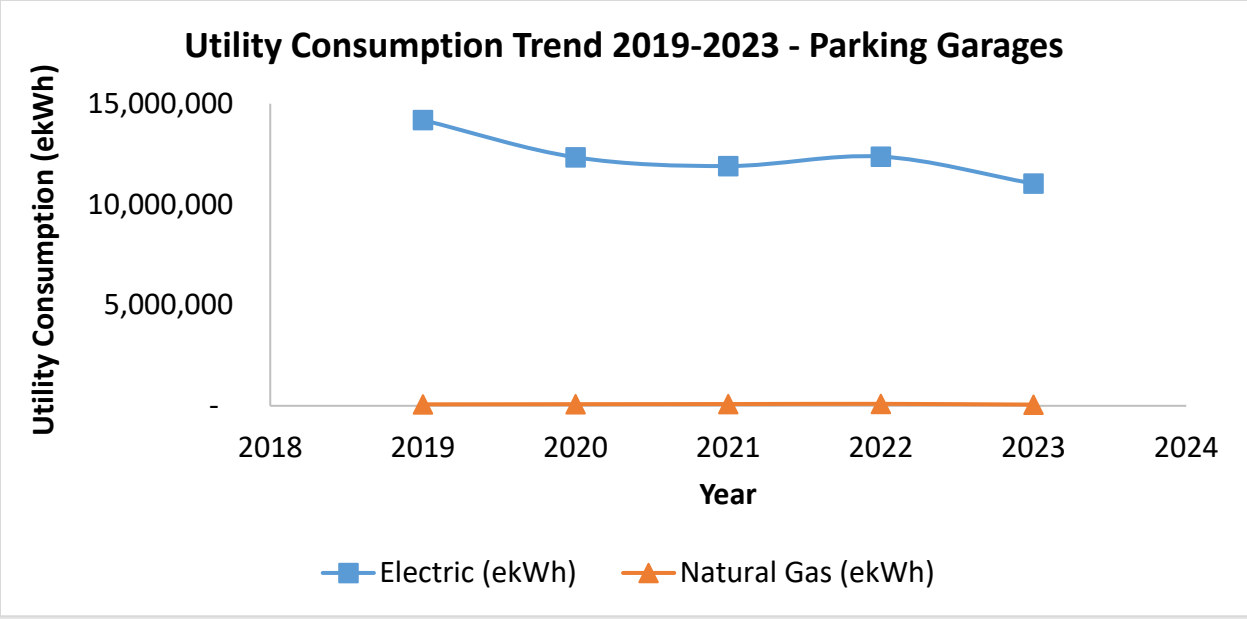


2019-2023 Energy Consumption and GHG Emissions

Six locations underwent electrical energy efficiency retrofits, totaling $528,346. All retrofits were completed in 2023.

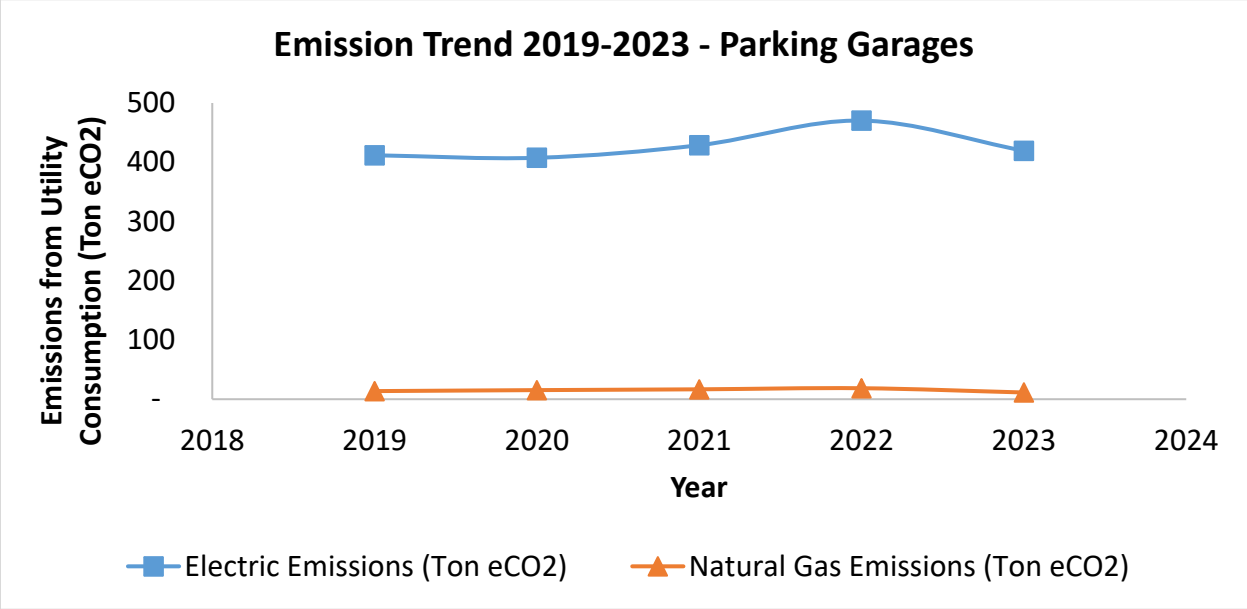
During the 2019-2023 period electricity consumption decreased until 2023 while natural gas consumption increased from 2019 to 2022 then decreased below 2019 levels in 2023.

Chart 51: 2019-2023 Utility Consumption - Parking Garages



GHG emissions for natural gas follow the consumption increase and decrease trend from the previous chart, while the emissions for electricity increased in 2021 and 2022 then decreased again in 2023.

Chart 52: 2019-2023 Emissions - Parking Garages



Although electricity consumption for each year decreased compared to 2019 levels, GHG emissions increased. This can be attributed to the increase in the emissions factor for electricity.

Table 33: Energy and GHG emissions Change from 2019 - Long Term Care Homes

2020 Change from 2019 (%)		2021 Change from 2019 (%)		2022 Change from 2019 (%)		2023 Change from 2019 (%)	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-13%	-1%	-16%	5%	-13%	15%	-22%	1%

Police Stations and Related Facilities

The City of Toronto is reporting on 37 police stations and related facilities for a total area of 2,410,298 ft^2. Note that consumption ended for Public Order at 4610 Finch Ave. E. in 2023 because the site is being repurposed for a long-term care home.

These locations are operated by Police Services, and most are police stations, which operate 24/7, but also included are the Police Academy, office facilities and storage spaces.

Police Headquarters utilizes chilled water for building cooling, while all other facilities utilize either electricity or natural gas for space cooling and heating.

Table 34: Police Stations and Related Facilities Locations

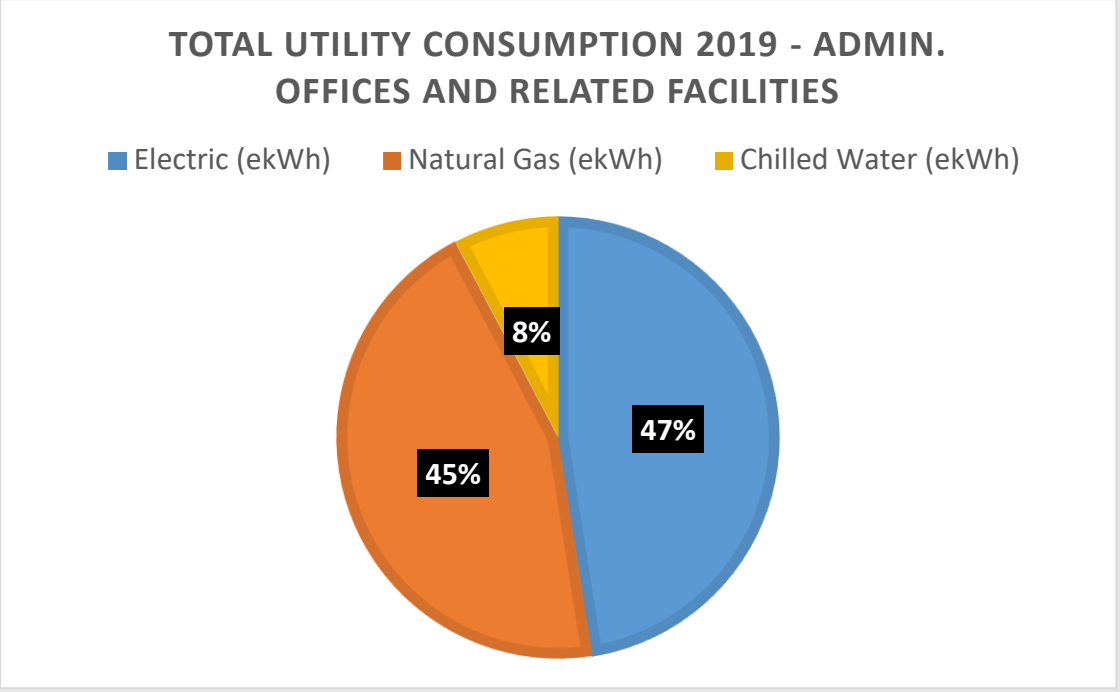
Locations Name	Address	Floor Area (ft^2)
#11 Police Division	2054 Davenport Rd.	62,000
#12 Police Division	200 Trethewey Dr.	25,780
#13 Police Division	1435 Eglinton Ave. W.	20,344
#14 Police Division	350 Dovercourt Rd.	64,200
#22 Police Division	3699 Bloor St. W.	32,270
#23 Police Division	5230 Finch Ave. W.	57,264
#31 Police Division	40 Norfinch Dr.	35,489
#32 Police Division	30 Ellerslie Ave.	47,652
#33 Police Division	50 Upjohn Rd.	27,889
#41 Police Division	2222 Eglinton Ave. E.	51,080
#42 Police Division	242 Milner Ave.	36,620
#43 Police Division	4331 Lawrence Ave. E.	55,450
#51 Police Division	51 Parliament St.	56,000
#52 Police Division	255 Dundas St. W.	71,677
#53 Police Division	75 Eglinton Ave. W.	52,183
#54 Police Division (#55 Subunit)	41 Cranfield Rd.	23,358
#55 Police Division	101 Coxwell Ave.	23,519
25 Via Renzo Drive	25 Via Renzo Dr.	13,186
Centre Island Police Division	31 Avenue of the Islands	1,001
Cherry Beach Lifeguard Station	0 Cherry St.	680
Detective Services Building	160 Duncan Mill Rd.	24,000
Emergency Task Force	300 Lesmill Rd.	35,995

Locations Name	Address	Floor Area (ft^2)
Forensic Service, Store & Garage	2050 Jane St.	62,484
Humber Bay Lifeguard Station	225 Humber Bay Park Rd. W.	1,830
Intelligence Bureau	2 Dyas Rd.	70,547
Leuty Beach Lifeguard Station	77 Kewbeach Ave.	1,000
PMMD Materials Management & Stores	799 Islington Ave.	43,992
Police Academy	70 Birmingham St.	302,735
Police Dog Service	44 Beechwood Dr.	9,440
Police Garage	18 Cranfield Rd.	33,024
Police Headquarters	40 College St.	425,000
Police Marine HQ	259 Queens Quay W.	23,035
Property Evidence	791 Islington Ave.	7,492
Property Evidence Unit	330 Progress Ave.	287,752
Public Order	4610 Finch Ave. E.	8,342
Radio, Electronics and Telecom	951 Wilson Ave.	18,000
Traffic Services and Garage	9 Hanna Ave.	297,988

2019 Energy Consumption and GHG Emissions

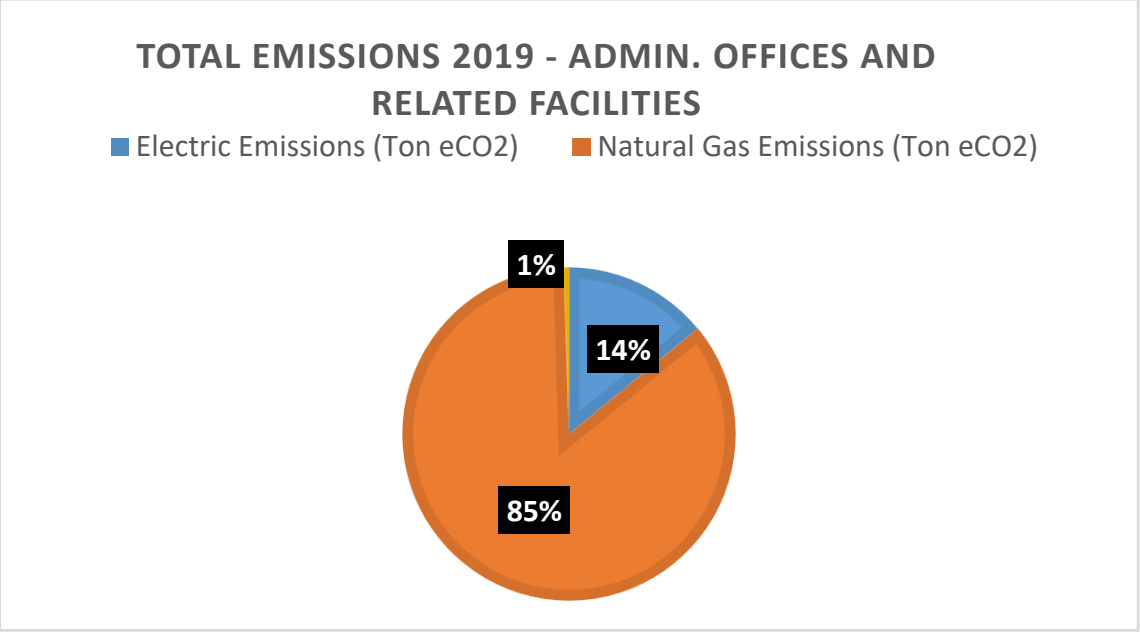
In 2019, the largest utility consumption was electricity, accounting for 47% of total utility consumption. This was followed by natural gas at 45% of total utility consumption. Note that chilled water at Police Headquarters accounts for 8% of total utility consumption. Police stations and related facilities consumed 83,416,536 ekWh of energy in 2019.

Chart 53: 2019 Utility Consumption - Police Stations and Related Facilities



Despite accounting for the most utility consumption, electricity is only responsible for 14% of total emissions. Chilled water accounts for 1% of all emissions. Natural gas is responsible for 85% of total emissions. Police facilities and related facilities produced 8,171 ton eCO_2 in 2019.

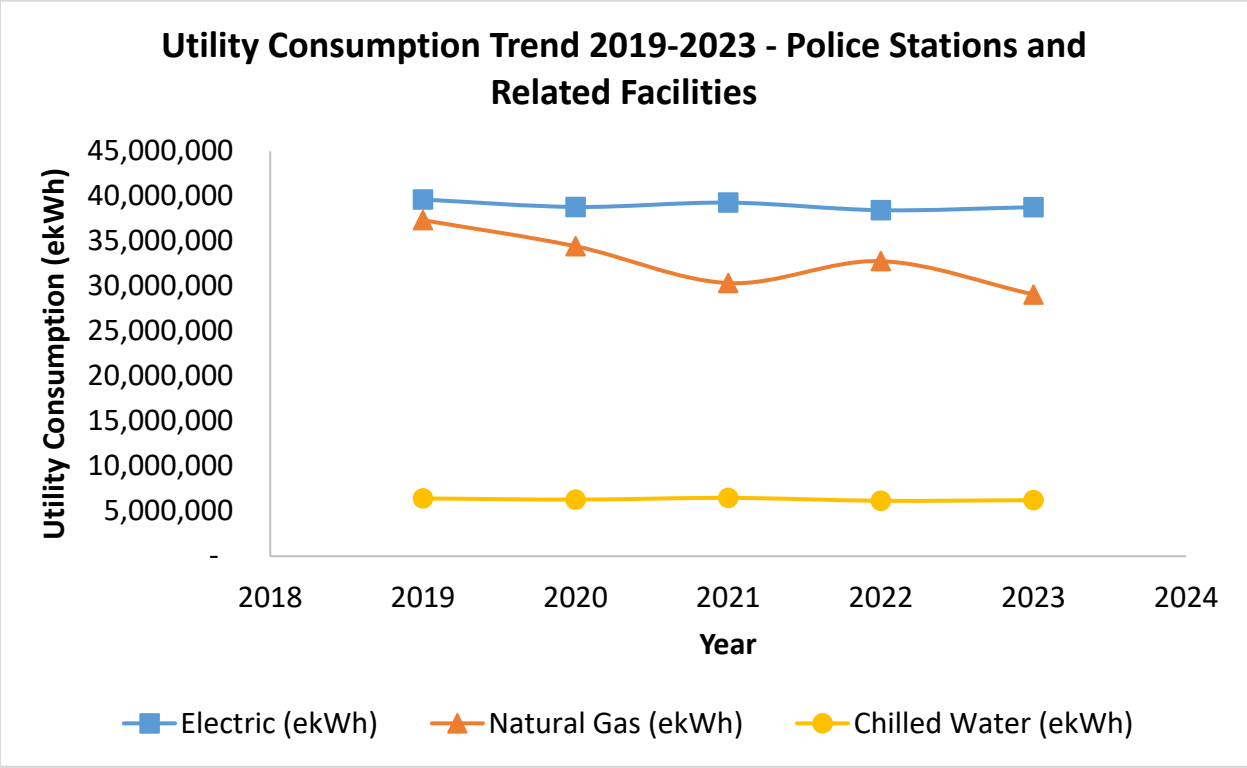
Chart 54: 2019 Emissions - Police Stations and Related Facilities



2019-2023 Energy Consumption and GHG Emissions

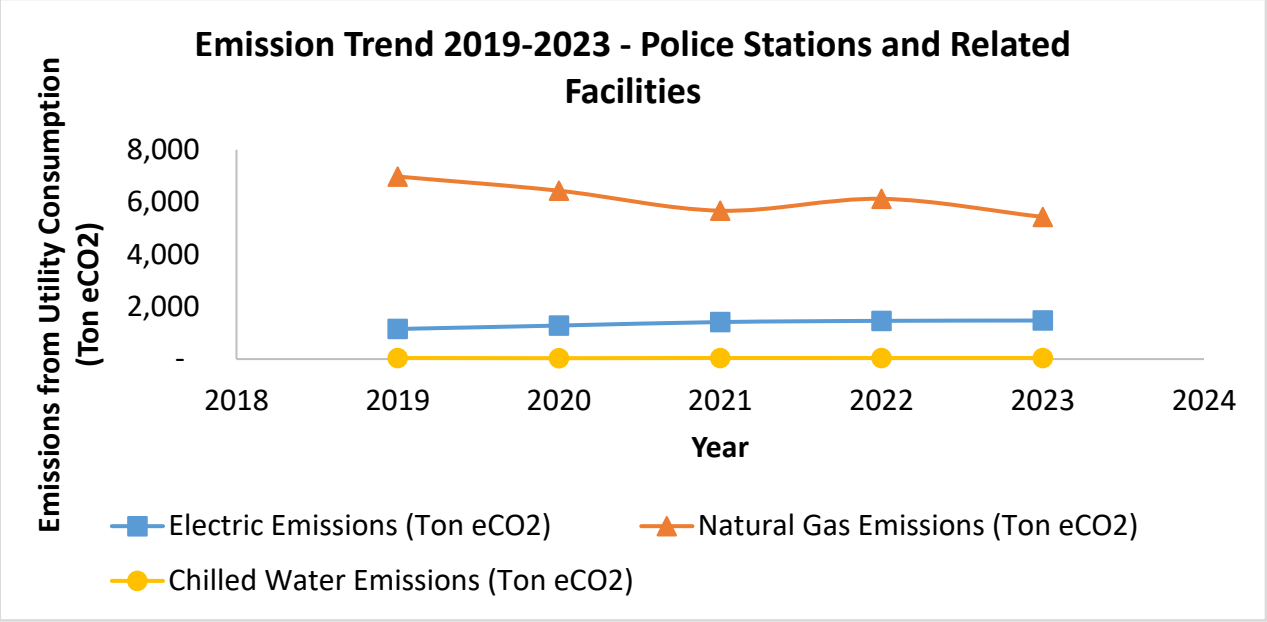
Electricity and chilled water consumption at police stations and related facilities have remained constant between 2019-2023. Natural gas consumption saw a decrease until 2021, then a slight increase in 2022, before trending downwards in 2023.

Chart 55: 2019-2023 Utility Consumption - Police Stations and Related Facilities



GHG emissions for electricity, chilled water and natural gas consumption follow the same trends as energy consumption trends in the previous chart. Natural gas emissions decrease with a low in 2021, a slight increase in 2022, and then a decrease in 2023. Electricity and chilled water emissions remain constant.

Chart 56: 2019-2023 Emissions - Police Stations and Related Facilities



Police stations and related facilities were able to decrease their energy consumption and GHG emissions compared to the 2019 base levels and each year overall. The largest decrease was seen in 2023 with a consumption and GHG emissions reduction of 11% and 15% respectively.

Table 35: Energy and GHG emissions Change from 2019 - Police Stations and Related Facilities

2020 Change from 2019 (%)		2021 Change from 2019 (%)		2022 Change from 2019 (%)		2023 Change from 2019 (%)	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-5%	-5%	-9%	-13%	-7%	-7%	-11%	-15%

Featured Building - 300 Progress Ave

300 Progress Ave will be home to City of Toronto's new Paramedic Services Multifunction Paramedic Station. This building is targeting Net Zero energy consumption. The vehicle bay will have spaces for 40 ambulances and 20 supervisor vehicles, including support spaces for logistics technicians. Vestibules are being introduced to decrease the high rates of energy loss through overhead doors. This building will be the first ambulance facility in Canada to do so, resulting in conservation of 17% of the entire building's energy.

The architectural design of the building hosts a tilt of the south solar wall, which will additionally conserve 17% of the entire building's energy. This will help by pre-heating make-up air, resulting in conservation of energy. In addition to this feature, the design also includes a high-performance building envelope, photovoltaic roof panels which will produce electricity on site and hydronic floors that will heat the building from the borehole energy storage system.

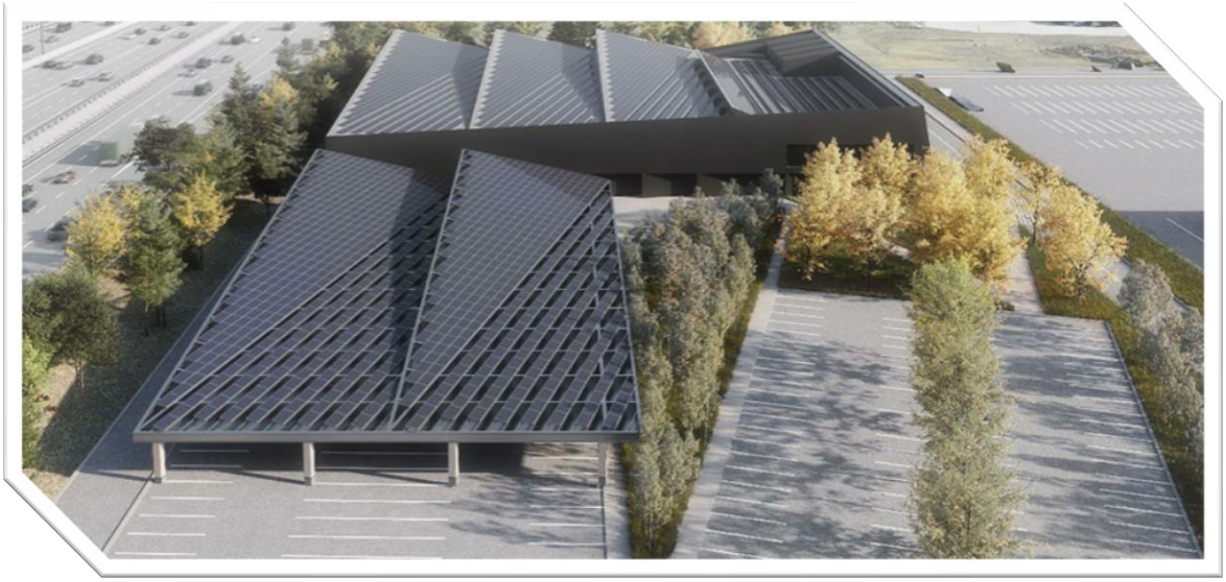


Figure 7: 300 Progress Ave

Public Libraries

The City of Toronto is reporting on 90 public libraries and related facilities with a total area of 1,768,392 ft^2. Bridlewood Library at 2900 Warden Ave. was added to the portfolio in 2022 while Bayview Library was removed in 2023 and relocated as Ethennonnhawahstihnen' CRC & Library.

Most of the reported buildings are library branches, but administrative offices and storage locations are also included.

These locations are managed by the Toronto Public Library, and they represent the largest library system in Canada and the busiest urban public library system in the world. As of 2017, the TPL's collection consisted of over 10.6 million items including books, CDs, DVDs and eBooks, which were borrowed over 30.1 million times. Aside from its lending collection, the TPL hosts programs and classes throughout the year in a variety of areas including, but not limited to:

- Author talks and lectures,

- Book clubs and writer's groups,
- Career counseling and job searches,
- Computer training courses,
- ESL and newcomer programs,
- Health and wellness classes,
- Personal finance classes,
- Adult literacy programs.

All 90 reported locations utilize electricity and most utilize natural gas. At all other locations, natural gas is used for space heating and/or domestic hot water heating.

Table 36: Public Libraries Locations

Locations Name	**Address**	**Floor Area (ft^2)**
Agincourt Library	155 Bonis Ave.	27000
Albert Campbell Library	496 Birchmount Rd.	26100
Albion Library	1515 Albion Rd.	29000
Amesbury Park Library	1565 Lawrence Ave. W.	6320
Annette Street Library	145 Annette St.	7806
Barbara Frum Library	20 Covington Rd.	39223
Beaches Library	2161 Queen St. E.	8000
Bendale Library	1515 Danforth Rd.	8500
Bayview Library	2901 Bayview Ave - 123A	6333
Black Creek Library	1700 Wilson Ave.	5782
Bloor Gladstone Library	1101 Bloor St. W.	20627
Brentwood Library	36 Brentwood Rd. N.	17500
Bridlewood Library	2900 Warden Ave.	8000
Brookbanks Library	210 Brookbanks Dr.	7933
Cedarbrae Library	545 Markham Rd.	31506
Centennial Library	578 Finch Ave. W.	6866

Locations Name	Address	Floor Area (ft^2)
Cliffcrest Library	3017 Kingston Rd.	4859
College Shaw Library	766 College St.	7684
Danforth Coxwell Library	1675 Danforth Ave.	9617
Davenport Library	1246 Shaw St.	3604
Dawes Road Library	416 Dawes Rd.	6740
Deer Park Library	40 St Clair Ave. E.	16558
Don Mills Library	888 Lawrence Ave. E.	21563
Downsview Library	2793 Keele St.	20016
Dufferin St Clair Library	1625 Dufferin St.	11208
East Service Building	1076 Ellesmere Rd.	20040
Eatonville Library	430 Burnhamthorpe Rd.	12203
Eglinton Square Library	1 Eglinton Sq.	10000
Elmbrook Park Library	2 Elmbrook Cres.	3600
Evelyn Gregory Library	120 Trowell Ave.	6200
Fairview Mall Library	35 Fairview Mall Dr.	69458
Fort York Library	190 Fort York Blvd.	16008
Gerrard Ashdale Library	1432 Gerrard St. E.	6504
Goldhawk Park Library	295 Alton Towers Circle.	8000
Guildwood Library	123 Guildwood PkWy.	3010
High Park Library	228 Roncesvalles Ave.	8850
Highland Creek Library	3550 Ellesmere Rd.	7000
Hillcrest Library	5801 Leslie St.	7473
Humber Bay Library	200 Park Lawn Rd.	2400

Locations Name	Address	Floor Area (ft^2)
Humber Summit Library	2990 Islington Ave.	9040
Jane & Dundas Library	620 Jane St.	11955
Jane Sheppard Library	1906 Sheppard Ave. W.	7000
Jones Library	118 Jones Ave.	3636
Kennedy Eglinton Library	2380 Eglington Ave. E.	6713
Leaside Library	165 McRae Dr.	12000
Lillian H Smith Library	239 College St.	38935
Locke Library	3083 Yonge St.	11647
Long Branch Library	3500 Lake Shore Blvd. W.	6418
Main Street Library	137 Main St.	8664
Maria A Shchuka Library	1745 Eglinton Ave. W.	25475
Maryvale Library	85 Ellesmere Rd.	4421
McGregor Park Library	2219 Lawrence Ave. E.	7793
Mimico Library	47 Station Rd.	17469
Morningside Library	292 Manse Rd.	7000
Mount Dennis Library	1123 Weston Rd.	11350
Mount Pleasant Library	599 Mount Pleasant Rd.	5829
New Toronto Library	110 Eleventh St.	9925
North York Admin Services	120 Martin Ross Ave.	28000
North York Central Library	5120 Yonge St.	168022
Northern District Library	40 Orchard View Blvd.	48654
Northern Elms Library	123 Rexdale Blvd.	3936
NY Central Pop-up Library	5150 Yonge St.	1600

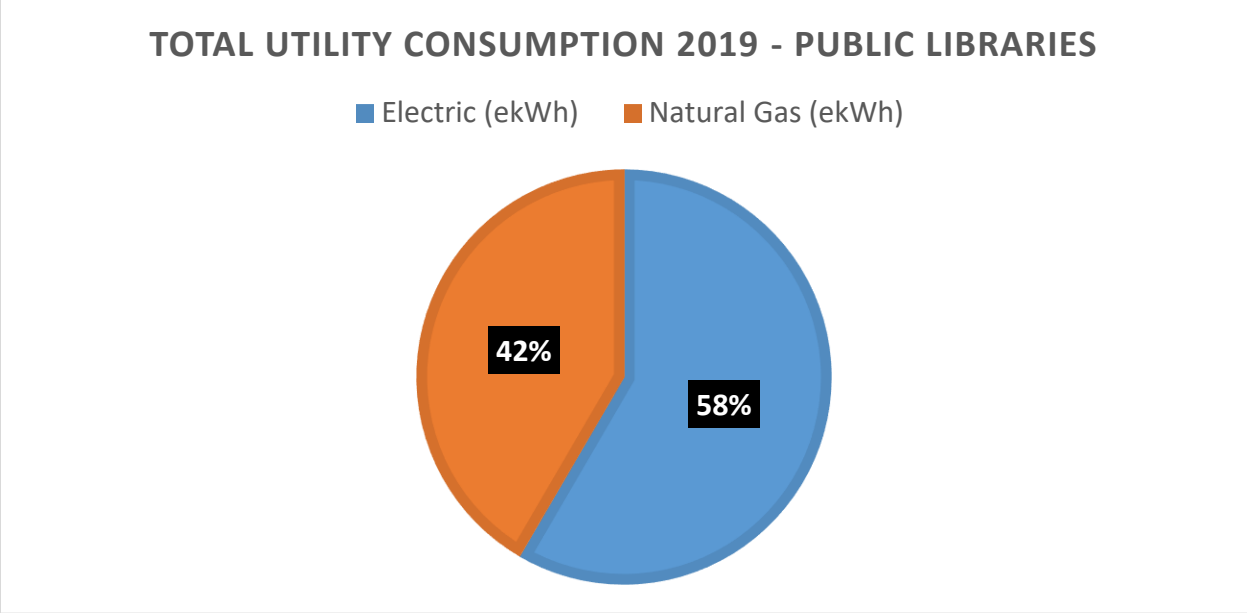
Locations Name	Address	Floor Area (ft^2)
OakWood Village Library	341 OakWood Ave.	17270
Palmerston Library	560 Palmerston Ave.	8493
Pape Danforth Library	701 Pape Ave.	8175
Parkdale Library	1303 Queen St. W.	24083
Parliament Library	269 Gerrard St. E.	14634
Perth Dupont Library	1589 Dupont St.	3627
Pleasant View Library	575 Van Horne Ave.	7000
Rexdale Library	2243 Kipling Ave.	5088
Richview Library	1806 Islington Ave.	47252
Riverdale Library	370 Broadview Ave.	9658
Runnymede Library	2178 Bloor St. W.	12034
S Walter Stewart Library	170 Memorial Park Ave.	25847
Sanderson Library	327 Bathurst St.	12702
Scarborough Civic Centre Library	156 Borough Dr.	14500
Spadina Road Library	10 Spadina Rd.	3952
St Clair Silverthorn Library	1748 St Clair Ave. W.	4587
St Lawrence Library	171 Front St. E.	4833
Steeles Library	375 Bamburgh Circle.	5509
Taylor Memorial Library	1440 Kingston Rd.	5000
Thorncliffe Library	48 Thorncliffe Park Dr.	11034
Toronto Reference Library	789 Yonge St.	426535
Victoria Village Library	184 Sloane Ave.	5383
Weston Library	2 King St.	11944

Locations Name	Address	Floor Area (ft^2)
Woodside Square Library	1571 Sandhurst Circle.	9792
Woodview Park Library	16 Bradstock Rd.	6658
Wychwood Library	1431 Bathurst St.	6381
York Woods Library	1785 Finch Ave W.	42176
Yorkville Library	22 Yorkville Ave.	9053

2019 Energy Consumption and GHG Emissions

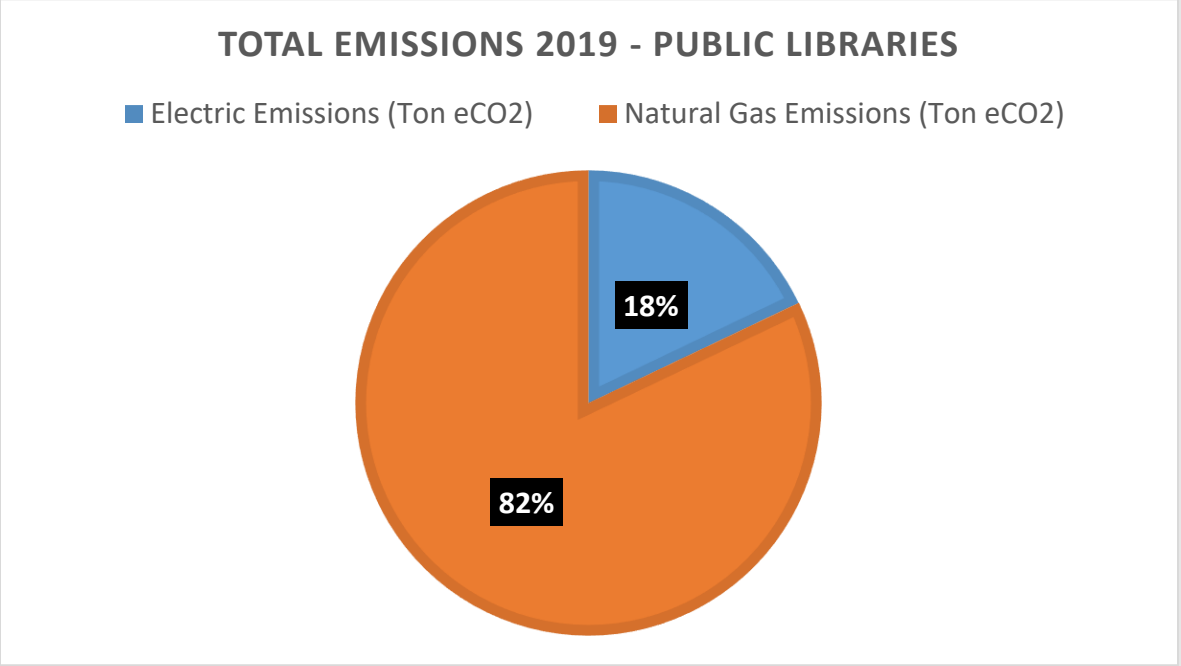
In 2019 the largest energy consumption was by electricity at 58%. Natural gas consumption comprised 42% of total energy consumption. Overall, public libraries consumed 55,923,549 ekWh of energy in 2019.

Chart 57: 2019 Utility Consumption - Public Libraries



Note that while electricity accounts for 58% of energy consumption, it only accounts for 18% of GHG emissions. Natural gas, which accounts for 42% of energy consumption, contributed 82% of total emissions. Overall, public libraries produced 5,297 Ton eCO2 in 2019.

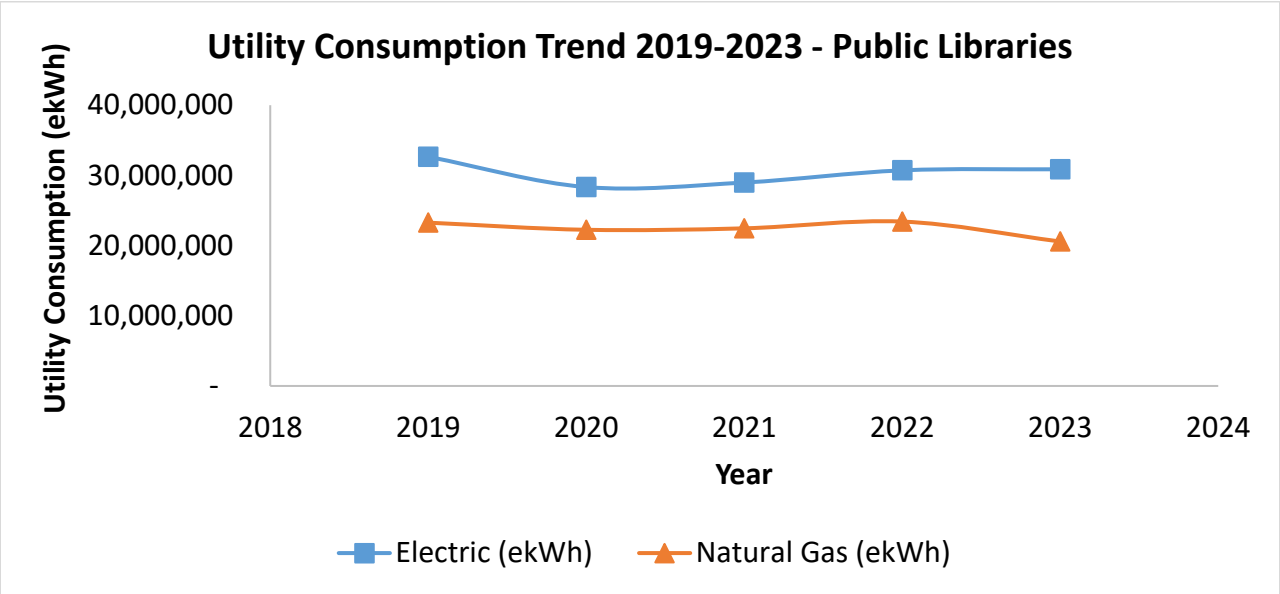
Chart 58: 2019 Emissions - Public Libraries



2019-2023 Energy Consumption and GHG Emissions

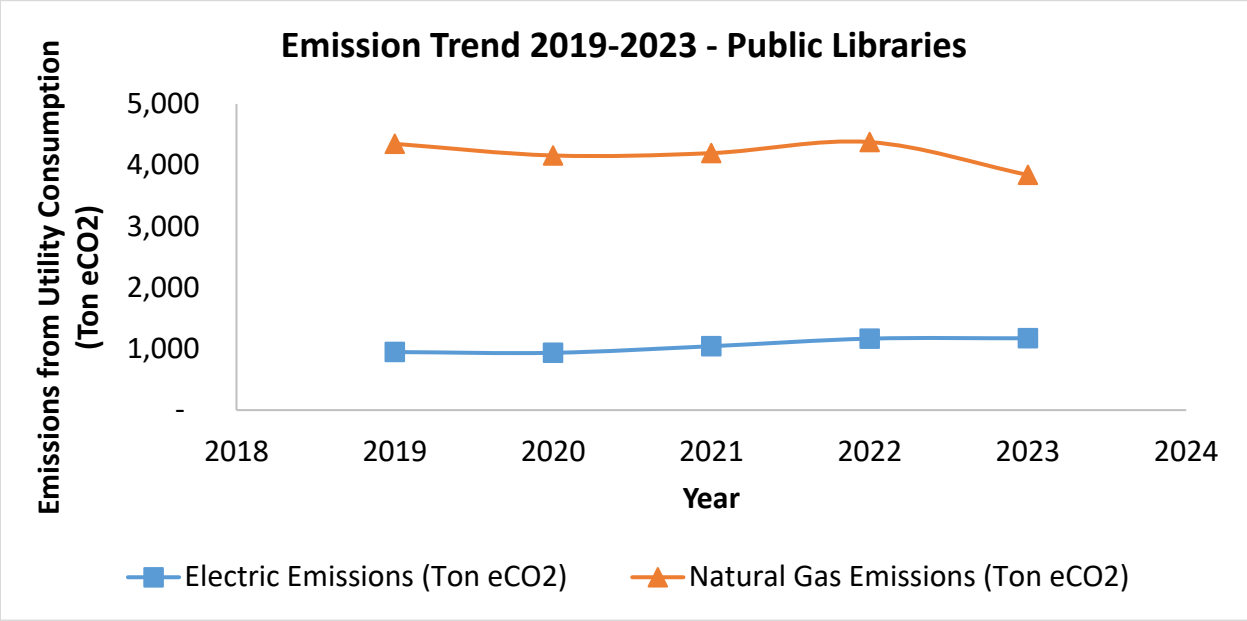
Between 2019-2023, electrical consumption was larger than natural gas consumption. Electricity consumption saw a decrease in 2019, with a low in 2020 corresponding to the pandemic, and then a slow but stable increase 2021 onwards. Natural gas consumption was relatively stable between 2019-2022, and then decreased after 2022.

Chart 59: 2019-2023 Utility Consumption - Public Libraries



Emissions trends for natural gas are consistent with consumption trends, with relative stability in 2022, and then a reduction in 2023. Gas emissions are still larger than electricity emissions. Electricity emissions also mirror consumption patterns, starting off stable between 2019 to mid-2020 and then gradually increasing.

Chart 60: 2019-2023 Emissions - Public Libraries



Public libraries were able to decrease their consumption and GHG emissions compared to the 2019 base levels and each year overall.

Table 37: Energy and GHG emissions Change from 2019 - Public Libraries and Related Facilities

2020 Change from 2019 (%)		2021 Change from 2019 (%)		2022 Change from 2019 (%)		2023 Change from 2019 (%)	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-10%	-4%	-8%	-1%	-3%	5%	-8%	-5%

Featured Building – Wychwood Library

Wychwood Library was closed for renovations from 2018 and reopened on October 3, 2022, with new building features. The reconstruction will preserve the building as heritage property which was originally built in 1916. There is an increase in total square footage from 6,381 sq. ft to now 17,000 sq. ft. The re-design of the current floor layout provides improved barrier-free access, with increased quiet study, lounge and reading spaces, including flexible spaces for collaboration. There are now separate zones for

adults, teens and children including an early literacy centre. There was a revitalization in all public service areas as well as increase in the number of washrooms and family-friendly washroom.

Wychwood Library introduced a new outdoor space to extend the library beyond the building, while connecting the community and revitalizing the streetscape. There is also indoor and outdoor amenity space to replace the Lawn Bowling field house. An exterior shed to house outdoor equipment was also constructed.

To learn more, see the Toronto Public Library website.

Figure 8: Wychwood Library

Sewage Treatment Plants

The City of Toronto is reporting on four sewage treatment plants with a total area of 880,488 ft^2 and 40 sewage pumping stations. Note that most pumping stations will show N/A, because floor area for pumping stations is not collected.

Sewage treatment plants are managed by Toronto Water, which collects and treats wastewater (sewage) in Toronto and manages bio-solids (organic material generated by wastewater treatment), including production and disposal. Toronto Water also manages sewage pumping stations, which are used in the treatment process to pump sewage.

Toronto's wastewater treatment process operates under strict regulations and meets or exceeds standards set by the provincial and federal government designed to protect public health and the environment.

Of the four sewage treatment plants described in this report, all currently consume both electricity and natural gas, the latter of which can be utilized for space heating and/or domestic hot water heating. For the 40 sewage pumping stations only, electricity is consumed.

Table 38: Sewage Treatment Plant Locations

Locations Name	**Address**	**Floor Area (ft^2)**
Algonquin Island Sewage Pumping Station	16 Wyandot Ave.	N/A
Baby Point Sewage Pumping Station	61 Humberview Rd.	N/A
Berry Rd Sewage Pumping Station	132 Berry Rd.	N/A
Brickyard Pumping Station	550 Bayview Ave.	N/A
Brule Gardens Sewage Pumping Station	0 Brule Gd.	N/A
Charles Caccia Park Pumping Station	348 Nairn	N/A
Copeland Sewage PS	1 Copeland St.	N/A
Cumber Sewage Pumping Station	5310 Lawrence Ave. E.	N/A
Ellis Ave Sewage Pumping Station	91 The Queensway	N/A
Fallingbrook Sewage Pumping Station	7 Fallingbrook Dr.	N/A
Grand River Sewage Pumping Station	104 Grand River Blvd.	N/A
Greyabbey Trail Sewage Pumping Station	144 Greyabbey Trl.	N/A
Highfield Sewage Pumping Station	1 Highfield Rd.	N/A

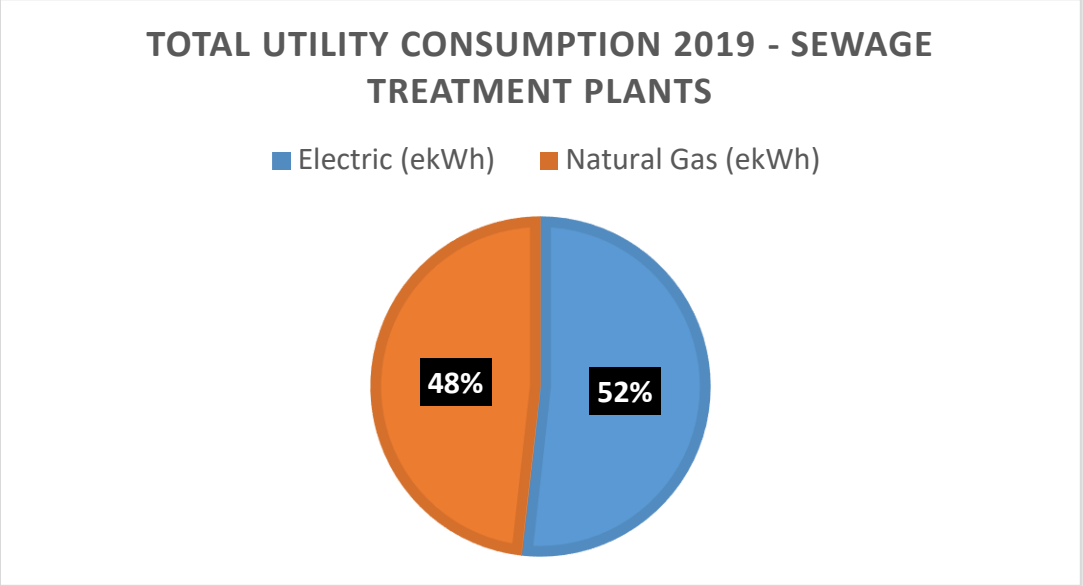
Locations Name	Address	Floor Area (ft^2)
Highland Creek Treatment Plant	51 Beechgrove Dr.	255,395
Humber Treatment Plant	130 The Queensway	224,869
Island Rd Sewage Pumping Station	251 Island Rd.	N/A
Kennedy Park Sewage Pumping Station	15 Birchview Cres.	N/A
Kingston Rd Sewage Pumping Station	3231 Kingston Rd.	N/A
Livingston Rd Sewage Pumping Station	42 Livingston Rd.	N/A
Long Branch Sewage Pumping Station	2 Forty Second St.	N/A
Main Treatment Plant	1091 Eastern Ave.	378,438
Martin Grove Sewage Pumping Station	1 Vulcan St.	N/A
Midland Sewage Pumping Station	21 Midland Ave.	N/A
Military Trail Sewage Pumping Station	451 Military Trl.	N/A
Mimico Sewage Pumping Station	9 Superior Ave.	N/A
New Toronto Pumping Station	31 Lake Shore Dr.	N/A
North Toronto Treatment Plant	21 Redway Rd.	21,786
Port Union Sewage Pumping Station	47 Lakeridge Dr.	N/A
Queensway Sewage Pumping Station	63 The Queensway	N/A
Redlands Sewage Pumping Station	1 Redland Cres. W.	N/A
Ridgevalley Sewage PS	21 Ridgevalley Cres.	N/A
Scott Sewage Pumping Station	6 Scott St.	N/A

Locations Name	Address	Floor Area (ft^2)
Sewells Rd Sewage Pumping Station	579 Sewells Rd.	N/A
Silver Birch Ave Sewage Pumping Station	1 Silver Birch Ave.	N/A
Southport St Sewage Pumping Station	5 Southport St.	N/A
Strachan Sewage Pumping Station	1 Strachan Ave.	N/A
Swansea Sewage Pumping Station	110 The Queensway	N/A
Todmorden Mills Pumping Station	51 Pottery Rd.	N/A
Valleymede Sewage Pumping Stn.	69 Ellis Park Rd.	N/A
Ward's Island Sewage Pumping Station	235 Cibola Ave.	N/A
Warren Park Sewage Pumping Station	6 Pasadena Gdns.	N/A
West Point Sewage Pumping Station	5310 Lawrence Ave. E.	N/A
West Rouge Sewage Pumping Station	6570 Lawrence Ave. E.	N/A
Wirral Crt Sewage Pumping Station	8 Wirral Crt.	N/A

2019 Energy Consumption and GHG Emissions

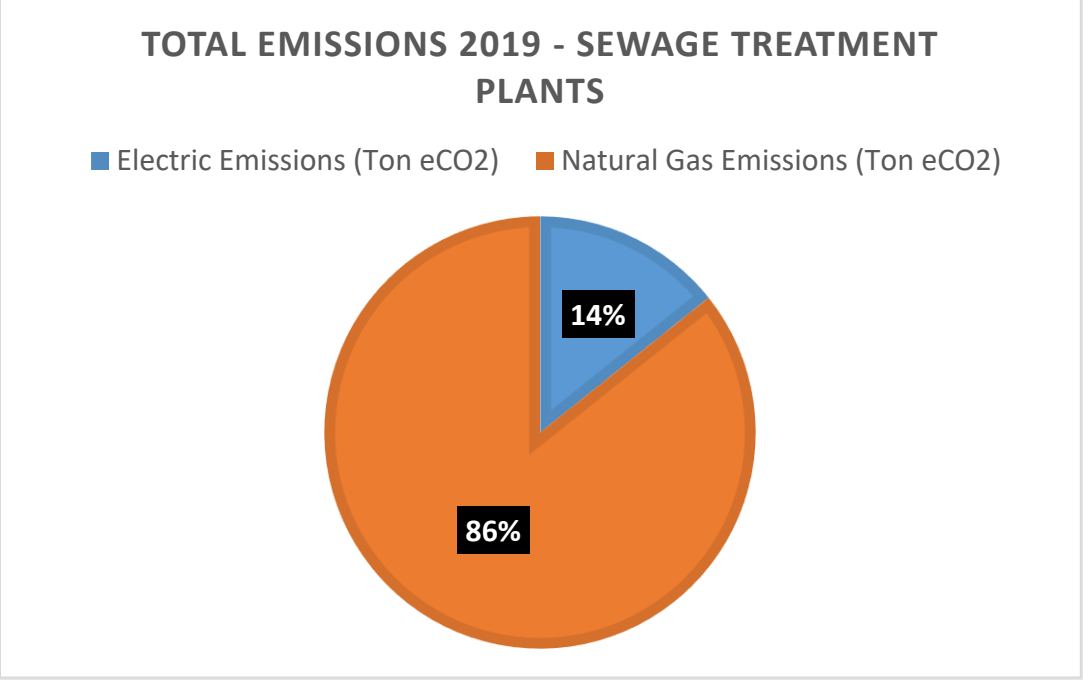
In 2019, electricity accounts for 52% of energy consumption, while gas is slightly less at 48%. Overall, sewage treatment plants consumed 438,745,632 ekWh of energy in 2019. The amount of energy consumed is to be expected given that these facilities operate 24/7 annually and that sewage treatment is an energy intensive process.

Chart 61: 2019 Utility Consumption - Sewage Treatment Plants



Given that natural gas accounts for approximately half of the energy consumption, it is to be expected that its emissions contributions will be significant. Natural gas accounts for 86% of total emissions, while electricity, which had slightly more consumption, contributes only 14% to emissions. Overall sewage treatment plants produced 46,136 Ton eCO_2 in 2019.

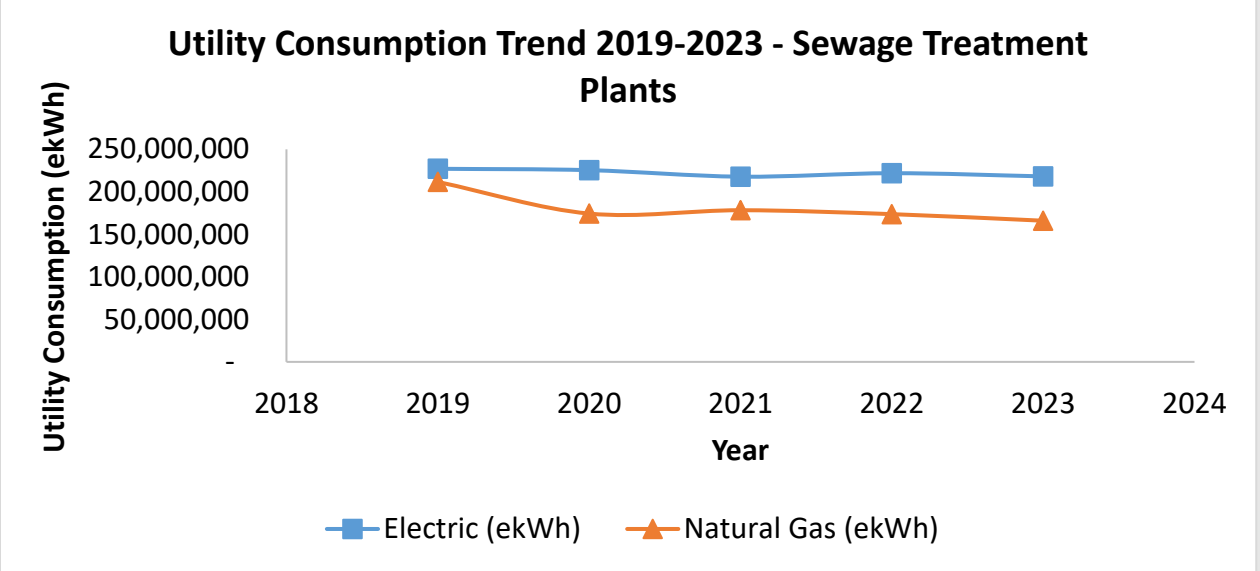
Chart 62: 2019 Emissions - Sewage Treatment Plants



2019-2023 Energy Consumption and GHG Emissions

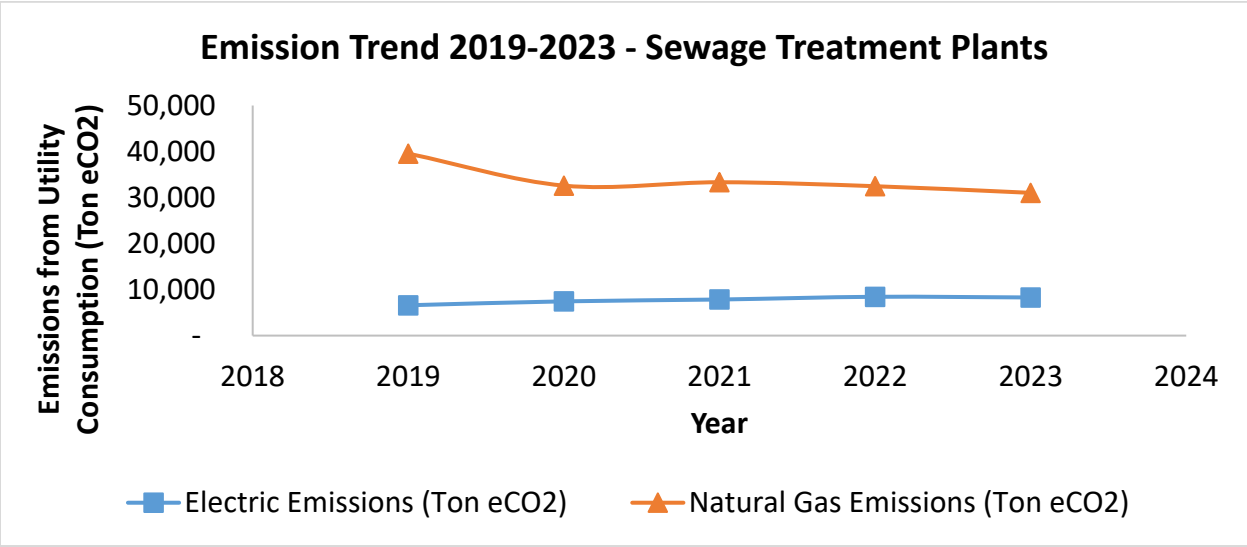
Between 2019-2023 electricity consumption was greater than natural gas consumption but remained relatively stable. Natural gas consumption saw a slight decrease in 2019, and then remained relatively stable.

Chart 63: 2019-2023 Utility Consumption - Sewage Treatment Plants



Natural gas emissions reflect consumption trends, with a reduction in 2019, and then a leveling off. Electricity emissions, which are significantly lower than natural gas emissions, remained relatively stable.

Chart 64: 2019-2023 Emissions - Sewage Treatment Plants



Sewage treatment plans were able to decrease their energy consumption and GHG emissions compared to the 2019 base levels for each year and overall. The largest decrease was seen in 2023, with a consumption and GHG emissions decrease of 12% and 15% respectively.

Table 39: Energy and GHG emissions Change from 2019 - Sewage Treatment Plants

2020 Change from 2019 (%)		2021 Change from 2019 (%)		2022 Change from 2019 (%)		2023 Change from 2019 (%)	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-9%	-13%	-10%	-11%	-10%	-11%	-12%	-15%

Toronto Shelter and Support Services

The City of Toronto is reporting on 29 Toronto Shelters and Support Services (TSSS) locations with a total floor area of 727,911 ft^2. Note that 25 Canterbury Pl. and 65 Dundas St. E. were added in 2022.

The 29 reported locations are managed by the Housing Secretariat division but note that they represent only a fraction of the shelter and respite services offered by the City of Toronto. Many sites are provider-owned/operated and the responsibility for energy use and management is that of the provider. This report will only describe those locations for which the City is solely responsible for the site's energy use and management.

TSSS operates and funds programs that deliver:

- emergency shelter, 24-hour respite and drop-in programs,
- wrap-around support services,
- street outreach

Of the 29 sites described in this report, all currently consume electricity and most consume natural gas. Natural gas would be utilized for space heating and/or domestic hot water heating.

Table 40: Toronto Shelters and Support Services Locations

Locations Name	Address	Floor Area (ft^2)
101 Placer Court	101 Placer Crt.	19,200

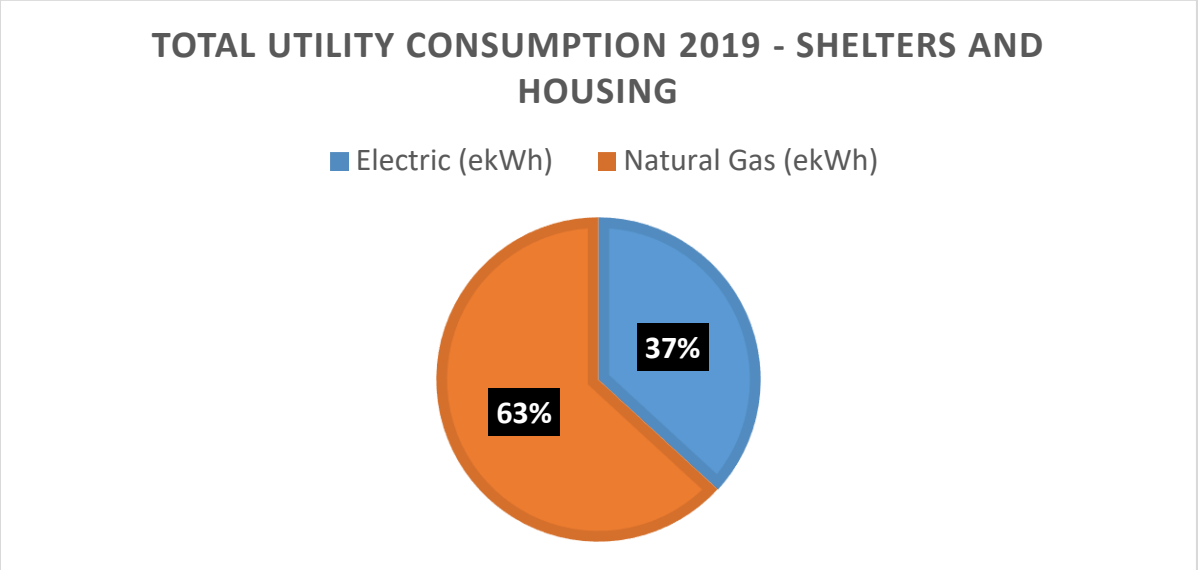
Locations Name	Address	Floor Area (ft^2)
1155 King St W (Respite)	69 Fraser Ave.	9,000
233 Carlton St (Drop-in Centre)	233 Carlton St.	12,754
25 Canterbury Pl	25 Canterbury Pl.	12,174
2985 Kingston Rd (EPIC Program)	2985 Kingston Rd.	8,530
5800 Yonge St	5800 Yonge St.	84,366
65 Dundas St E	65 Dundas St. E.	113,700
7 Wardlaw Cres	7 Wardlaw Cres.	1,470
9 Wardlaw Cres	9 Wardlaw Cres.	1,632
Adelaide Resource Centre for Women	67 Adelaide St. E.	15,888
Asquith Green Social Housing	21 Park Rd.	6,329
Assessment & Referral Ctr	129 Peter St.	11,780
Birkdale Residence	1229 Ellesmere Rd.	35,692
Dixon Hall Respite	351 Lake Shore Blvd. E.	10,000
Downsview Dell	1651 Sheppard Ave. W.	5,199
Family Residence	4222 Kingston Rd.	39,999
Fort York Residence	38 Bathurst St.	25,995
Fred Victor Respite	701 Fleet St.	9,000
GSR Transition Site (2299 Dundas)	2299 Dundas St. W.	22,648
GSR Transition Site (705 Progress)	705 Progress Ave.	26,730
GSR Transition Site (731 Runnymede Rd)	731 Runnymede Rd.	19,383
Homes First GSR Site	4117 Lawrence Ave. E.	14,634

Locations Name	Address	Floor Area (ft^2)
Islington Seniors' Shelter	2671 Islington Ave.	21,328
Robertson House	291 Sherbourne St.	19,795
Scarborough Village Residence	3306 Kingston Rd.	29,870
Seaton House	339 George St.	97,995
Warden Woods Respite	705 Progress Ave.	7,565
Women's Residence	674 Dundas St. W.	28,255
YWCA Women's Shelter	348 Davenport Rd.	17,000

2019 Energy Consumption and GHG Emissions

In 2019, natural gas comprised 63% of total energy use at shelters and related facilities, which electricity contributed to 37% of total energy consumption. Overall, shelters and related facilities consumed 21,450,204 ekWh of energy.

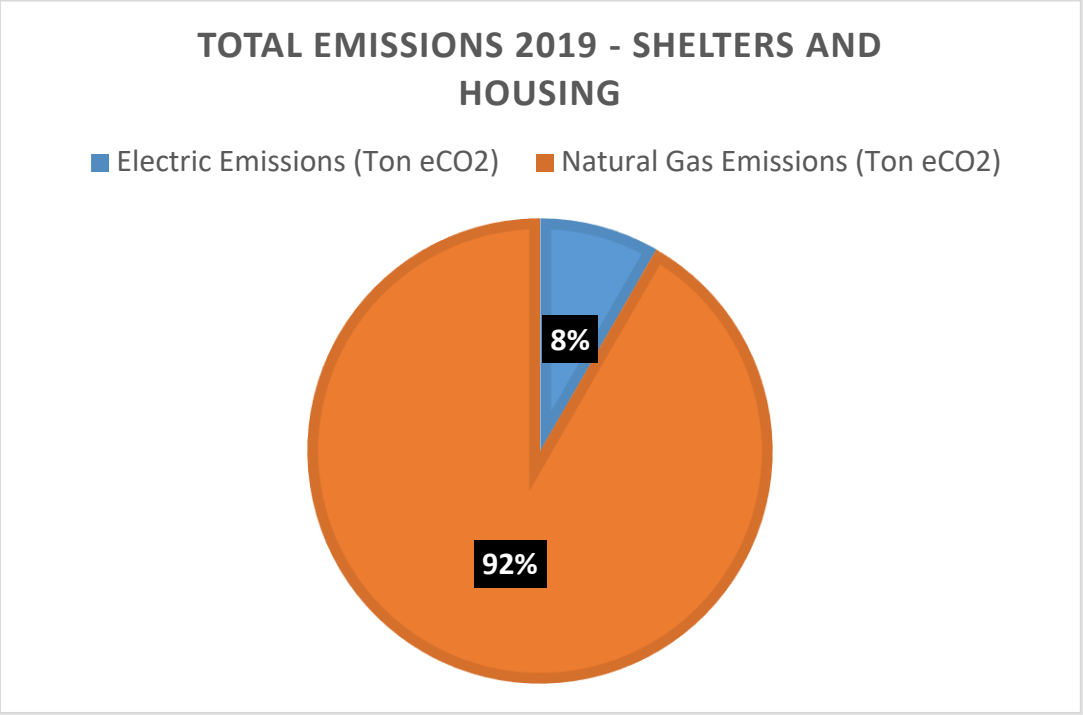
Chart 65: 2019 Utility Consumption - Toronto Shelter and Support Services



Given that natural gas consumption was significantly larger than electricity, it is to be expected that natural gas emissions will be significantly higher than electricity emissions. In 2019, natural gas consumption contributed to 92% of emissions at

shelters and related facilities, while electricity consumption contributed only 8%. Overall, shelters and related facilities produced 2,762 Ton eCO_2 in 2019.

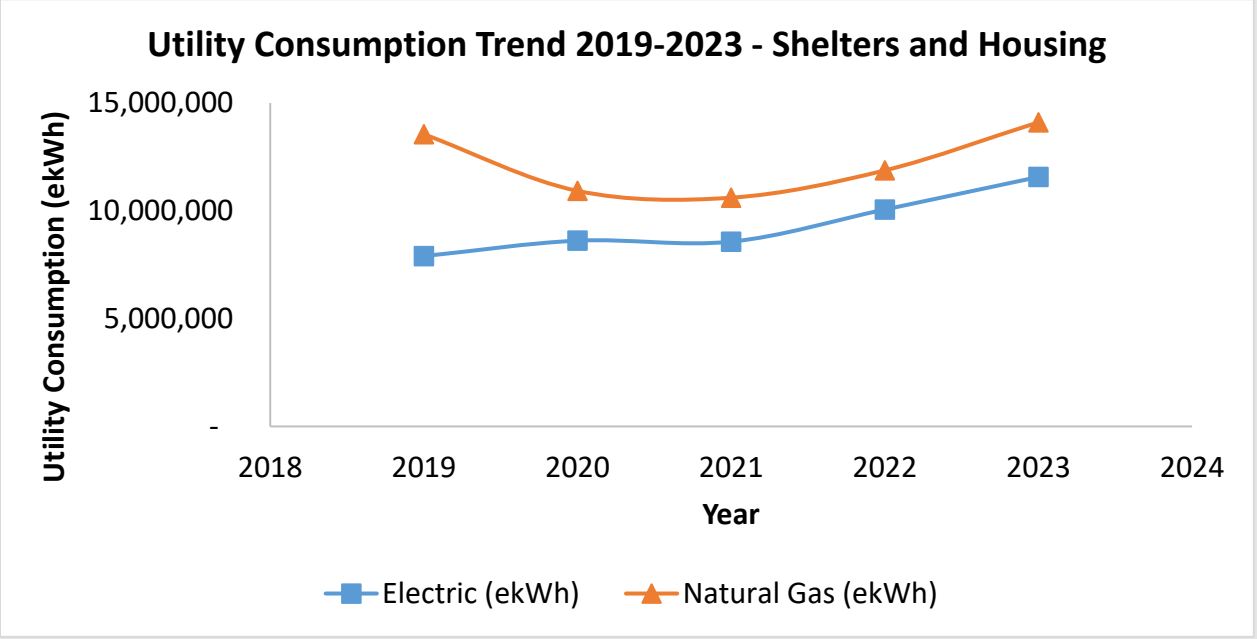
Chart 66: 2019 Emissions - Toronto Shelter and Support Services



2019-2023 Energy Consumption and GHG Emissions

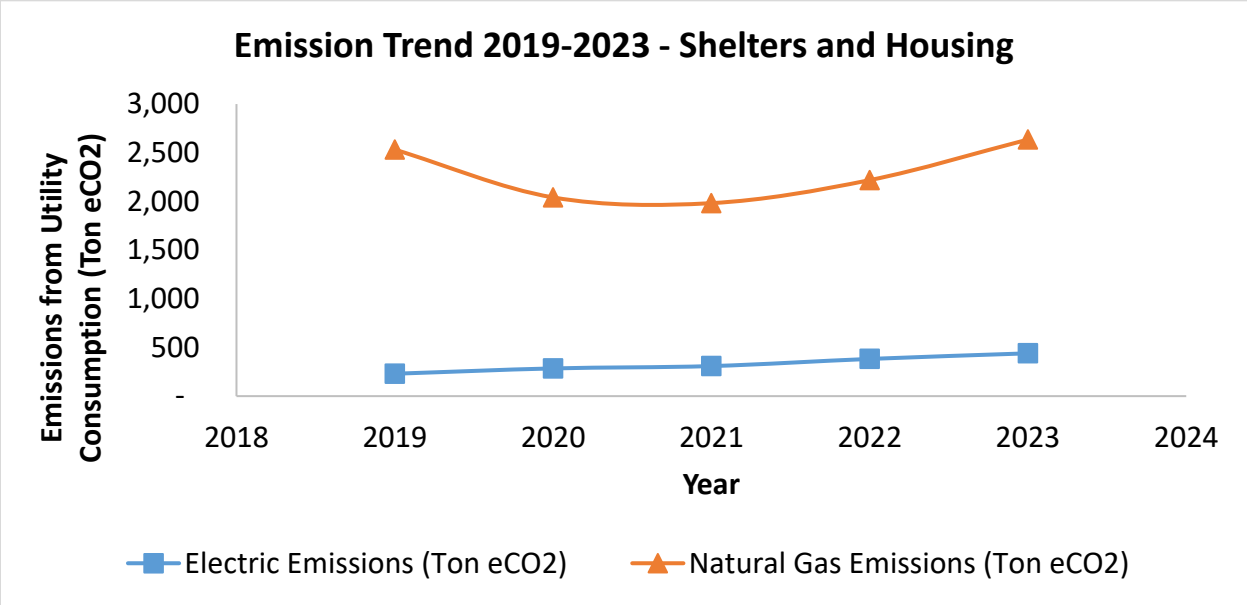
2019-2023 energy consumption trends show that natural gas consumption is greater than electricity consumption at shelters and related facilities. Natural gas consumption saw a decrease between 2019 and 2021, and then continued an upward trend. This is due to the addition of two new facilities in 2022. Electricity consumption was relatively stable between 2019 and 2021, and then also experienced an upward trend for the same reason.

Chart 67: 2019-2023 Utility Consumption - Toronto Shelter and Support Services



Emissions trends reflect consumption trends. Gas emissions experienced a reduction from 2019-2021, and then an increase from 2021-2023. Electricity emissions were relatively stable until 2021 but increased slightly between 2021-2023.

Chart 68: 2019-2023 Emissions - Toronto Shelter and Support Services



Shelters and related facilities were able to experience a decrease in consumption and GHG emissions compared to the 2019 base levels for each year and overall. The largest decrease for energy consumption was seen in 2023, with a reduction of 20%.

Table 41: Energy and GHG emissions Change from 2019 - Sewage Treatment Plants

2020 Change from 2019 (%)		2021 Change from 2019 (%)		2022 Change from 2019 (%)		2023 Change from 2019 (%)	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-9%	-16%	-11%	-17%	2%	-6%	20%	11%

Storage Facilities

The City of Toronto is reporting on 78 storage facilities with a total indoor area of 5,720,862 ft^2. Note that some of these sites have extensive outdoor space, which is not included in the floor areas listed or the energy analysis presented. Also note that utility consumption for McNicoll Bus Garage was added to the portfolio in 2020.

The buildings in this group are managed by a variety of City of Toronto divisions and agencies including: Facilities Management, Parks, Forestry, & Recreation, Solid Waste Management, Toronto Transit Commission, Toronto Water and Toronto Parking Authority. These locations are primarily used for storage but may also include administrative space.

Of the 78 storage spaces in this report, all currently consume electricity and most consume natural gas. Natural gas would be utilized for space heating and/or domestic hot water heating.

Table 42: Storage Facilities Locations

Locations Name	**Address**	**Floor Area (ft^2)**
100 Rosedale Valley	100 Rosedale Valley Rd.	2,691
150 Disco Rd	150 Disco Rd.	10,570
1904 Brimley Rd.	1904 Brimley Rd.	301
545 Commissioners St	545 Commissioners St.	32,679
700 Arrow Rd	700 Arrow Rd.	230,000
705 Progress Ave (Library Storage)	705 Progress Ave.	5,001

Locations Name	Address	Floor Area (ft^2)
Alliance Overhead Shop	391 Alliance Ave.	34,952
Alness Yard	Alness St.	25,715
Bentworth Park Yard - Bldg. 1	140 Bentworth Ave.	5,554
Bentworth Park Yard - Bldg. 2	140 Bentworth Ave.	6,330
Bering Truck Shelter	330 Bering Ave.	8,633
Bering Yd - Admin (Bldg. E)	320 Bering Ave.	9,698
Bering Yd - Garage (Bldg. D)	320 Bering Ave.	7,589
Bering Yd - Maintenance (Bldg. B)	320 Bering Ave.	13,401
Bering Yd - Storage (Bldg. F)	320 Bering Ave.	9,881
Bering Yd - Warehouse (Bldg. A)	320 Bering Ave.	4,596
Bermondsey Yard - SWM	45 Old Eglinton Ave.	66,155
Bermondsey Yard - Transportation	195 Bermondsey Rd.	4,618
Birchmount Bus Garage	400 Danforth Rd.	150,996
Birchmount Park Yard	1901 Birchmount Rd.	15,317
Booth Avenue Yard	433 Eastern Ave.	236,645
Brimley Parks Yard	451 Brimley Rd.	2,809
Caledonia Road Service Yard	1141 Caledonia Rd.	1,981
Castlefield Yard	1401 Castlefield Ave.	36,447
Centennial Park Service Building	151 Elmcrest Rd.	1,023
Danforth Carhouse & Garage	1627 Danforth Ave.	62,834
Davisville Garage & Shop	1900 Yonge St.	120,450
Disco Blower Station	150 Disco Rd.	37,975

Locations Name	Address	Floor Area (ft^2)
Disco Yd Bldg. A- Employee Bldg.	150 Disco Rd.	7,998
Disco Yd Bldg. B- South Garage	150 Disco Rd.	28,029
Disco Yd Bldg. C- Vehicle Manit	150 Disco Rd.	22,959
Disco Yd Bldg. D- North Garage	150 Disco Rd.	24,445
Dufferin Maintenance Yard	75 Vanley Cres.	31,667
Eastern Ave Yard - Equipment Shop	875 Eastern Ave.	9,698
Eastern Ave Yard - Office	843 Eastern Ave.	84,701
Eglinton Flats Service Building	3700 Eglinton Ave. W.	5,705
Eglinton Garage	38 Comstock Rd.	120,986
Ellesmere Yard	1050 Ellesmere Rd.	138,069
Emery Parks Yard	27 Toryork Dr.	18,998
Finch Yard	1026 Finch Ave. W.	148,198
Former PMMD Warehouse	160 Rivalda Rd.	22,604
Hamilton Street Yard	138 Hamilton St.	2,756
Hillcrest, Gunn, Bathurst Garage	1130 Bathurst St.	295,000
Ingram Yard	86 Ingram Dr.	23,907
Joel Weeks Park - Storage Bldg.	10 Thompson St.	183
King St Yard	1116 King St. W.	83,485
Kipling Yard - PF&R	441 Kipling Ave.	27,373
Kipling Yard - Toronto Water	435 Kipling Ave.	11,001
L'Amoreaux Park Yard	3079 Birchmount Rd.	1,690
Lakeshore Garage & Shop	580 Commissioners St.	305,356

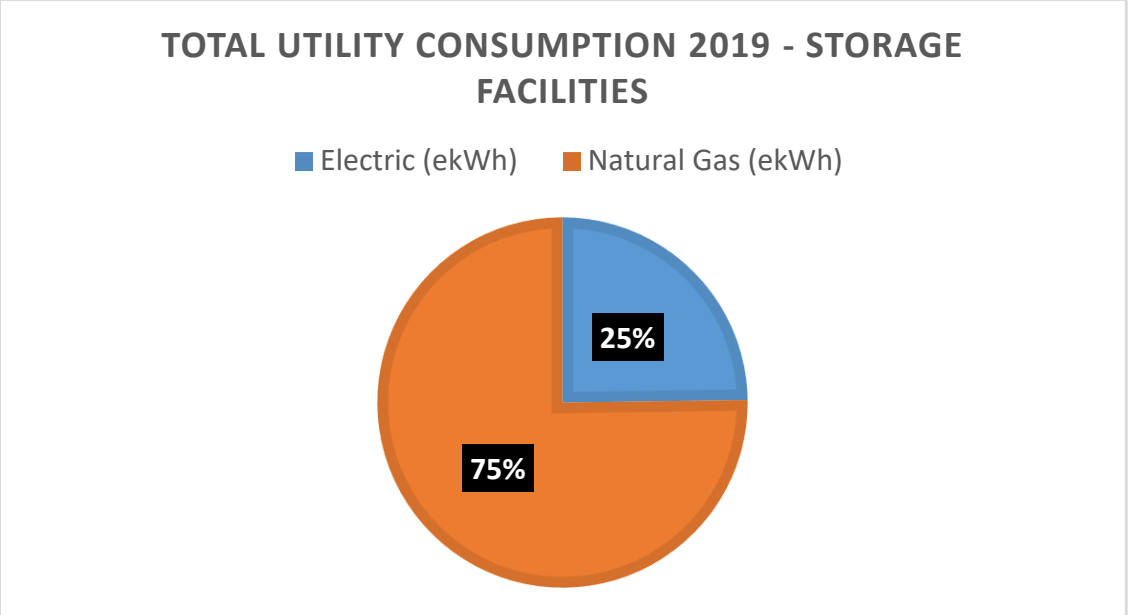
Locations Name	Address	Floor Area (ft^2)
Leslie Barns	1165 Lake Shore Blvd. E.	279,862
Leslie Yard	7 Leslie St.	6,135
Maintenance Yard #7	100 Turnberry Ave.	11,862
Malvern Garage & Shop	5050 Sheppard Ave. E.	574,125
Marylin Bell Park Water Equipment Shed	1095 Lake Shore Blvd. W.	700
McNicoll Bus Garage	225 Milliken Blvd.	830,283
Merton Yard & Sprint Office	140 Merton St.	32,044
Morningside Yard	891 Morningside Ave.	14,779
Mt. Dennis Bus Garage	121 Industry St.	710,493
Murray Yard	64 Murray Rd.	38,760
Nashdene Yard	70 Nashdene Rd.	24,176
Northern Services Building	4801 Dufferin St.	5,769
Northline Parks and Garage	30 Northline Rd.	50,041
Oriole Yard	2751 Old Leslie St.	26,759
Oriole Yard (PF&R)	2747 Old Leslie St.	13,046
Pharmacy Yard	125 Pharmacy Ave.	1,851
Property Operation Garage	131 River St.	12,034
Queensway Garage & Shop	400 Evans Ave.	123,426
Rockcliffe Yard	305 Rockcliffe Blvd.	14,047
Russell Carhouse	1411 Queen St. E.	232,619
Sixth St Garage	297 Sixth St.	6,997

Locations Name	Address	Floor Area (ft^2)
Toronto Island Service Yard	0 Centre Isld.	34,724
Toryork Yard	61 Toryork Dr.	26,404
Train Storage Building	20 Centre Rd.	30,849
Wellington Yard & Office	677 Wellington St. W.	2,164
Whitlam Warehouse	25 Whitlam Ave.	24,865
Winter Maintenance Depot	8270 Sheppard Ave. E.	12,152
Yonge Street Yard	1008 Yonge St.	20,247

2019 Energy Consumption and GHG Emissions

In 2019 the largest energy consumption was natural gas which accounts for 75% of total energy consumption, followed by electricity at 25%. Storage facilities consumed 254,120,572 ekWh of energy in 2019.

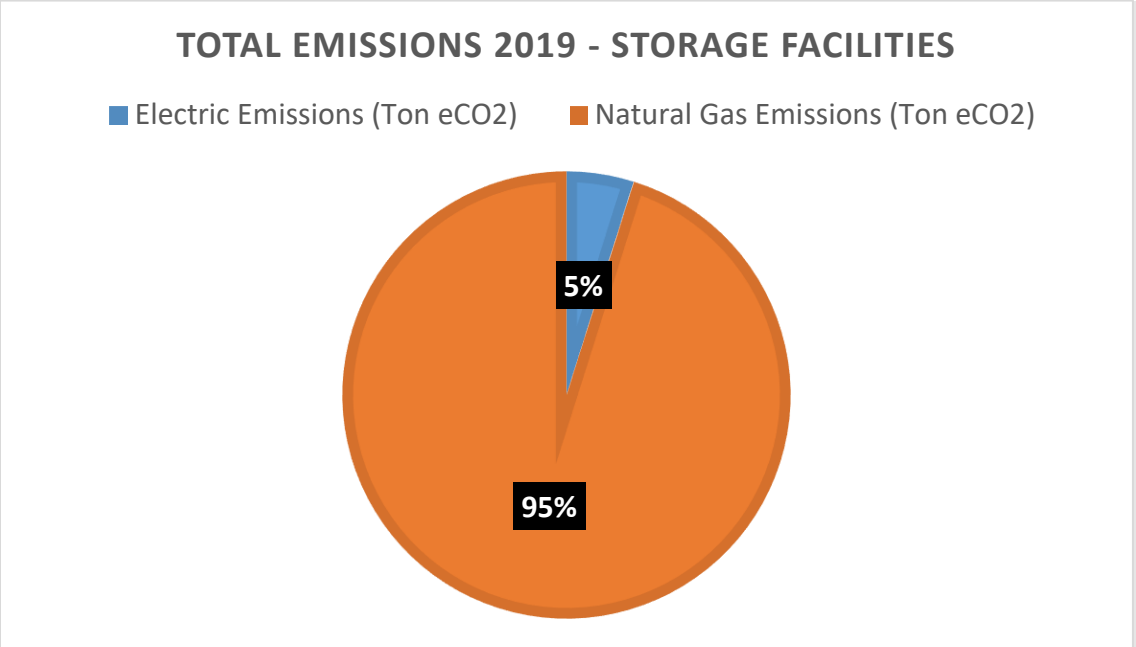
Chart 69: 2019 Utility Consumption - Storage Facilities



Given that natural gas accounts for most of the energy consumption, it follows that it also accounts for the majority of GHG emissions. Overall, natural gas contributed 95%

to emissions, while electricity contributed 5%. Storage facilities produced 37,547 Ton eCO_2 in 2019.

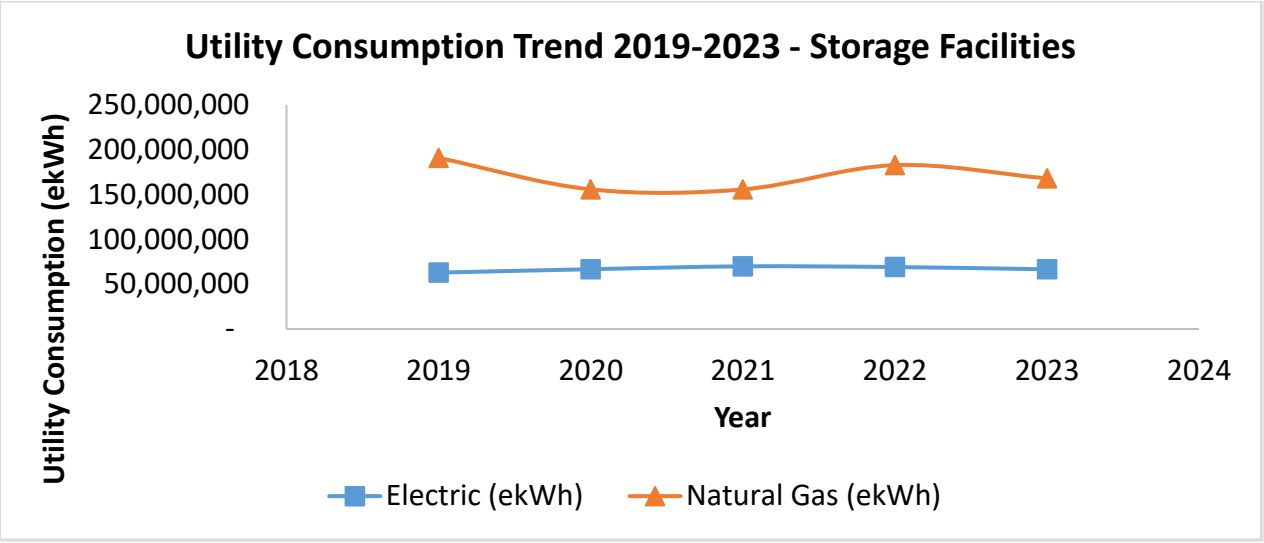
Chart 70: 2019 Emissions - Storage Facilities



2019-2023 Energy Consumption and GHG Emissions

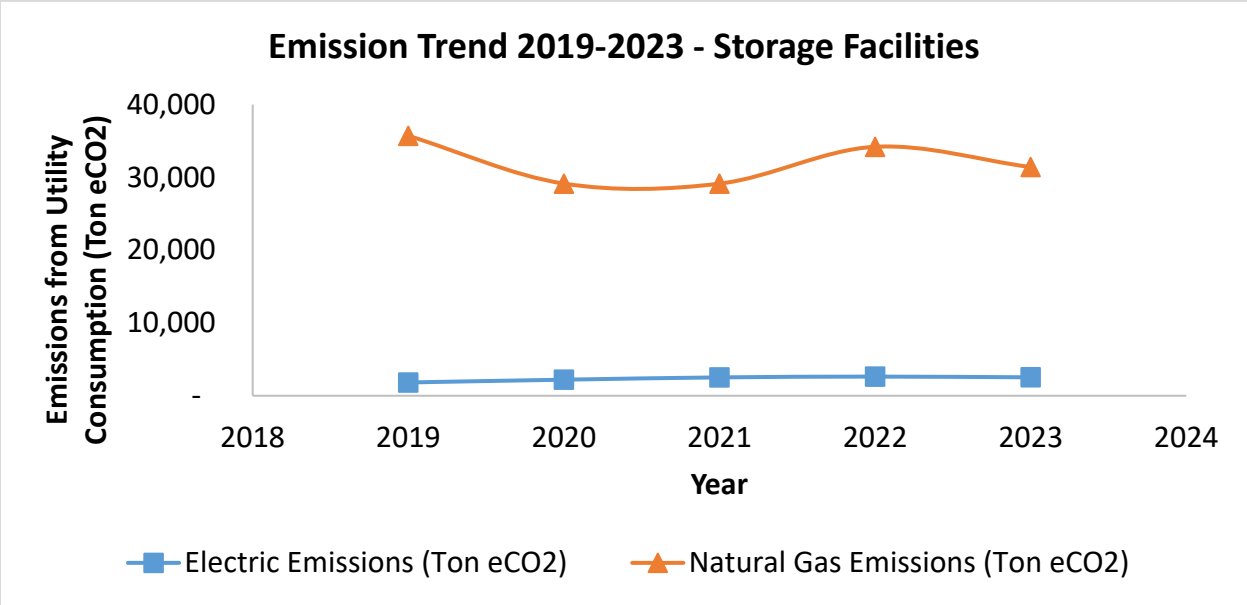
Between 2019-2023 natural gas remained the largest energy consumer. It experienced a decrease from 2019-2021, a slight increase between 2021-2022 and then continued a downwards trend. Electricity consumption remained relatively stable.

Chart 71: 2019-2023 Utility Consumption - Storage Facilities



The natural gas emissions trend reflects its consumption trend, with a decrease between 2019-2021, a slight increase from 2021-2022 and then a downwards trend. Electricity emissions stayed relatively stable from 2019-2023.

Chart 72: 2019-2023 Emissions - Storage Facilities



Storage facilities were able to experience a decrease in consumption and GHG emissions when compared to 2019 base levels for each year and overall.

Table 43: Energy and GHG emissions Change from 2019 - Storage Facilities

2020 Change from 2019 (%)		2021 Change from 2019 (%)		2022 Change from 2019 (%)		2023 Change from 2019 (%)	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-12%	-16%	-11%	-16%	-1%	-2%	-8%	-10%

Transfer Stations

The City of Toronto is reporting on seven transfer stations with a total area of 595,934ft^2.

These transfer stations are managed by the Solid Waste Management Services division and function as drop-off depots to collect, sort and transfer waste collected in Toronto. Residents can also use these depots to dispose of their unwanted items and waste.

All seven transfer stations described in this report currently consume both electricity and natural gas, the latter of which is utilized for space heating and/or domestic hot water heating.

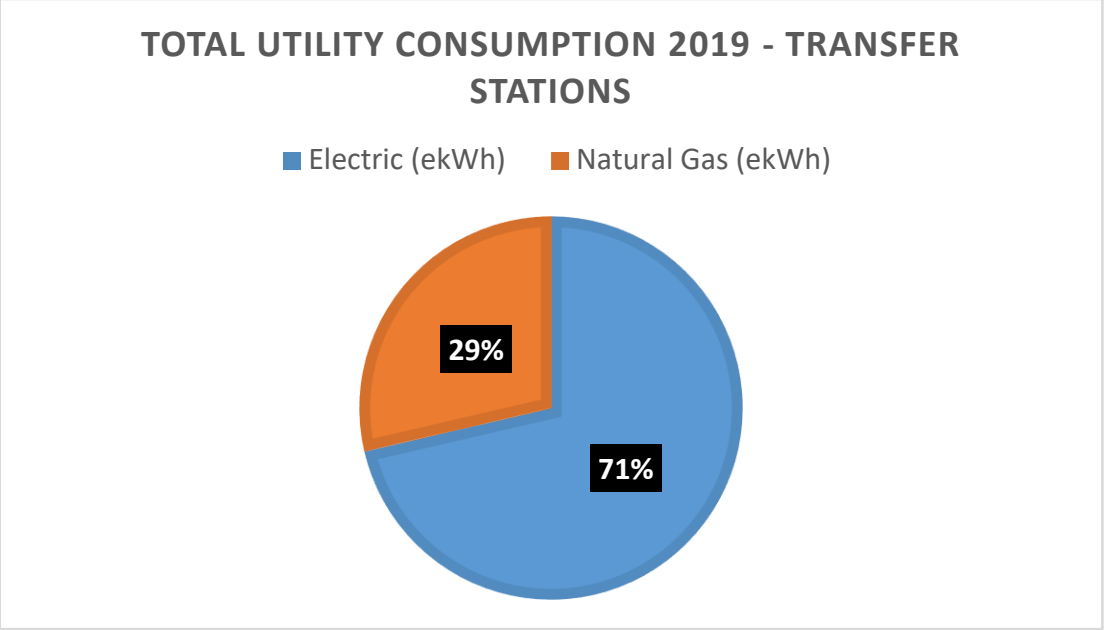
Table 44: Transfer Stations Locations

Locations Name	**Address**	**Floor Area (ft^2)**
Bermondsey Transfer Station	188 Bermondsey Rd.	48,976
Commissioners St Transfer Station	400 Commissioners St.	76,424
Disco Road Transfer Station	120 Disco Rd.	57,049
Dufferin Transfer Station	35 Vanley Cres.	120,663
Ingram Drive Transfer Station	50 Ingram Dr.	112,268
Scarborough Transfer Station	1 Transfer Pl.	96,595
Victoria Park Transfer Station	3350 Victoria Park Ave.	83,959

2019 Energy Consumption and GHG Emissions

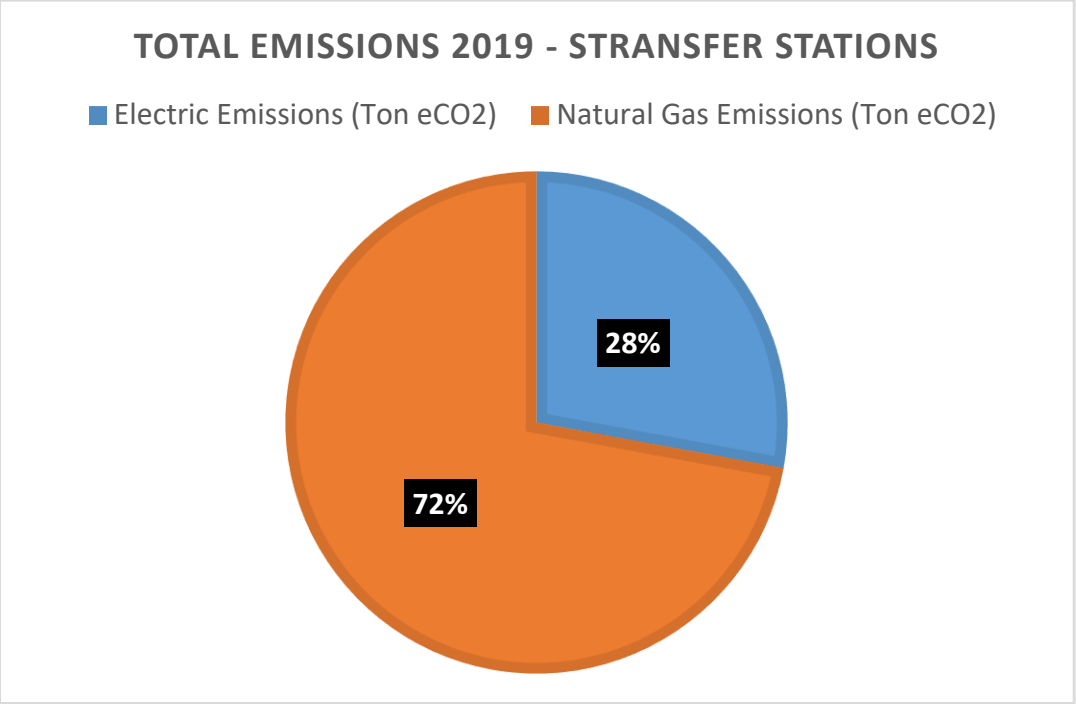
In 2019, electricity consumption contributed the largest share of energy consumption at 71% of total energy consumption, followed by natural gas at 29%. Transfer stations consumed 25,277,778 ekWh of energy in 2019.

Chart 73: 2019 Utility Consumption - Transfer Stations



Despite consuming more energy, electricity consumption only contributed 28% to total emissions in 2019, whereas natural gas, which only accounted for 29% of consumption contributed 72% to total emissions. Transfer stations produced 1,876 Ton eCO_2 in 2019.

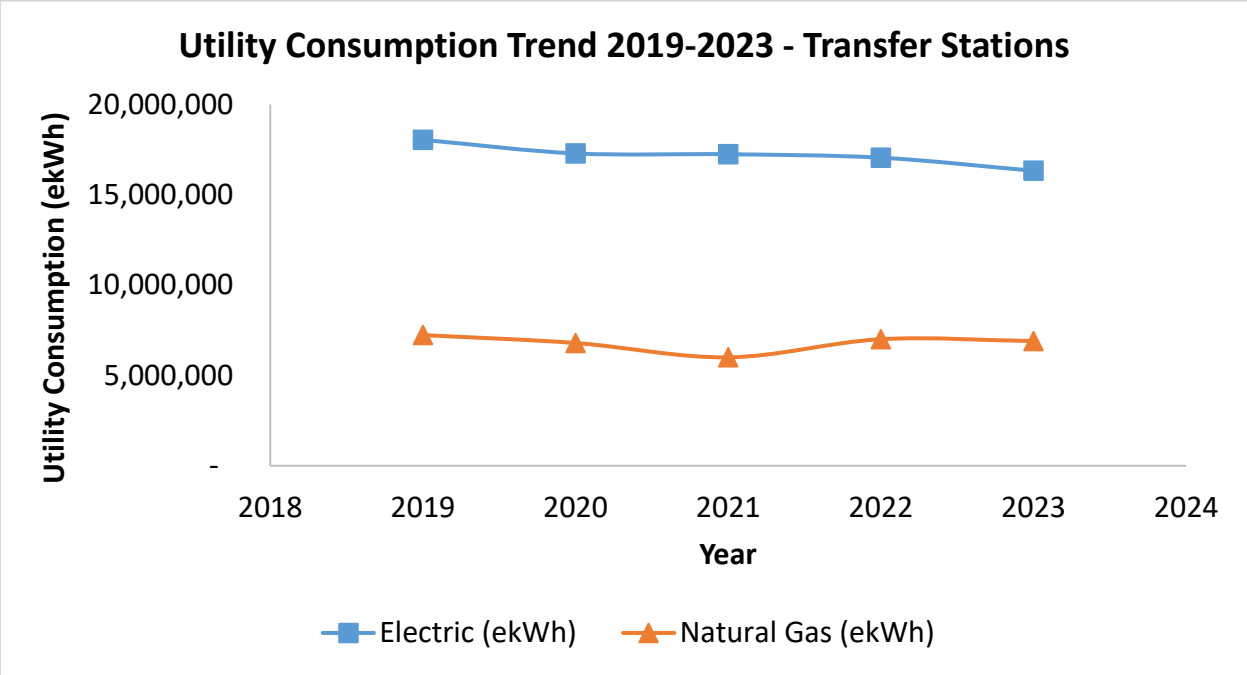
Chart 74: 2019 Emissions - Transfer Stations



2019-2023 Energy Consumption and GHG Emissions

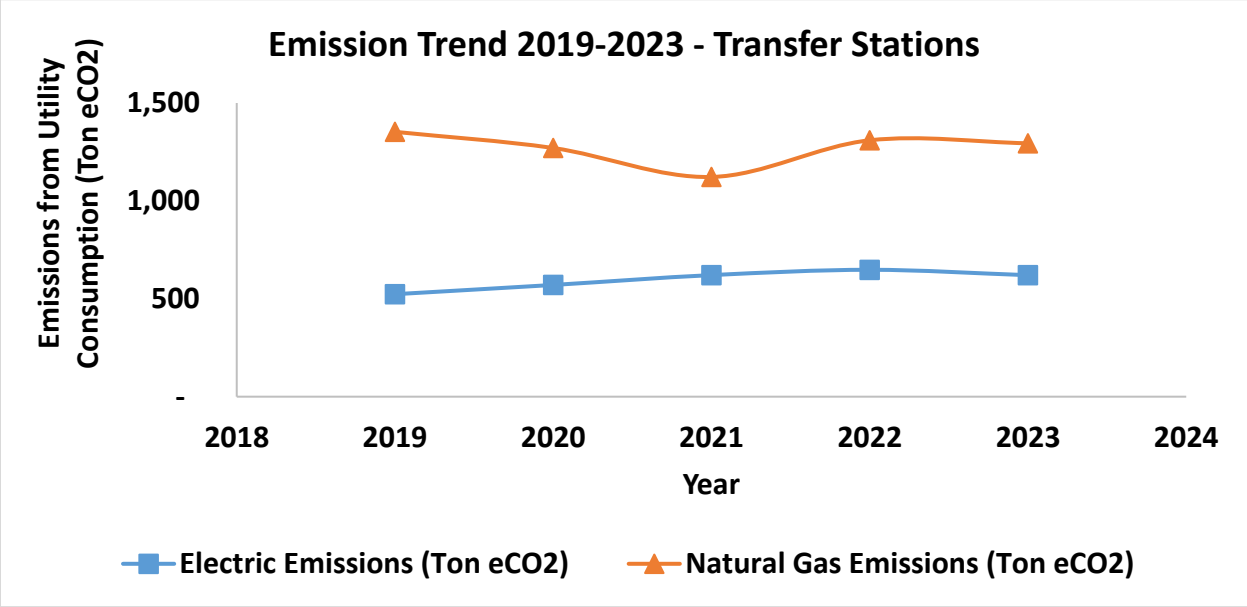
Electricity consumption remained larger than natural gas consumption between 2019-2023 but shows a slight decrease in 2023. Natural gas consumption remained relatively stable, with a slight decrease in 2021.

Chart 75: 2019-2023 Utility Consumption - Transfer Stations



The emissions trend for natural gas between 2019-2023 reflects the consumption trend, with a slight low in 2021 but relatively stable otherwise. Electricity emissions during the same period also remained relatively stable with a slight decrease in 2023.

Chart 76: 2019-2023 Emissions - Transfer Stations



Transfer stations were able to decrease consumption and GHG emissions compared to 2019 base levels each year and overall.

Table 45: Energy and GHG emissions Change from 2019 - Transfer Stations

2020 Change from 2019 (%)		2021 Change from 2019 (%)		2022 Change from 2019 (%)		2023 Change from 2019 (%)	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-5%	-2%	-8%	-7%	-5%	4%	-8%	2%

Transit Hub

The City of Toronto is reporting on one transit hub with a total area of 986,748 ft^2.

Union Station is a National Historic Site of Canada, which houses a railway station, transportation hub and office space. This location has multiple tenants in addition to the City of Toronto. Note that the listed floor area refers to the area owned by the City, which is the actual station building. The train shed and trackage are owned and managed by Go Transit.

Union Station utilizes steam and chilled water for space heating and cooling, respectively.

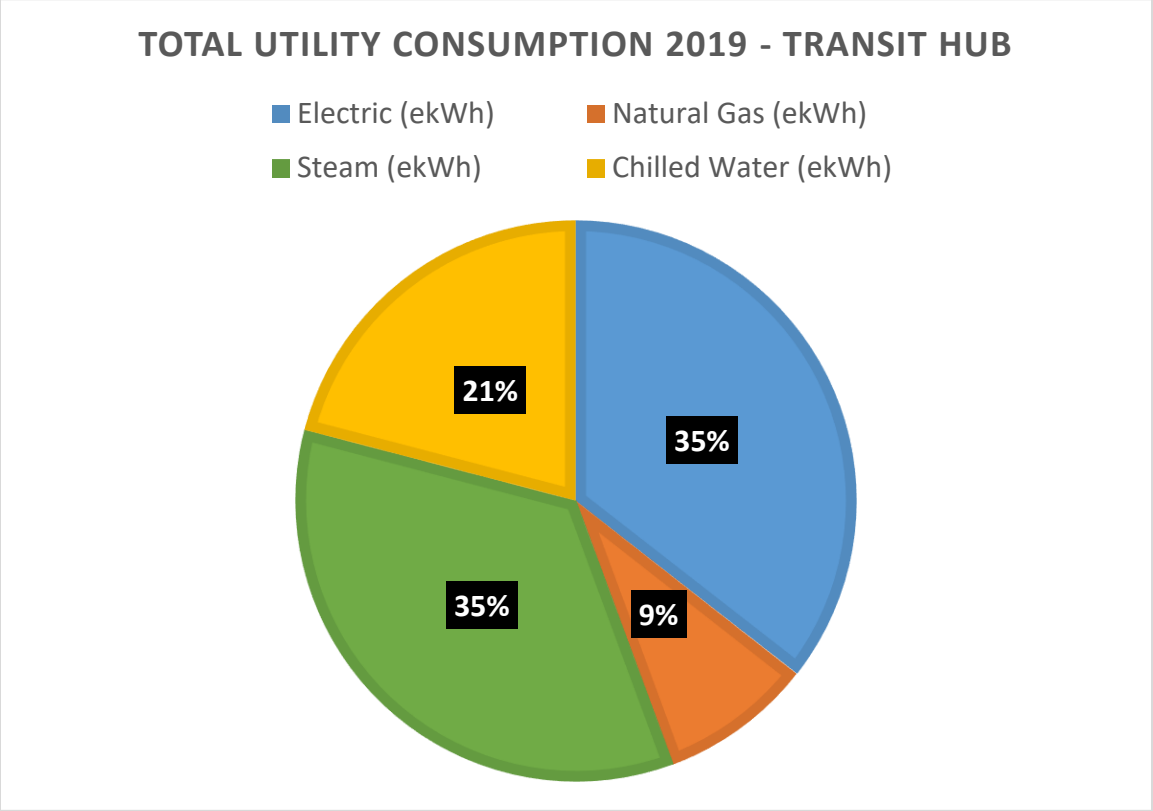
Table 46: Transit Hub Locations

Locations Name	Address	Floor Area (ft^2)
Union Station	65 Front St. W.	986,748

2019 Energy Consumption and GHG Emissions

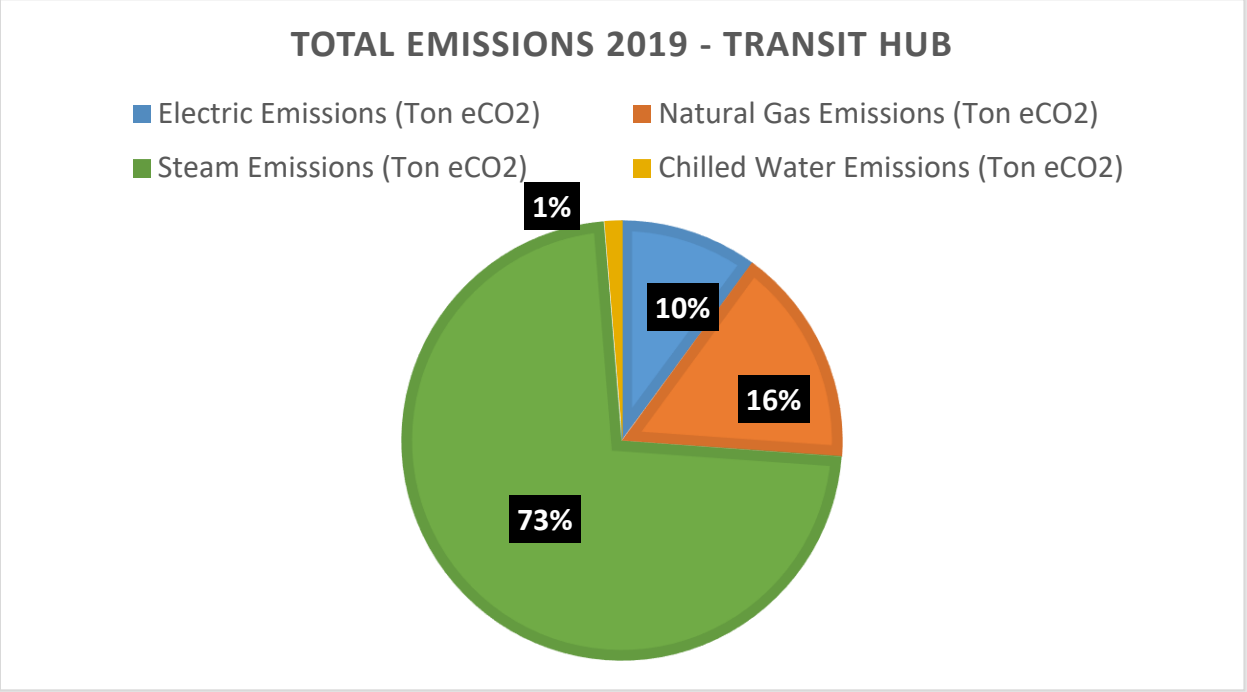
In 2019, the largest energy consumption was steam and electricity, both accounting for 35% of total energy consumption, respectively. Following behind steam and electricity was chilled water at 21% and then natural gas at 9% of total energy consumption. The Transit Hub consumed 46,270,073 ekWh of energy in 2019.

Chart 77: 2019 Utility Consumption - Transit Hub



Even though electricity was one of the largest consumers, it only accounts for 10% of total GHG emissions, the second smallest portion next to chilled water which accounts for 1%. Steam accounts for the largest portion of total emissions at 73% followed by natural gas at 16%. Much of this is due to the high emissions factors associated with both commodities. The transit hub produced 4,744 Ton eCO_2 in 2019.

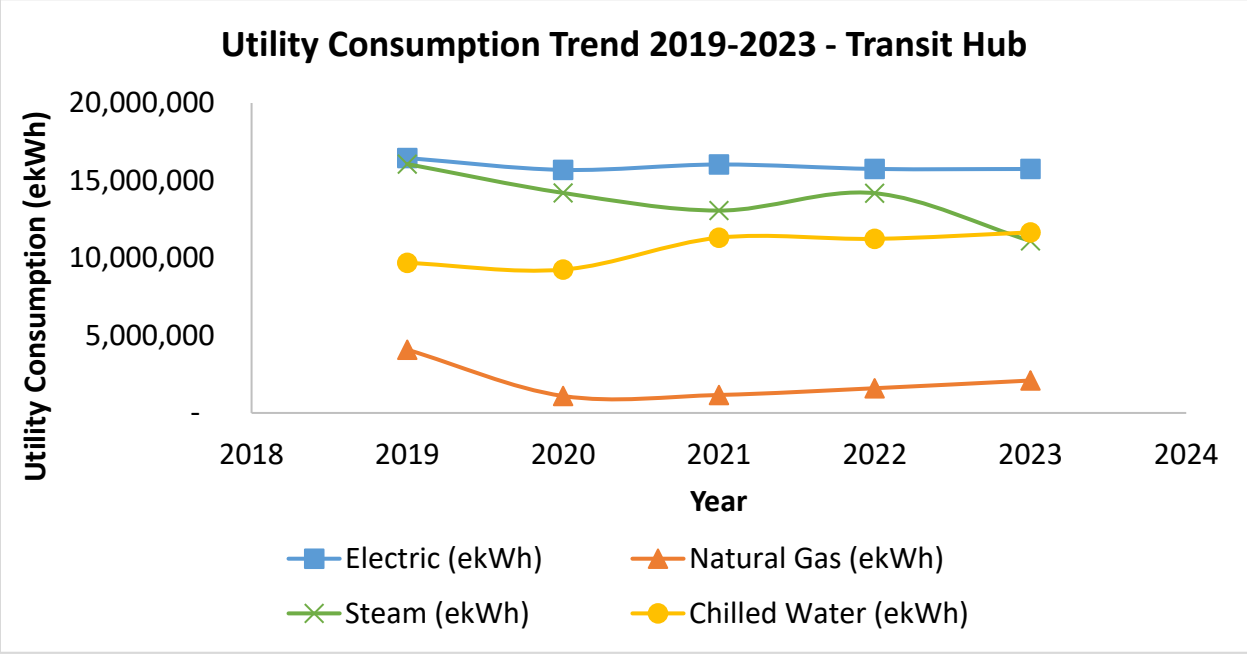
Chart 78: 2019 Emissions - Transit Hub



2019-2023 Energy Consumption and GHG Emissions

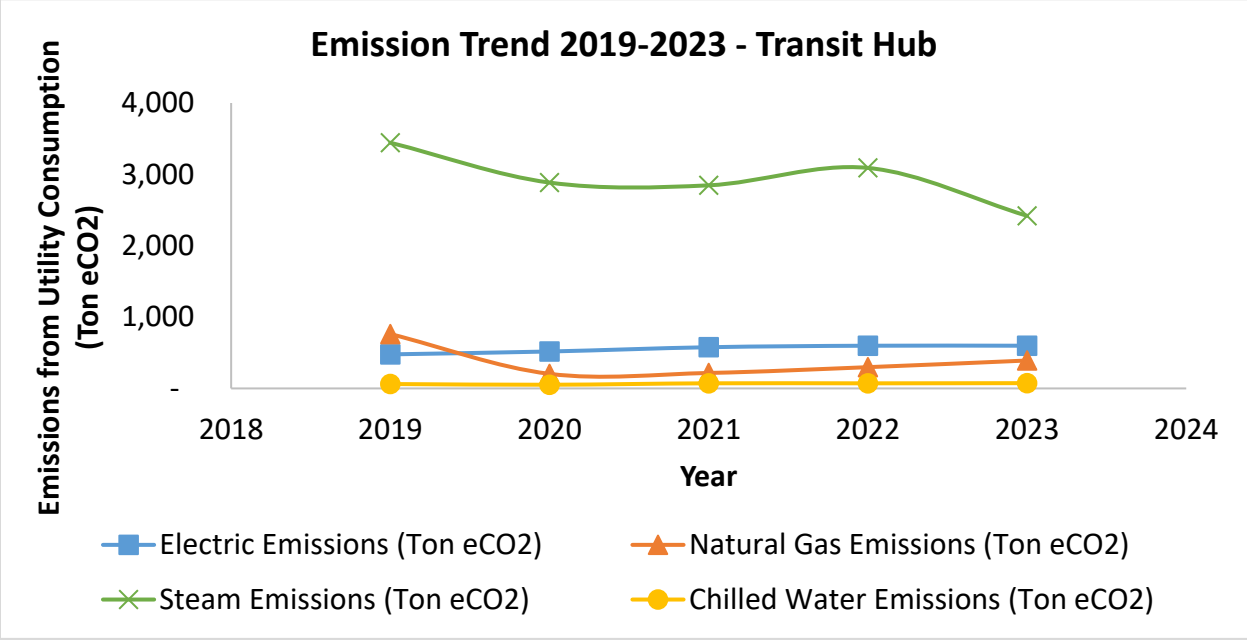
Between 2019-2023 electricity consumption remained the largest in energy consumption followed by steam, which experienced a reduction. Chilled water followed and experienced an increase in 2021 and was followed by natural gas which experienced a decrease from 2019-2020 and then a slight increase by 2023.

Chart 79: 2019-2023 Utility Consumption - Transit Hub.



Between 2019-2023 steam produced the most emissions and followed the same trend as seen in Chart 79 with a decrease from 2019-2021, a slight increase for 2022 and then a decrease in 2023. Natural gas, experienced higher emissions than the other three utilities in 2019, but then experienced a significant reduction from 2020 onwards. Electricity consumption and chilled water emissions were relatively stable during the same period.

Chart 80: 2019-2023 Emissions - Transit Hub



The Transit Hub was able to decrease consumption and GHG emissions compared to 2019 base levels each year and overall. The largest decrease was seen in 2023, with a decrease in consumption and GHG emissions of 12% and 27% respectively.

Table 47: Energy and GHG emissions Change from 2019 - Transit Hub

2020 Change from 2019 (%)		2021 Change from 2019 (%)		2022 Change from 2019 (%)		2023 Change from 2019 (%)	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-13%	-23%	-10%	-22%	-8%	-14%	-12%	-27%

Water Treatment Plants

The City of Toronto is reporting on four water treatment plants with a total area of 906,623 ft^2 and 21 water pumping stations. Note that most pumping stations will show N/A ft^2, this is because floor area for pumping stations is not collected.

Water treatment plants are managed by Toronto Water, which is responsible for treating, transmitting, storing and distributing drinking water to residents and businesses in Toronto. Toronto Water also manages water pumping stations, which are used in the treatment process to pump water.

Each location operates 24/7 and collectively, these plants treat more than 1 billion litres of drinking water every day.

Of the four water treatment plants described in this report, all currently consume both electricity and natural gas, the latter of which can be utilized for space heating and/or domestic hot water heating. At the 21 sewage pumping stations, only electricity is consumed.

Table 48: Water Treatment Plant Locations

Locations Name	Address	Floor Area (ft^2)
1440 Lake Shore Blvd W	1440 Lake Shore Blvd. W.	
Armour Heights Pumping Station	226 Wilson Ave.	
Dorset Pumping Station	2900 Kingston Rd.	N/A

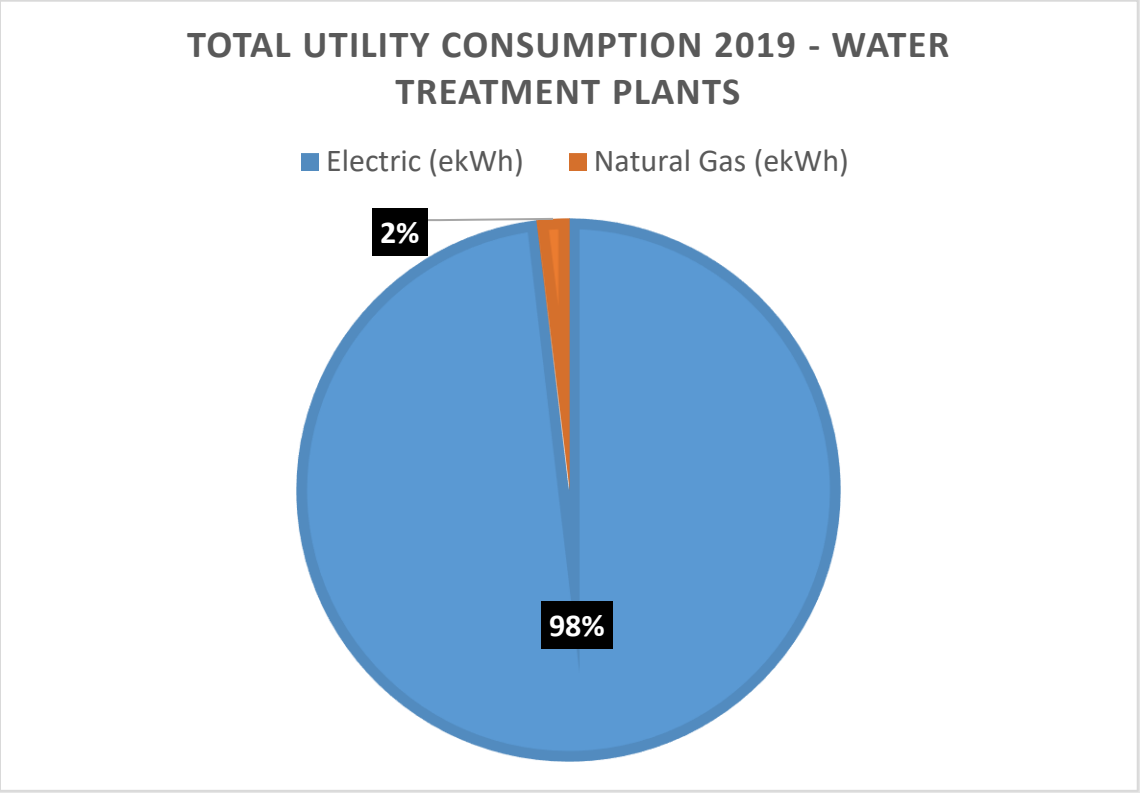
Locations Name	Address	Floor Area (ft^2)
Eglinton Pumping Station	885 Pharmacy Ave.	N/A
Ellesmere Pumping Station	2950 Ellesmere Rd.	N/A
F.J. Horgan Water Treatment Plant	201 Copperfield Rd.	325,447
High Level Pumping Station	235 Cottingham St.	N/A
Humber Sewage Pumping Station	490 Riverside Dr.	N/A
Island Water Treatment Plant	446 Lakeshore Ave.	64,196
John Street Pumping Station	28 Rees St.	N/A
Keele Pumping Station	4995 Keele St.	N/A
Keelesdale Park - Pumping Station	106 Hyde Ave.	N/A
Kennedy Pumping Station	154 Purcell Sq.	N/A
Lawrence Pumping Station	1144 Lawrence Ave. W.	N/A
Milliken Pumping Station	4375 Fourteenth Ave.	N/A
Parkdale Pumping Station	71 The Queensway	N/A
R.C. Harris Water Treatment Plant	2701 Queen St. E.	115,368
R.L. Clark Water Treatment Plant	1 Twenty Third St.	401,612
Richview Pumping Station	551 Martin Grove Rd.	N/A
Rosehill Pumping Station	240 Mount Pleasant Rd.	N/A
Scarborough Pumping Station	21 Fishleigh Dr.	N/A

Locations Name	Address	Floor Area (ft^2)
St. Albans Pumping Station	30 St Albans Rd.	N/A
Thornhill Pumping Station	1 Green Lane	N/A
W.H. Johnston Pumping Station	1560 Royal York Rd.	N/A
West Toronto Pumping Station	143 old Weston Rd.	N/A

2019 Energy Consumption and GHG Emissions

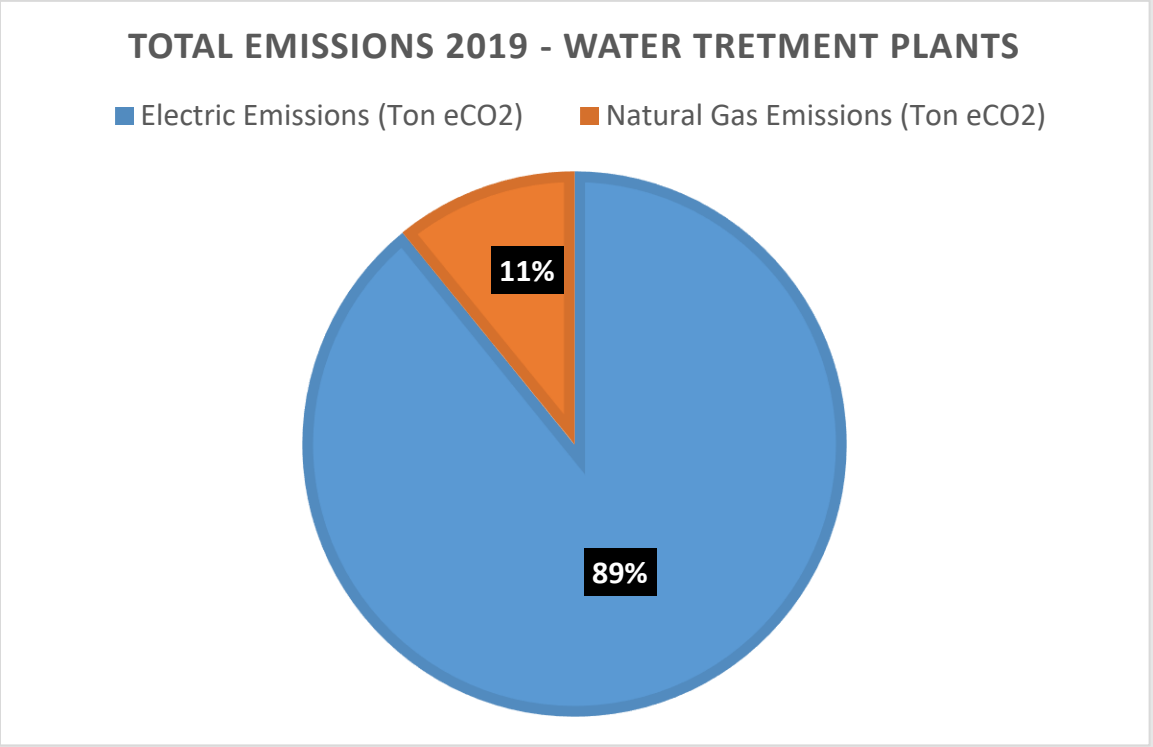
In 2019 electricity was the largest energy consumer at 98%, followed by natura gas at 2%. Water treatment plants consumed 303,529,179 ekWh of energy in 2019. This is understandable as these facilities run 24/7 annually and are energy intensive.

Chart 81: 2019 Utility Consumption - Water Treatment Plants



Given that electricity accounted for the majority of energy consumption it follows that that it also accounts for 89% of total GHG emissions, followed by 11% for natural gas. Water treatment plants produced 9,695 Ton eCO_2 in 2019.

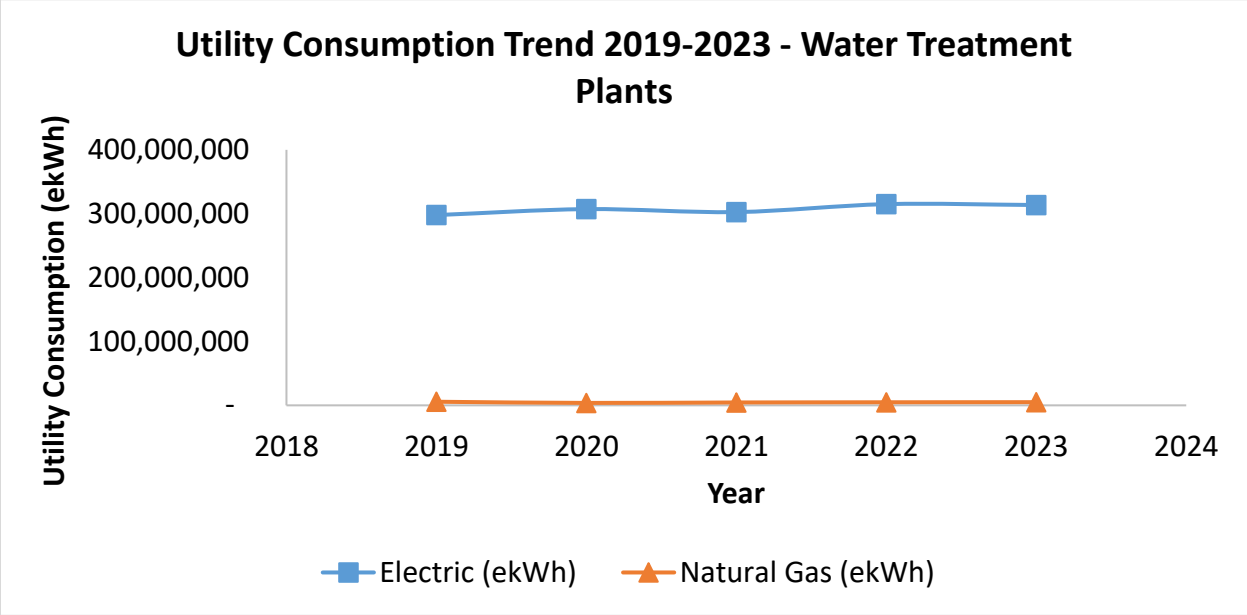
Chart 82: 2019 Emissions - Water Treatment Plants



2019-2023 Energy Consumption and GHG Emissions

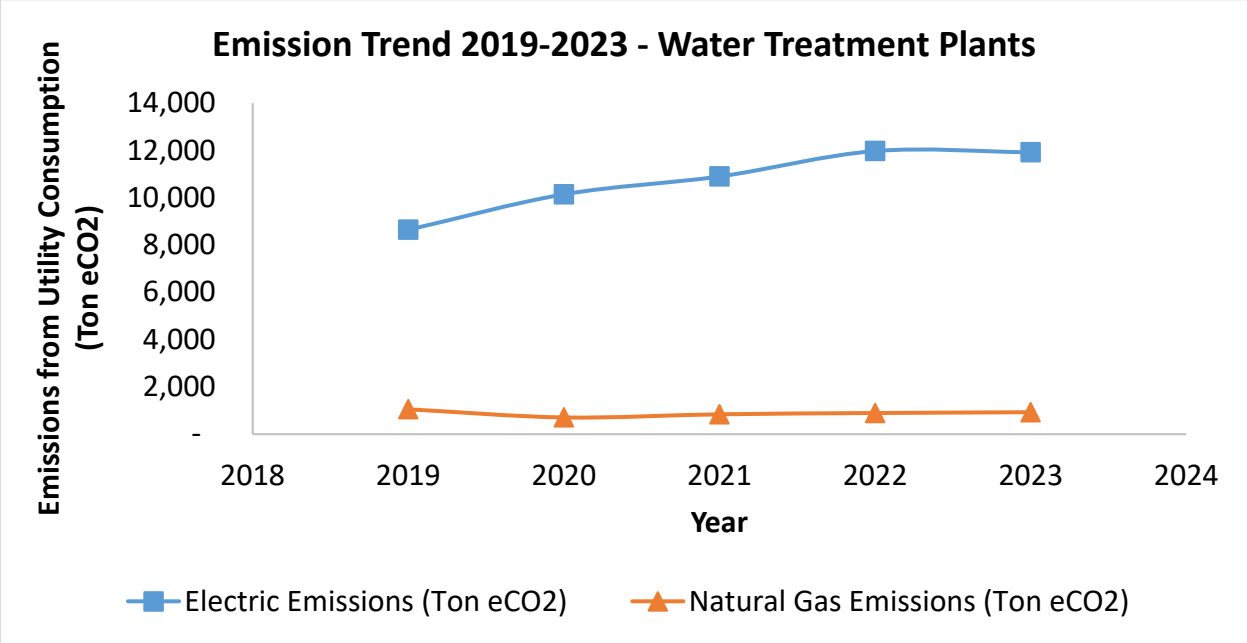
Between 2019-2023 electricity remained the largest consumer of energy at a steady, if slightly increasing trend. Natural gas consumption stayed significantly lower and stable for the same period.

Chart 83: 2019-2023 Utility Consumption - Water Treatment Plants



Between 2019-2023 electricity remained the largest GHG emitter and experienced an increase from 2019 because of an increase in the electricity emissions factor. Natural gas emissions stayed significantly lower and relatively stable during the same period.

Chart 84: 2019-2023 Emissions - Water Treatment Plants



Water treatment plants saw an increase in consumption compared to 2019 base levels each year and overall. The largest increase was seen in 2023 with a consumption and GHG emissions increase of 5% and 33% respectively.

Table 49: Energy and GHG emissions Change from 2019 - Water Treatment Plants

2020 Change from 2019 (%)		2021 Change from 2019 (%)		2022 Change from 2019 (%)		2023 Change from 2019 (%)	
Energy Consumption	**GHG Emissions**	**Energy Consumption**	**GHG Emissions**	**Energy Consumption**	**GHG Emissions**	**Energy Consumption**	**GHG Emissions**
2%	12%	1%	21%	5%	33%	5%	33%

Toronto Zoo

The City of Toronto is reporting on utility consumption from the Toronto Zoo. The Zoo covers a large area in Toronto, with both indoor and outdoor spaces. Unlike other building types, the zoo will be reported as one large building rather than each building separately.

The zoo operates 24/7 and collectively, providing space heating and cooling to many buildings that house animals or are office spaces. Electricity and natural gas are used for space heating and cooling.

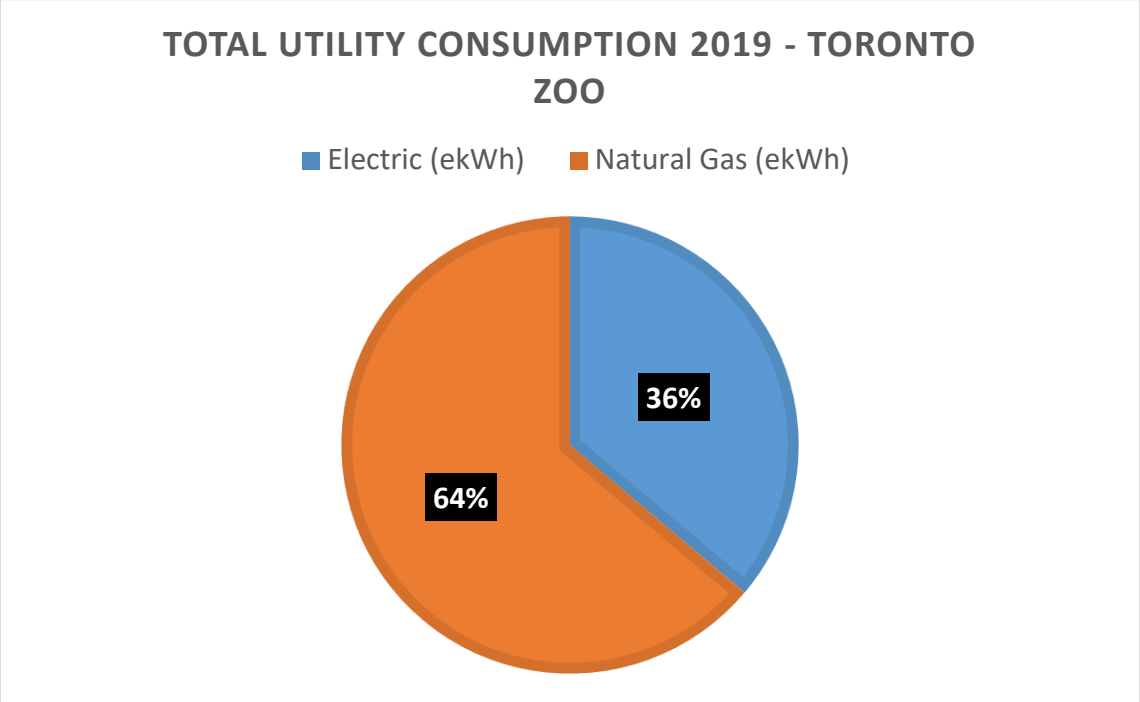
Table 50: Toronto Zoo Locations

Locations Name	Address
Toronto Zoo	361 Old Finch Ave.

2019 Energy Consumption and GHG Emissions

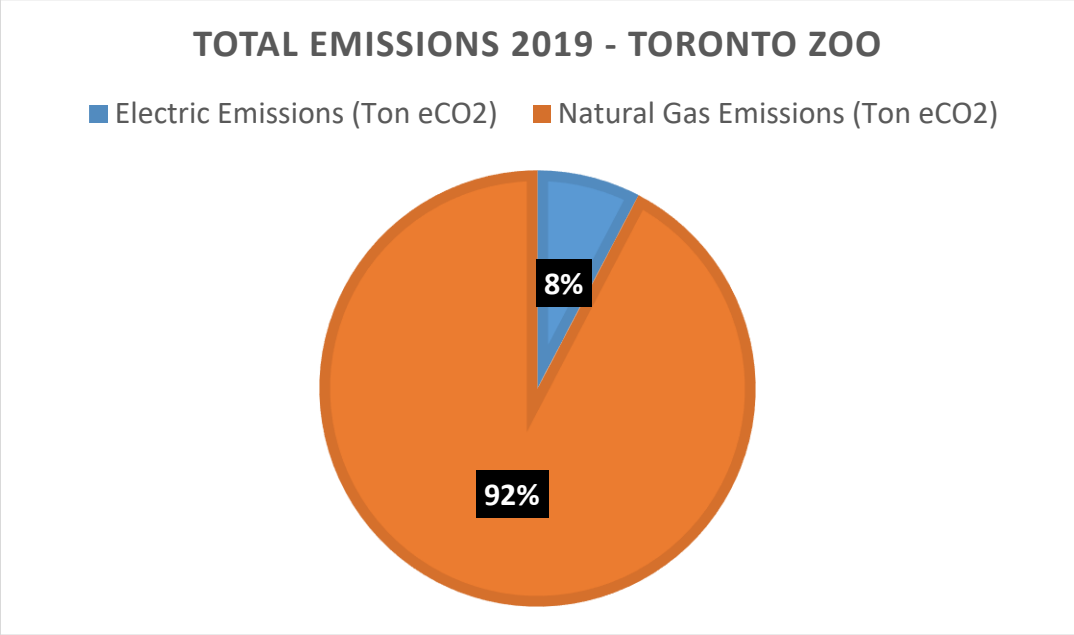
In 2019, natural gas consumption accounted for 64% of total energy consumption while electricity accounted for 36%. The Toronto Zoo consumed 31,861,445 ekWh of energy in 2019.

Chart 85: 2019 Utility Consumption - Toronto Zoo



GHG emissions due to natural gas consumption account for roughly 92% while electricity consumption accounts for roughly 8% of total GHG emissions. The Toronto Zoo produced 4,368 Ton eCO2 in 2019.

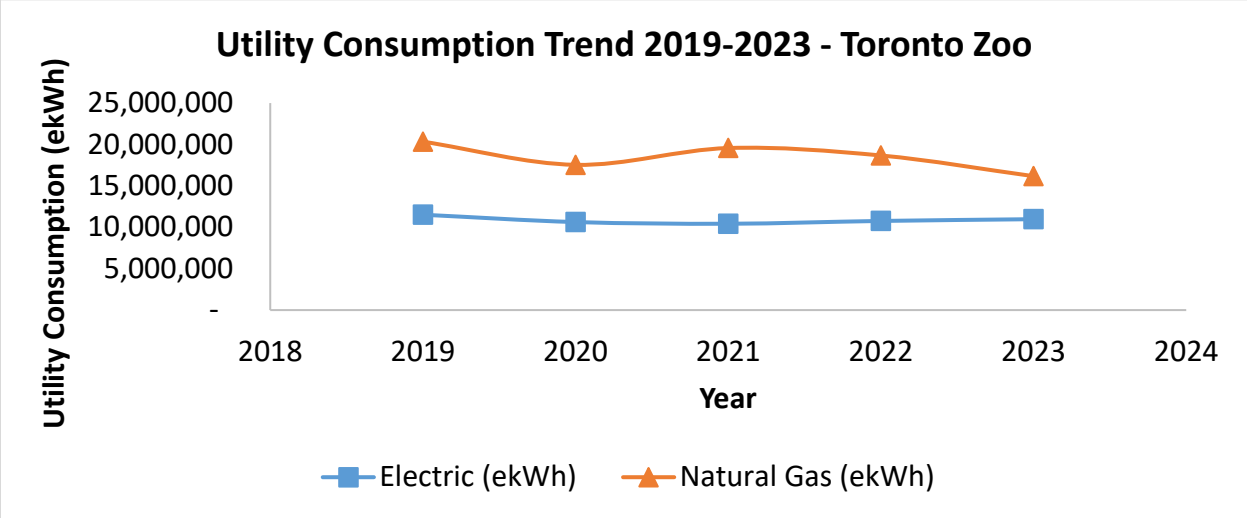
Chart 86: 2019 Emissions - Toronto Zoo



2019-2023 Energy Consumption and GHG Emissions

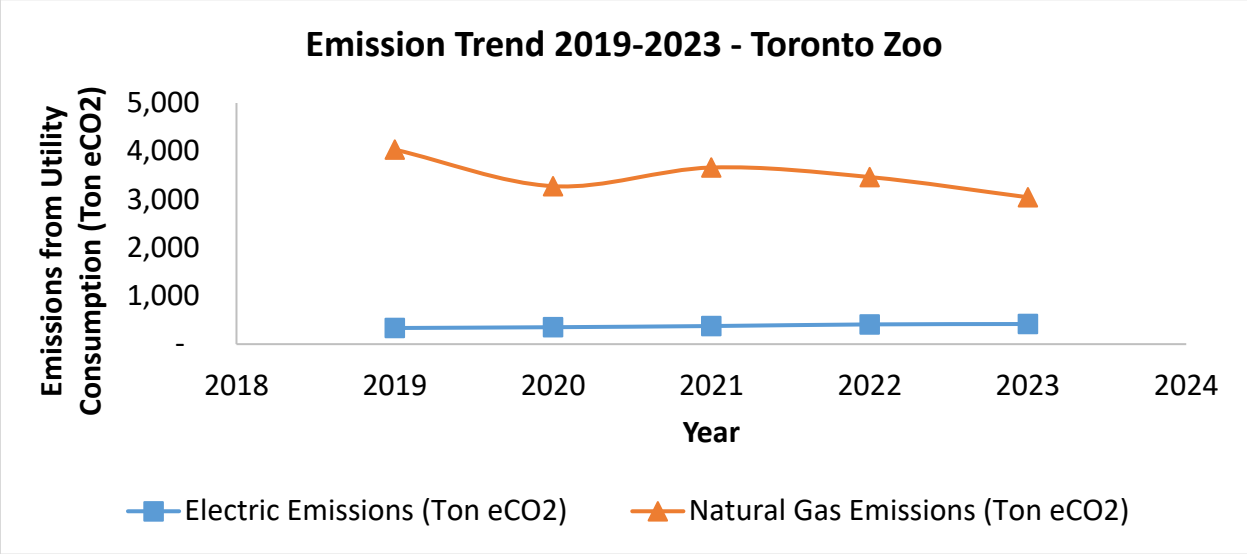
Between 2019-2023 natural gas consumption was consistently higher than electricity consumption. Overall gas consumption experienced a decrease from 2019-2020, then a slight increase in 2021, before continuing in a decreasing trend. By 2023 natural gas consumption was much closer to electricity consumption levels than in 2019. Electricity consumption remained stable during the same time period.

Chart 87: 2019-2023 Utility Consumption - Toronto Zoo



Between 2019-2023 natural gas emissions were consistently higher than electricity emissions. Natural gas emissions reflect the consumption trendline, with a decrease from 2019-2020, then a slight increase in 2021 before a return to a decreasing trend. Electricity emissions remained stable during the same time period.

Chart 88: 2019-2023 Emissions - Toronto Zoo



The Toronto Zoo was able to decrease consumption and GHG emissions reductions compared to 2019 base levels each year and overall. The largest decrease was seen in 2023, with a consumption and GHG emissions decrease of 15% and 21% respectively.

Table 51: Energy and GHG emissions Change from 2019 - Toronto Zoo

2020 Change from 2019 (%)		2021 Change from 2019 (%)		2022 Change from 2019 (%)		2023 Change from 2019 (%)	
Energy	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**	**Energy**	**GHG**
-12%	-17%	-6%	-8%	-8%	-11%	-15%	-21%

2024-2029 Proposed Projects

Proposed projects are subject to change, please see Appendix F and Appendix G.

Along with the proposed projects, there are three new Net Zero or high efficiency buildings that will be incorporating at least two of the following: solar thermal PV, low carbon material, energy recovery ventilation, EV charging and solar PV carpark. These locations are North East Scarborough Community Recreation and Child Care Centre (8450 Sheppard Ave. E.), Toronto Paramedic Services Multifunction Paramedic Station (300 Progress Ave.) and Wallace Emerson Community Recreation Centre and New Child Care Centre (1260 Dufferin St.).

Conclusion

The City of Toronto's commitment to energy conservation and greenhouse gas (GHG) reduction through its 2024-2029 Energy Conservation and Demand Management (ECDM) Plan reflects a steadfast dedication to sustainability and climate action. Building upon the foundation laid by previous initiatives, this plan supports the City's Corporate Strategic Plan, specifically the strategic priority to tackle climate change and build resilience. All the while, working towards achieving ambitious Net Zero targets by 2040, accelerating efforts in response to both local imperatives and global climate urgency.

Since declaring a climate emergency in 2019, Toronto has made significant strides in energy efficiency, exemplified by the reduction of 1.6 billion ekWh and 16,862 metric tons of eCO2 emissions across its diverse portfolio, including in these 690 buildings between 2019 and 2023. These achievements, bolstered by investments exceeding $119 million, underscore the city's proactive approach to retrofitting and modernizing its infrastructure. Notably, projects such as the Waterfront Neighbourhood Centre retrofit showcase innovative solutions like LED lighting, solar PV systems and hydrothermal technologies, setting a precedent for integrated, sustainable urban development.

Looking ahead, the 2024-2029 ECDM Plan builds upon these successes with a comprehensive strategy that spans multiple operational types and incorporates lessons learned from past endeavors. The plan outlines targeted investments in energy efficiency measures and renewable energy technologies, including an expansion of solar PV installations. These efforts not only aim to enhance energy autonomy and resilience but also to serve as a model for other municipalities grappling with the dual challenges of climate change and energy management.

Central to the city's approach is flexibility and adaptability, recognizing the dynamic nature of environmental and regulatory landscapes. The integration of the new Energy & Water Reporting By-Law and ongoing staff engagement underscores Toronto's commitment to transparency and accountability in its sustainability efforts. By leveraging data-driven insights and fostering collaboration across city divisions and agencies, Toronto is poised to continue leading by example in urban sustainability.

As Toronto moves forward with its sustainability agenda, the outcomes of the 2024-2029 ECDM Plan will not only contribute to local climate resilience but also inspire broader action towards a low-carbon future. Through continued innovation, strategic investment and community engagement, the City of Toronto reaffirms its role as a global leader in sustainable urban development, setting a trajectory towards a greener, more resilient future for all residents and stakeholders alike.

Appendix A: Electric Vehicle Charging Locations

Table 52: EV Charger Locations

Address	# of chargers
1 Transfer Place	2
100 Queen St. W.	7
100 Turnberry Ave.	2
101 Ridgetop Rd.	2
1026 Finch Ave. W.	14
105 Cedarvale Ave.	1
1076 Ellesmere Rd.	1
1077 Ellesmere Rd.	1
1078 Ellesmere Rd.	1
1079 Ellesmere Rd.	1
1080 Ellesmere Rd.	1
1081 Ellesmere Rd.	1
1135 Caledonia Rd.	2
1138 Bathurst St.	5
1144 Lawrence Ave. W.	4
115 ParkWay Forest Dr.	1
12 Canterbury Place	1
120 Martin Ross Ave.	3
126 Pape Ave.	1

Address	# of chargers
339 Queens Quay West	1
35 Spadina Rd.	1
35 Vanley Cres.	2
360 Morningside Ave.	3
3600 St Clair Ave. E.	1
390 The West Mall	5
40 College St.	1
40 Orchard View Blvd.	6
4135 Bathurst St.	1
4219 Dundas St. W.	1
433 Eastern Ave.	7
4330 Dufferin Rd.	4
4331 Lawrence Ave. E.	1
4375 14th Ave.	2
441 Kipling Ave.	5
45 Goulding Ave.	1
451 Brimley Rd.	2
4560 Sheppard Ave. E.	1
50 Toryork Dr.	1

Address	# of chargers
1288 Queen St. W.	1
1300 Pape Ave.	2
1300 Wilson Ave.	2
135 Davenport Rd.	2
140 Sherbourne St.	1
149 Elmcrest Rd.	1
150 Disco Rd.	5
1501 Albion Rd.	1
1530 Markham Rd.	6
1535 Albion Rd.	1
1535 Kingston Rd.	1
155 The East Mall	1
1806 Islington Ave.	2
19 Horticultural Ave.	1
2000 Meadowvale Rd.	2
2000 Midland Ave.	2
2015 Lawrence Ave. W.	1
21 Alness St.	6
2126 Kipling Ave.	14
235 Cibola Ave.	1
235 Cottingham St.	5

Address	# of chargers
51 Beechgrove Dr.	2
5100 Yonge St.	2
5100 Yonge St.	1
5120 Yonge St.	2
5318 Lawrence Ave. E.	1
55 John St.	6
551 Martin Grove Rd.	2
555 Martin Grove Rd.	1
5700 Bathurst St.	1
60 Tiffield Rd.	11
6000 Leslie St.	1
61 Toryork Dr.	1
64 Murray Rd.	9
643 Eglinton Ave. W.	1
674 Markham St.	1
70 Nashdene Rd.	4
75 Arcadian Circle	1
760 Dovercourt Rd.	1
786 Dundas St. E.	2
8270 Sheppard Ave. E.	9
843 Eastern Ave.	8

Address	# of chargers
25 Old Eglinton Ave.	1
259 Horner Ave.	2
265 Manitoba Dr.	1
2650 Finch Ave. W.	1
27 Toryork Dr.	4
275 Merton St.	2
2753 Jane St.	1
28 Rees St.	2
29 Lascelles Blvd.	4
2900 Lawrence Ave.	1
30 Northline Rd.	2
30 Sewells Rd.	1
30 Slidell Cres.	1
305 Rockcliffe Blvd.	1

Address	# of chargers
8500 Sheppard Ave. E.	1
887 Pharmacy Ave.	1
888 Cosburn Ave.	1
891 Morningside Ave.	4
9 Clendenan Ave.	1
9 Hanna Ave.	1
900 Tapscott Rd.	1
95 Black Creek Dr.	1
98 Atlantic Ave.	1
3061 Birchmount Rd.	1
3079 Birchmount Rd.	1
31 Drummond St.	1
320 Bering Ave.	11

Appendix B: 2019-2023 Annual Utility Consumption and Emissions Data

Table 53: 2019-2023 Utility Consumption and Emissions – Admin. Office Buildings and Related Facilities

	2019	2020	2021	2022	2023
Electric (ekWh)	63,714,178	58,642,756	56,830,777	59,073,006	57,485,399
Natural Gas (ekWh)	33,186,263	27,369,055	24,210,202	26,497,699	24,434,039
Steam (ekWh)	27,887,182	26,143,537	24,896,385	27,774,851	26,604,646
Chilled Water (ekWh)	14,398,232	14,122,232	14,554,869	14,796,523	15,847,723
Electric Emissions (Ton eCO_2)	1,849	1,936	2,046	2,245	2,184
Natural Gas Emissions (Ton eCO_2)	6,201	5,114	4,524	4,951	4,566
Steam Emissions (Ton eCO_2)	5,980	5,312	5,427	6,054	5,799
Chilled Water Emissions (Ton eCO_2)	91	79	92	94	101

Table 54: 2019-2023 Utility Consumption and Emissions – Ambulance Stations

	2019	2020	2021	2022	2023
Electric (ekWh)	5,485,566	5,347,124	5,427,297	5,773,254	6,008,042

	2019	2020	2021	2022	2023
Natural Gas (ekWh)	7,400,034	5,823,282	5,792,669	5,885,846	4,154,989
Electric Emissions (Ton eCO_2)	159	177	196	219	228
Natural Gas Emissions (Ton eCO_2)	1,383	1,088	1,082	1,100	776

Table 55: 2019-2023 Utility Consumption and Emissions – Animal Centres

	2019	2020	2021	2022	2023
Electric (ekWh)	970,729	914,821	899,189	899,686	946,452
Natural Gas (ekWh)	1,432,907	912,784	750,217	1,022,783	1,238,022
Electric Emissions (Ton eCO_2)	28	30	32	34	36
Natural Gas Emissions (Ton eCO_2)	268	171	140	191	231

Table 56: 2019-2023 Utility Consumption and Emissions – Child Care Facilities

	2019	2020	2021	2022	2023
Electric (ekWh)	1,354,571	1,220,663	1,209,883	1,161,493	1,230,219

	2019	2020	2021	2022	2023
Natural Gas (ekWh)	1,680,531	1,376,490	1,402,778	1,960,249	1,338,062
Electric Emissions (Ton eCO_2)	39	40	44	44	47
Natural Gas Emissions (Ton eCO_2)	314	257	262	366	250

Table 57: 2019-2023 Utility Consumption and Emissions – Community Centres

	2019	2020	2021	2022	2023
Electric (ekWh)	18,665,068	17,191,337	17,339,624	18,527,759	18,673,058
Natural Gas (ekWh)	24,761,199	20,928,376	20,817,636	21,889,738	20,027,726
Electric Emissions (Ton eCO2)	542	568	625	704	710
Natural Gas Emissions (Ton eCO_2)	4,627	3,911	3,890	4,090	3,743

Table 58: 2019-2023 Utility Consumption and Emissions – Cultural Facilities

	2019	2020	2021	2022	2023
Electric (ekWh)	7,167,220	6,221,610	6,415,966	6,892,774	7,047,668
Natural Gas (ekWh)	6,209,254	5,374,049	4,942,094	6,756,268	5,587,912

	2019	2020	2021	2022	2023
Electric Emissions (Ton eCO_2)	208	205	231	262	268
Natural Gas Emissions (Ton eCO_2)	1,160	1,004	923	1,262	1,044

Table 59: 2019-2023 Utility Consumption and Emissions – Fire Stations and Related Facilities

	2019	2020	2021	2022	2023
Electric (ekWh)	10,228,654	10,101,864	10,342,063	10,408,076	9,570,756
Natural Gas (ekWh)	23,725,157	18,087,612	20,437,028	22,600,206	20,807,743
Electric Emissions (Ton eCO_2)	298	335	373	396	364
Natural Gas Emissions (Ton eCO_2)	4,433	3,380	3,818	4,224	3,889

Table 60: 2019-2023 Utility Consumption and Emissions – Greenhouses

	2019	2020	2021	2022	2023
Electric (ekWh)	1,333,542	1,203,885	1,240,869	1,210,493	1,206,767
Natural Gas (ekWh)	11,788,324	10,897,729	10,376,243	10,358,218	10,977,865

	2019	2020	2021	2022	2023
Steam (ekWh)	243,243	221,044	275,600	282,664	408,268
Electric Emissions (Ton eCO_2)	39	40	45	46	46
Natural Gas Emissions (Ton eCO_2)	2,203	2,036	1,939	1,936	2,051
Steam Emissions (Ton eCO_2)	52	45	60	62	89

Table 61: 2019-2023 Utility Consumption and Emissions – Indoor Recreation Facilities

	2019	2020	2021	2022	2023
Electric (ekWh)	29,197,967	24,654,635	24,497,979	28,174,215	30,088,779
Natural Gas (ekWh)	41,497,793	31,614,566	33,437,273	37,970,824	39,016,401
Chilled Water (ekWh)	0	0	0	0	385,871
Hot Water (ekWh)	0	0	0	0	374,861
Electric Emissions (Ton eCO_2)	848	814	882	1,071	1,143
Natural Gas Emissions (Ton eCO_2)	7,754	5,908	6,248	7,095	7,291

	2019	2020	2021	2022	2023
Chilled Water (Ton eCO_2)	0	0	0	0	2
Hot Water (Ton eCO_2)	0	0	0	0	2

Table 62: 2019-2023 Utility Consumption and Emissions – Indoor Sports Arenas

	2019	2020	2021	2022	2023
Electric (ekWh)	19,361,196	13,463,748	13,232,513	16,886,416	18,314,186
Natural Gas (ekWh)	18,541,649	14,911,798	13,091,146	15,730,755	15,464,640
Electric Emissions (Ton eCO_2)	562	445	477	642	668
Natural Gas Emissions (Ton eCO_2)	3,465	2,786	2,446	2,940	2,735

Table 63: 2019-2023 Utility Consumption and Emissions – Indoor Swimming Pools

	2019	2020	2021	2022	2023
Electric (ekWh)	5,457,500	4,703,880	5,512,914	5,933,072	6,323,559
Natural Gas (ekWh)	19,449,207	12,049,492	9,930,864	10,527,649	11,070,331

	2019	2020	2021	2022	2023
Electric Emissions (Ton eCO_2)	158	155	199	225	240
Natural Gas Emissions (Ton eCO_2)	3,634	2,252	1,856	1,967	2,069

Table 64: 2019-2023 Utility Consumption and Emissions – Long Term Care Homes

	2019	2020	2021	2022	2023
Electric (ekWh)	30,553,275	30,356,274	30,826,825	30,622,298	30,356,651
Natural Gas (ekWh)	39,752,678	36,364,167	33,232,887	38,561,816	35,340,740
Electric Emissions (Ton eCO_2)	886	1,002	1,110	1,164	1,154
Natural Gas Emissions (Ton eCO_2)	7,428	6,795	6,210	7,206	6,605

Table 65: 2019-2023 Utility Consumption and Emissions – Parking Garages

	2019	2020	2021	2022	2023
Electric (ekWh)	14,188,351	12,342,463	11,906,168	12,375,976	11,035,509
Natural Gas (ekWh)	74,502	82,100	89,259	99,264	60,765

	2019	2020	2021	2022	2023
Electric Emissions (Ton eCO_2)	412	408	429	470	419
Natural Gas Emissions (Ton eCO_2)	14	15	17	19	11

Table 66: 2019-2023 Utility Consumption and Emissions – Police Stations and Related Facilities

	2019	2020	2021	2022	2023
Electric (ekWh)	39,639,555	38,814,310	39,298,283	38,453,796	38,794,151
Natural Gas (ekWh)	37,349,564	34,448,064	30,359,946	32,789,762	29,089,077
Chilled Water (ekWh)	6,427,417	6,294,966	6,487,418	6,166,247	6,230,479
Electric Emissions (Ton eCO_2)	1,151	1,281	1,415	1,461	1,474
Natural Gas Emissions (Ton eCO_2)	6,979	6,437	5,673	6,127	5,436
Chilled Water Emissions (Ton eCO_2)	41	35	41	39	40

Table 67: 2019-2023 Utility Consumption and Emissions – Public Libraries

	2019	2020	2021	2022	2023
Electric (ekWh)	32,653,108	28,338,108	28,982,349	30,720,740	30,873,179

	2019	2020	2021	2022	2023
Natural Gas (ekWh)	23,270,442	22,251,160	22,458,745	23,420,722	20,583,299
Electric Emissions (Ton eCO_2)	949	936	1,044	1,167	1,173
Natural Gas Emissions (Ton eCO_2)	4,348	4,158	4,197	4,376	3,841

Table 68: 2019-2023 Utility Consumption and Emissions – Sewage Treatment Plants

	2019	2020	2021	2022	2023
Electric (ekWh)	227,106,224	225,464,589	217,818,017	221,900,008	218,160,731
Natural Gas (ekWh)	211,639,408	174,420,120	178,368,501	173,747,152	166,015,505
Electric Emissions (Ton eCO_2)	6,589	7,442	7,843	8,432	8,290
Natural Gas Emissions (Ton eCO_2)	39,547	32,592	33,330	32,467	31,022

Table 69: 2019-2023 Utility Consumption and Emissions – Toronto Shelters and Support Services

	2019	2020	2021	2022	2023
Electric (ekWh)	7,899,631	8,615,070	8,568,764	10,059,308	11,568,666
Natural Gas (ekWh)	13,550,572	10,923,506	10,607,870	11,873,381	14,104,449
Electric Emissions (Ton eCO_2)	230	285	309	382	440
Natural Gas Emissions (Ton eCO_2)	2,532	2,041	1,982	2,219	2,636

Table 70: 2019-2023 Utility Consumption and Emissions – Storage Facilities

	2019	2020	2021	2022	2023
Electric (ekWh)	62,970,307	66,795,255	70,003,741	69,235,742	66,677,011
Natural Gas (ekWh)	191,150,265	155,993,920	155,930,894	183,061,485	168,255,203
Electric Emissions (Ton eCO_2)	1,828	2,206	2,521	2,631	2,534
Natural Gas Emissions (Ton eCO_2)	35,719	29,149	29,137	34,207	31,418

Table 71: 2019-2023 Utility Consumption and Emissions – Transfer Stations

	2019	2020	2021	2022	2023
Electric (ekWh)	18,039,615	17,288,929	17,244,169	17,052,660	16,331,146
Natural Gas (ekWh)	7,238,163	6,796,979	6,005,605	7,008,587	6,906,366
Electric Emissions (Ton eCO_2)	523	571	621	648	621
Natural Gas Emissions (Ton eCO_2)	1,353	1,270	1,122	1,310	1,294

Table 72: 2019-2023 Utility Consumption and Emissions – Transit Hub

	2019	2020	2021	2022	2023
Electric (ekWh)	16,448,809	15,682,722	16,031,034	15,744,857	15,741,710
Natural Gas (ekWh)	4,078,833	1,092,589	1,158,746	1,593,532	2,092,415
Steam (ekWh)	16,057,136	14,197,511	13,057,614	14,177,924	11,098,154
Chilled Water (ekWh)	9,685,296	9,249,287	11,308,746	11,232,890	11,651,037
Electric Emissions (Ton eCO_2)	477	518	577	598	598
Natural Gas Emissions (Ton eCO_2)	762	204	217	298	391

	2019	2020	2021	2022	2023
Steam Emissions (Ton eCO_2)	3,443	2,885	2,846	3,090	2,419
Chilled Water Emissions (Ton eCO_2)	61	52	72	71	74

Table 73: 2019-2023 Utility Consumption and Emissions – Water Treatment Plants

	2019	2020	2021	2022	2023
Electric (ekWh)	297,895,936	307,197,962	302,608,371	315,017,413	313,644,722
Natural Gas (ekWh)	5,633,243	3,792,217	4,501,876	4,790,352	4,972,325
Electric Emissions (Ton eCO_2)	8,642	10,140	10,895	11,971	11,918
Natural Gas Emissions (Ton eCO_2)	1,053	709	841	895	929

Table 74: 2019-2023 Utility Consumption and Emissions – Toronto Zoo

	2019	2020	2021	2022	2023
Electric (ekWh)	11,518,784	10,631,700	10,429,584	10,766,576	10,979,705

	2019	2020	2021	2022	2023
Natural Gas (ekWh)	20,342,660	17,541,198	19,572,009	18,672,118	16,174,170
Electric Emissions (Ton eCO_2)	335	351	376	409	417
Natural Gas Emissions (Ton eCO_2)	4,033	3,275	3,662	3,465	3,045

Appendix C: 2019 Utility Consumption, GHG Emissions and Cost

Table 75: 2019 Utility Consumption, Emissions and Cost for Admin. Office and Related Facilities

	2019 Utility Consumption (ekWh)	2019 Emissions (Ton eCO_2)	2019 Total Cost ($)
Electric	265,479,492	1,849	10,364,827
Natural Gas	33,186,263	6,201	779,667
Steam	168,589,478	5,980	3,183,622
Chilled Water	14,398,232	91	802,172

Table 76: 2019 Utility Consumption, Emissions and Cost for Ambulance Stations

	2019 Utility Consumption (ekWh)	2019 Emissions (Ton eCO_2)	2019 Total Cost ($)
Electric	5,485,566	159	930,615
Natural Gas	7,400,034	1,383	205,383

Table 77: 2019 Utility Consumption, Emissions and Costs – Animal Centres

	2019 Utility Consumption (ekWh)	2019 Emissions (Ton eCO_2)	2019 Total Cost ($)
Electric	970,729	28	179,583
Natural Gas	1,432,907	268	39,086

Table 78: 2019 Utility Consumption, Emissions and Costs - Child Care Facilities

	2019 Utility Consumption (ekWh)	2019 Emissions (Ton eCO_2)	2019 Total Cost ($)
Electric	1,354,571	39	224,161

Natural Gas	1,680,531	314	48,301

Table 79: 2019 Utility Consumption, Emissions and Costs - Community Centres

	2019-2023 Utility Consumption (ekWh)	**2019-2023 Emissions (Ton eCO_2)**	**2019-2023 Total Cost ($)**
Electric	90,396,847	3,148	15,100,469
Natural Gas	108,424,675	20,261	3,752,426

Table 80: 2019 Utility Consumption, Emissions and Costs - Cultural Facilities

	2019 Utility Consumption (ekWh)	**2019 Emissions (Ton eCO_2)**	**2019 Total Cost ($)**
Electric	7,167,220	208	1,310,518
Natural Gas	6,209,254	1,160	168,499

Table 81: 2019 Utility Consumption, Emissions and Costs - Fire Stations and Related Facilities

	2019 Utility Consumption (ekWh)	**2019 Emissions (Ton eCO_2)**	**2019 Total Cost ($)**
Electric	10,228,654	298	1,612,650
Natural Gas	23,725,157	4,433	652,801

Table 82: 2019 Utility Consumption, Emissions and Costs - Greenhouses

	2019 Utility Consumption (ekWh)	**2019 Emissions (Ton eCO_2)**	**2019 Total Cost ($)**
Electric	1,333,542	39	223,002
Natural Gas	11,788,324	2,203	263,740
Steam	243,243	52	28,424

Table 83: 2019 Utility Consumption, Emissions and Costs - Indoor Recreation Facilities

	2019 Utility Consumption (ekWh)	2019 Emissions (Ton eCO_2)	2019 Total Cost ($)
Electric	29,197,967	848	3,455,285
Natural Gas	41,497,793	7,754	582,375

Table 84: 2019 Utility Consumption, Emissions and Costs - Indoor Sports Arenas

	2019 Utility Consumption (ekWh)	2019 Emissions (Ton eCO_2)	2019 Total Cost ($)
Electric	19,361,196	562	3,609,788
Natural Gas	18,541,649	3,465	513,695

Table 85: 2019 Utility Consumption, Emissions and Costs - Indoor Swimming Pools

	2019 Utility Consumption (ekWh)	2019 Emissions (Ton eCO_2)	2019 Total Cost ($)
Electric	5,457,500	158	992,462
Natural Gas	19,449,207	3,634	436,247

Table 86: 2019 Utility Consumption, Emissions and Costs - Long Term Care Homes

	2019 Utility Consumption (ekWh)	2019 Emissions (Ton eCO_2)	2019 Total Cost ($)
Electric	30,553,275	886	3,718,800
Natural Gas	39,752,678	7,428	867,493

Table 87: 2019 Utility Consumption, Emissions and Costs - Parking Garages

	2019 Utility Consumption (ekWh)	2019 Emissions (Ton eCO_2)	2019 Total Cost ($)
Electric	14,188,351	412	2,443,375
Natural Gas	74,502	14	4,854

Table 88: 2019 Utility Consumption, Emissions and Costs - Police Stations and Related Facilities

	2019 Utility Consumption (ekWh)	2019 Emissions (Ton eCO_2)	2019 Total Cost ($)
Electric	39,639,555	1,151	6,553,711
Natural Gas	37,349,564	6,979	829,079
Chilled Water	6,427,417	41	272,216

Table 89: 2019 Utility Consumption, Emissions and Costs - Public Libraries

	2019 Utility Consumption (ekWh)	2019 Emissions (Ton eCO_2)	2019 Total Cost ($)
Electric	32,653,108	949	5,524,896
Natural Gas	23,270,442	4,348	605,781

Table 90: 2019 Utility Consumption, Emissions and Costs - Sewage Treatment Plants

	2019 Utility Consumption (ekWh)	2019 Emissions (Ton eCO_2)	2019 Total Cost ($)
Electric	227,106,224	6,589	25,846,070
Natural Gas	211,639,408	39,547	4,141,268

Table 91: 2019 Utility Consumption, Emissions and Costs - Toronto Shelter and Support Services

	2019 Utility Consumption (ekWh)	2019 Emissions (Ton eCO_2)	2019 Total Cost ($)
Electric	7,899,631	230	1,201,605
Natural Gas	13,550,572	2,532	332,306

Table 92: 2019 Utility Consumption, Emissions and Costs - Storage Facilities

	2019 Utility Consumption (ekWh)	2019 Emissions (Ton eCO_2)	2019 Total Cost ($)
Electric	62,970,307	1,828	10,166,379
Natural Gas	191,150,265	35,719	4,090,604

Table 93: 2019 Utility Consumption, Emissions and Costs - Transfer Stations

	2019 Utility Consumption (ekWh)	2019 Emissions (Ton eCO_2)	2019 Total Cost ($)
Electric	18,039,615	523	2,671,115
Natural Gas	7,238,163	1,353	170,436

Table 94: 2019 Utility Consumption, Emissions and Costs - Transit Hub

	2019 Utility Consumption (ekWh)	2019 Emissions (Ton eCO_2)	2019 Total Cost ($)
Electric	16,448,809	477	1,786,279
Natural Gas	4,078,833	762	89,328
Steam	16,057,136	3,443	1,807,741
Chilled Water	9685296.13	61.4	526401

Table 95: 2019 Utility Consumption, Emissions and Costs - Water Treatment Plants

	2019 Utility Consumption (ekWh)	2019 Emissions (Ton eCO_2)	2019 Total Cost ($)
Electric	297,895,936	8,642	38,203,588
Natural Gas	5,633,243	1,053	127,164

Table 96: 2019 Utility Consumption, Emissions and Costs - Toronto Zoo

	2019 Utility Consumption (ekWh)	2019 Emissions (Ton eCO_2)	2019 Total Cost ($)
Electric	11,518,784	335	1,667,714
Natural Gas	11,346,569	2,120	191,865

Appendix D: City of Toronto Energy Efficiency Measures (2019-2023)

Table 97: Energy Efficiency Measures (2019-2023)

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount**	**Electricity (kWh)**	**Gas (m3)**
Spadina Museum	285 Spadina Rd.	Oct-23	Dec-23	Boiler replacement	25,000	Operating	N/A	100%	N/A	N/A
Atlantic Storage	98 Atlantic Ave.	Jan-21	May-21	Lab HVAC system replacement	100,000	Capital	N/A	100%	N/A	N/A
Atlantic Storage	98 Atlantic Ave.	Jan-21	Jan-22	Boiler replacement	150,000	Capital	N/A	100%	N/A	N/A
Mackenzie House	82 Bond St.	Jan-21	Feb-21	2 furnace replacement	10,000	insurance	N/A	100%	N/A	N/A
Cedar Ridge	225 Confederation Dr.	Dec-21	Jan-22	Boiler replacement	25,000	Operating	N/A	100%	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount**	**Electricity (kWh)**	**Gas (m3)**
Cedar Ridge Creative Centre	225 Confederation Dr.	Oct-19	Nov-19	Replacement of interior T12/T8 fluorescent lighting with LED lighting	20,000	N/A	N/A	N/A	5%-10%	N/A
Lakeshore Assembly Hall	1 Colonel Samuel Smith Park Dr.	Jun-19	Sep-19	Replace 2002 York 50-ton chiller	100,000	N/A	N/A	N/A	10%-15%	10% - 15%
Neilson Park Creative Centre	56 Neilson Dr.	May-21	Jun-21	Replace rooftop 5 York HVAC units	100,000	N/A	N/A	N/A	10%-15%	10% - 15%
Spadina House Museum	285 Spadina Rd.	Jun-19	Jul-19	Replace interior incandescent/fluorescent lighting with LED lighting	1,000	N/A	N/A	N/A	3%-5%	N/A
Todmorden Mills	67 Pottery Rd.	Jan-20	Mar-20	Replace interior halogen lighting and lutron system with LED lighting system	8,000	N/A	N/A	N/A	15%-20%	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount**	**Electricity (kWh)**	**Gas (m3)**
Shelter	348 Davenport Rd.	Aug-18	Dec-21	Full gut and renovation of an existing 4 storey and 2 basement level building - Phase 1-full renovation, Phase 2-basement waterproofing and elevator modernization, Phase 3 was a 3-storey addition built onto the back of the existing building	7,400,000	N/A	N/A	N/A	N/A	N/A
Homes First GSR Site	4117 Lawrence Ave.	Oct-19	Aug-21	Full gut and renovation of an existing 2 storey office building into an all-gender shelter.	11,000,000	N/A	N/A	N/A	N/A	N/A
Shelter	101 Placer Crt.	Aug-20	Mar-22	Full gut and renovation of an existing 2 storey office building into an all-gender shelter	10,000,000	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount**	**Electricity (kWh)**	**Gas (m3)**
Commissioners St. Transfer Station	400 Commissioners St.	May-23	Dec-23	MRF Building Roof Replacement	334,085	N/A	N/A	N/A	N/A	N/A
Multiple locations	Multiple addresses	Nov-22	Dec-23	Repair Roofing Deficiencies inspection	148,124	N/A	N/A	N/A	N/A	N/A
Dufferin Transfer Station	35 Vanley Cres.	Sep-20	Nov-23	Provision for Rehab to Bldg. 400	321,642	N/A	N/A	N/A	N/A	N/A
Commissioners St. Transfer Station	400 Commissioners St.	Jan-22	Apr-23	Repair various level of roof	149,507	N/A	N/A	N/A	N/A	N/A
Disco Transfer Station	120 Disco Rd.	May-16	Feb-22	Windows Replacement	2,482,522	N/A	N/A	N/A	N/A	N/A
Ingram Yard	86 Ingram Dr.	Jan-18	Sep-20	Y CNG Site Works	558,968	N/A	N/A	N/A	N/A	N/A
Bermondsey Yard	188 Bermondsey Rd.	May-19	Dec-20	Y Wash Bay Retrofit	30,528	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount**	**Electricity (kWh)**	**Gas (m3)**
Dufferin Transfer Station	35 Vanley Cres.	Dec-19	Dec-23	Yard Roofs and Exhaust Fans Replacement	2,473,193	N/A	N/A	N/A	N/A	N/A
Dufferin Yard	75 Vanley Cres.									
RL Clark Water Treatment Plant	45 Twenty Third St.	2017	2019	Building insulation to reduce heat loss	300,200	311,500	N/A	N/A	N/A	N/A
Armour Heights Pumping Station	226 Wilson Ave.	2018	2020	Pump Replacement	1,100,000	306,484	N/A	N/A	N/A	N/A
Keele Pumping Station	4995 Keele St.	2018	2020	Pump Replacement	1,100,000	223,875	N/A	N/A	N/A	N/A
Waterfront Neighbourhood Centre	627 Queens Quay W.	2017	2019	Building-wide LED lighting retrofit	216,948	N/A	N/A	8,512	204222	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount**	**Electricity (kWh)**	**Gas (m3)**
Waterfront Neighbourhood Centre	627 Queens Quay W.	2019	2022	Comprehensive retrofit incl. Lake Based Hydrothermal System & BAS	3,265,000	IESO & FCM	N/A	850,000	N/A	N/A
Ambulance Headquarters	4330 Dufferin St.	2019	2023	Replacement of chiller and cooling tower, chilled water pump, heating system pump, supply units, TRUs	3,920,000	Enbridge & IESO	N/A	42,213	380427	238,839
EYCC	850 Coxwell Ave.	Apr-18	May-19	BAS Replacement	538,377	IESO	electrical	20,184	135,200	N/A
2 Civic Centre Court	2 Civic Centre Crt.	19-Jan	Nov-19	Install BAS controls for CHW plant	41,813	IESO	electrical	6,477	40,187	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount**	**Electricity (kWh)**	**Gas (m3)**
Etobicoke Civic Centre	399 The West Mall	18-Dec	Mar-20	Install stand-alone automation for AHUs, required, HVAC repairs, pneumatic upgrades	131,818	N/A	N/A	N/A	N/A	N/A
City Hall	100 Queen St W.	17-Aug	Nov-20	BAS Replacement & HVAC Upgrades	3,982,160	IESO	electrical	50,044	1,528,252	N/A
York Civic Centre	2700 Eglinton Ave. W.	Nov-19	Sep-21	BAS Replacement & Energy Upgrades	1,056,212	IESO	electrical	6,030	52,414	9,324
WNC (c/o Delina Konomi, E&C)	627 Queen's Quay W.	Jan-18	Aug-22	BAS Replacement, later rolled into the ESCO project due to lack of BAS funding. CREM BAS SOGR did eventually transfer $900k to the project for the BAS portion.	900,000	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount**	**Electricity (kWh)**	**Gas (m3)**
Scarborough Civic Centre	150 Borough Dr.	Nov-22	Nov-23	Integrate existing lighting control system to existing BAS FIN central server.	32,382	N/A	N/A	N/A	N/A	N/A
Multiple locations	Multiple addresses	Jul-19	Sep-21	CREM BAS Centralization 1: Legacy Java Curtailment	278,510	N/A	N/A	N/A	N/A	N/A
Multiple locations	Multiple addresses	Apr-21	Feb-23	CREM BAS Centralization 2: Legacy JCI Metasys	184,459	N/A	N/A	N/A	N/A	N/A
Carpark 52	40 York St.	Jul-23	Aug-23	LED Light Retrofit	46,471	Save on Energy	Rebate	32,700	N/A	N/A
Carpark 150	40 Larch St.	Jul-23	Jul-23	LED Light Retrofit	56,907	Save on Energy	Rebate	40,200	N/A	N/A
Carpark 36	110 Queen St. W.	Nov-23	Dec-23	LED Light Retrofit	239,639	Save on Energy	Rebate	222,531	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount**	**Electricity (kWh)**	**Gas (m3)**
Carpark 42	91 Via Italia	Sep-23	Oct-23	LED Light Retrofit	27,335,55	Save on Energy	Rebate	19,790	N/A	N/A
Carpark 43	2 Church St.	Sep-23	Oct-23	LED Light Retrofit	139,453	Save on Energy	Rebate	134,683	N/A	N/A
Carpark 404	95 Beecroft Rd	Apr-23	May-23	LED Light Retrofit	45,875	N/A	N/A	N/A	N/A	N/A
Toronto Zoo	361A Old Finch Ave.	May-22	Apr-23	Replacement of steam boiler heating system to heat pumps and hot water boilers	3,241,957	Better Building Partnership	Energy Retrofit Loan	3,241,957	N/A	N/A
DON MONTGOMERY COMMUNITY	2467 Eglinton Ave. E.	2019	Jun-20	Transformer Replacement and Electrical Upgrades	801,000	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount**	**Electricity (kWh)**	**Gas (m3)**
RECREATION CENTRE										
McGREGOR PARK COMMUNITY CENTRE	2231 Lawrence Ave. E.	2020	Nov-20	Transformer Replacement and Electrical Upgrades	450,000	N/A	N/A	N/A	N/A	N/A
MEMORIAL PARK - NORTH YORK - Maintenance Building	340 Chaplin Cres.	2019	Jun-20	Foundation, Structural, Ceiling, Doors, Ceilings, plumbing, heating system, painting/finishes, fixtures, walkWays	250,000					

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount**	**Electricity (kWh)**	**Gas (m3)**
EDGEHILL HOUSE	61 Edgehill Rd.	2020	Jul-22	New doors and windows	50,000	N/A	N/A	N/A	N/A	N/A
Albert Campbell Library	496 Birchmount Rd.	Sep-19	Jun-22	Renovation of an existing building with all new building systems/technology and building envelope improvements	21,457,712	N/A	N/A	N/A	N/A	N/A
Guildwood Library	123 Guildwood PkWy.	Sep-20	May-21	Renovation and expansion of leased premises with new lighting systems	1,627,976	N/A	N/A	N/A	N/A	N/A
St. Clair Silverthorn Library	1748 St. Clair Ave. W.	Aug-18	Sep-19	Demolition of existing building and construction of a new building, with LED lighting	4,500,000	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount**	**Electricity (kWh)**	**Gas (m3)**
Wychwood Library	1431 Bathurst St.	Jul-18	Sep-22	Renovation and building expansion with all new building systems	14,988,000	N/A	N/A	N/A	N/A	N/A
York Woods Library	1785 Finch Ave. W.	Oct-19	Jul-23	Renovation and expansion of an existing building with all new building systems/technology and building envelope improvements	14,802,000	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount**	**Electricity (kWh)**	**Gas (m3)**
Mount Pleasant Library	599 Mount Pleasant Rd.	Nov-21	Jul-23	Renovation of existing building and HVAC and lighting upgrades.	2,873,580	N/A	N/A	N/A	N/A	N/A
Armour Heights Community Centre/Library	2140 Avenue Rd.	Sep-22	Jul-23	New LED lighting	700,000	N/A	N/A	N/A	N/A	N/A
Parkdale Library	1303 Queen St. W.	Jun-19	Jul-19	Bldg. wide LED lighting retrofit	N/A	N/A	N/A	N/A	N/A	N/A
Parliament Library	269 Gerrard St. E.	Jul-19	Aug-19	Bldg. wide LED lighting retrofit	N/A	N/A	N/A	N/A	N/A	N/A
Palmerston Library	560 Palmerston Ave.	Nov-20	Dec-20	Bldg. wide LED lighting retrofit	N/A	N/A	N/A	N/A	N/A	N/A
High Park Library	228 Roncesvalles Ave.	Oct-20	Dec-20	Bldg. wide LED lighting retrofit	N/A	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount**	**Electricity (kWh)**	**Gas (m3)**
Bloor/Gladstone Library	1101 Bloor St, W.	Apr-20	Jun-23	Bldg. wide LED lighting retrofit	N/A	N/A	N/A	N/A	N/A	N/A
Northern District Library 40 Orchard View Blvd	40 Orchard View Blvd.	May-20	Jul-20	Bldg. wide LED lighting retrofit	N/A	N/A	N/A	N/A	N/A	N/A
Lillian H Smith Library	239 College St.	Feb-22	Apr-22	Bldg. wide LED lighting retrofit	N/A	N/A	N/A	N/A	N/A	N/A
Locke Library	3083 Yonge St.	Nov-20	Dec-20	Bldg. wide LED lighting retrofit	N/A	N/A	N/A	N/A	N/A	N/A
New Toronto Library	110 Eleventh St.	Nov-20	Nov-23	Bldg. wide LED lighting retrofit	N/A	N/A	N/A	N/A	N/A	N/A
Dufferin St Clair Library	1625 Dufferin St.	May-20	Jul-20	Bldg. wide LED lighting retrofit	N/A	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount**	**Electricity (kWh)**	**Gas (m3)**
Fort York Library	190 Fort York Blvd.	Apr-23	Jun-23	Bldg. wide LED lighting retrofit	N/A	N/A	N/A	N/A	N/A	N/A
Runnymede Library	2178 Bloor St W.	Jan-21	Feb-21	Bldg. wide LED lighting retrofit	N/A	N/A	N/A	N/A	N/A	N/A
Davisville Carhouse	29 Lascelles Blvd.	Jul-17	Mar-20	Davisville Yard Fire Tower Lighting Replacement (S60-35)	N/A	N/A	N/A	N/A	N/A	N/A
Davisville McBrien Building	1900 Yonge St.	Jul-20	May-22	Davisville McBrien Building - 4Th Floor Upgrades (S5-77)	N/A	N/A	N/A	N/A	N/A	N/A
McNicoll New Bus Garage	225 Milliken Blvd.	Aug-17	Aug-23	McNicoll New Bus Garage (Mn1-1)	N/A	N/A	N/A	N/A	N/A	N/A
Davisville Carhouse	29 Lascelles Blvd.	Oct-19	Nov-22	Davisville Carhouse - Dc Pendent Power Supply Sys Retrofit & Women’s	N/A	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount**	**Electricity (kWh)**	**Gas (m3)**
				Locker Room Exp. (S5-82)						
Hillcrest Complex	1138 Bathurst St.	Dec-16	Jun-22	Hillcrest Complex - Streetcar Way Facility & Harvey Shop Loading Dock (M7-2) (M7-1 & M1-91)	N/A	N/A	N/A	N/A	N/A	N/A
Davisville Carhouse	29 Lascelles Blvd.	Feb-18	Jul-19	Davisville Carhouse - Sewage Pumps Replacement (S5-70)	N/A	N/A	N/A	N/A	N/A	N/A
Duncan Shop	1138 Bathurst St.	Dec-16	Jan-21	Duncan Shop - Vent. Upgrade, Hoists Repl. & Monorail Crane Instal. - M1- 94 & M35-2 (M1-115)	N/A	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount**	**Electricity (kWh)**	**Gas (m3)**
1810 Markham Road - Malvern Old Garage	1810 Markham Rd.	Sep-19	Dec-22	1810 Markham Road - Building Upgrades (H60-6)	N/A	N/A	N/A	N/A	N/A	N/A
Queensway Bus Garage	400 Evans Ave.	Feb-14	Jul-19	Queensway Bus Garage - Roofing Rehabilitation (F7-30)	N/A	N/A	N/A	N/A	N/A	N/A
Queensway Bus Garage	400 Evans Ave.	Nov-20	Jan-21	Queensway Bus Garage - Roofing Deficiencies (F7-47)	N/A	N/A	N/A	N/A	N/A	N/A
Davisville T&S Building	29 Lascelles Blvd.	Apr-21	Nov-21	Davisville T&S Building - Section A&B Roofing Rehabilitation (S5-80)	N/A	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount**	**Electricity (kWh)**	**Gas (m3)**
Harvey Shop	1138 Bathurst St.	Feb-17	Apr-23	Harvey Shop - Replacement Lighting (M60-81)	N/A	N/A	N/A	N/A	N/A	N/A

Appendix E: City of Toronto Renewable Energy Efficiency Measures (2019-2024)

Table 98: Renewable Energy Efficiency Measures (2019-2024)

							External Funding/Incentives			Actual Energy Generated (kWh)				
Location Name	**Address**	**Project Start Date**	**Completion Date**	**Description of System**	**System Capacity (kW)**	**Project Cost ($)**	**Source**	**Type**	**Amount**	**2019**	**2020**	**2021**	**2022**	**2023**
Waterfront Neighbourhood Centre	627 Queens Quay W.	2019	2021	Solar PV + Storage	94	633129	N/A	N/A	N/A	N/A	N/A	N/A	58484	206137
Highland Creek Treatment Plant	51 Beechgrove Dr.	2019	2022	Installed Power Plate, an energy recovery device, on six centrifuges.	N/A	30968	Provincial	SaveOn	15484	N/A	N/A	N/A	N/A	N/A
EMS 46	105 Cedarvale Ave.	N/A	Jul-19	Solar PV + Storage	10	N/A	N/A	N/A	N/A	N/A	2836	6256	7451	6175

							External Funding/Incentives			Actual Energy Generated (kWh)				
Location Name	**Address**	**Project Start Date**	**Completion Date**	**Description of System**	**System Capacity (kW)**	**Project Cost ($)**	**Source**	**Type**	**Amount**	**2019**	**2020**	**2021**	**2022**	**2023**
EMS 12	1535 Albion Rd.	N/A	2023	Solar PV + Storage	15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4174

Appendix F: City of Toronto Proposed Energy Efficiency Measures (2024-2029)

Table 99: Proposed Energy Efficiency Measures (2024-2029)

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Chaplin Cres Storage	329 Chaplin Cres.	2024	2026	2 RTU replacement +adding humidification	300,000	Capital	N/A	100%	N/A	N/A
Chaplin Cres Storage	329 Chaplin Cres.	2024	2026	window replacement/roof insulation	200,000	Capital	N/A	100%	N/A	N/A
Cedar Ridge CC	225 Confederation Dr.	2024	2026	HVAC replacement +adding Heat pump	400,000	Capital	N/A	100%	N/A	N/A
Todmorden Mills	67 Pottery Rd.	2024	2026	RTU replacement	150,000	Capital	N/A	100%	N/A	N/A
Todmorden Mills	67 Pottery Rd.	2024	2026	roof insulation upgrade	20,000	Capital	N/A	100%	N/A	N/A
Neilson Park CC	56 Neilson Dr.	2024	2025	interior LED lighting replacement	340,000	Capital	N/A	100%	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Assembly Hall	1 Colonel Samuel Smith Park	2025	2026	BAS replacement	80,000	operating	N/A	100%	N/A	N/A
Cummer Lodge	205 Cummer Ave.	2024	2026	Net Zero Retrofit - pilot project @ Cummer Lodge	30,000,000	SEPF, SOGR-LTC, CTITC	Grants & internal funds	Unknown	N/A	N/A
Cummer Lodge	205 Cummer Ave.	2024	2024	Ozone Laundry Treatment	23,164	Enbridge	Incentive	17,000	18,692	N/A
Cummer Lodge	205 Cummer Ave.	2024	2024	Demand Control Ventilation	19,859	Enbridge	Incentive	9,000	11,350	N/A
Castleview Wychwood Towers	351 Christie St.	2023	2024	LED Retrofit Lighting	70,469	IESO	BizEnergySaver Program	45,815	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Castleview Wychwood Towers	351 Christie St.	2023	2024	VFD installation	102,250	IESO	BizEnergySaver Program	60,600	N/A	N/A
Lakeshore Lodge	3197 Lakeshore Blvd. W.	2023	2024	LED Retrofit Lighting	77,635	IESO	BizEnergySaver Program	35,790	N/A	N/A
Lakeshore Lodge	3197 Lakeshore Blvd. W.	2023	2024	VFD installation	51,700	IESO	BizEnergySaver Program	24,700	N/A	N/A
Wesburn Manor	400 The West Mall	2023	2024	LED Retrofit Lighting	108,319	IESO	BizEnergySaver Program	80,482	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Wesburn Manor	400 The West Mall	2023	2024	VFD installation	51,600	IESO	BizEnergySaver Program	22,400	N/A	N/A
Shelter	67 Adelaide Ave.	Sep-24	TBD	Net Zero Renovation of 3 storey building to accommodate NA-ME-RES (Native Mans Residence)	29,500,000	N/A	N/A	N/A	N/A	N/A
Shelter	2299 Dundas St. W.	May-24	Dec-25	Full gut and renovation of existing 4 storey medical building into men's shelter (net zero)	15,500,000	N/A	N/A	N/A	N/A	N/A
Shelter	25 Canterbury Place	May-24	Nov-24	Renovation of existing 3 storey shelter into a youth shelter	3,000,000	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Drop-in Centre	233 Carlton St.	Dec-22	Aug-24	Adelaide Resource Center for Women- 24 Hour Drop-In Program	8,647,000	N/A	N/A	N/A	N/A	N/A
Shelter	705 Progress Ave.	Jan-20	Dec-21	Full gut and renovation of an existing 1 storey warehouse into men's shelter	11,600,000	N/A	N/A	N/A	N/A	N/A
Men's shelter (The Junction)	731-Runnymede Rd.	May-18	Dec-19	Full gut and renovation of one storey (former Goodwill store) into a men's shelter	4,200,000	N/A	N/A	N/A	N/A	N/A
Scarborough Village Residence - All gender shelter	3306 Kingston Rd.	Feb-18	Mar-19	Interior renovation of a former two storey motel into a men's shelter	11,970,000	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Shelter	2671 Islington Ave.	Oct-19	Jun-22	A 2-storey church conversion into a Senior's shelter. Basement and 1st floor complete gut and renovation. 2nd floor renovation only	8,500,000	N/A	N/A	N/A	N/A	N/A
Warming Centre	75-81 Elizabeth St.	Aug-23	Oct-24	Phase 1 - renovation of 1st floor only into a 64-cot warming centre. Phase 2 will be a renovation of the basement, 1st, 2nd and 3rd floors into a 100-cot warming centre	N/A	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Multiple locations	Multiple addresses	Jul-21	ongoing	Replacement of existing mechanical roof top units, installation of new UVGI units in rooms	6,000,000	N/A	N/A	N/A	N/A	N/A
Bermondsey Transfer Station	188 Bermondsey Rd.	2025	2030	Transfer Station Roof Replacement	1,600,000	N/A	N/A	N/A	N/A	N/A
Bermondsey Transfer Station	188 Bermondsey Rd.	2026	2030	Electrical Replacement	400,000	N/A	N/A	N/A	N/A	N/A
Bermondsey Transfer Station	188 Bermondsey Rd.	2026	2030	Building Lighting and Electrical Components	397,001	N/A	N/A	N/A	N/A	N/A
Commissioners St. Transfer Station	400 Commissioners St.	2026	2030	Various HVAC Replacement	200,000	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Disco Transfer Station	120 Disco Rd.	2026	2030	Building HVAC Replacement	121,001	N/A	N/A	N/A	N/A	N/A
Disco Transfer Station	120 Disco Rd.	2027	2031	Building Lighting replacement	260,000	N/A	N/A	N/A	N/A	N/A
Dufferin Transfer Station	35 Vanley Cres.	2026	2030	Windows Replacement	130,000	N/A	N/A	N/A	N/A	N/A
Ingram Transfer Station	50 Ingram Dr.	2026	2030	MCC and Lighting Replacement	350,000	N/A	N/A	N/A	N/A	N/A
Scarborough Transfer Station	1 Transfer Pl.	2027	2031	Building Lighting and Lighting Panels	150,000	N/A	N/A	N/A	N/A	N/A
Dufferin Yard	75 Vanley Cres.	2025	2030	Bldg. Re-purposing	1,500,000	N/A	N/A	N/A	N/A	N/A
Dufferin Yard	75 Vanley Cres.	2028	2033	Bldg. 75 Window Replacement	541,200	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Dufferin Yard	75 Vanley Cres.	2028	2033	Replacement of Building Windows	586,300	N/A	N/A	N/A	N/A	N/A
Ingram Yard	86 Ingram Dr.	2028	2032	HVAC & Plumbing Renewal 2029	205,001	N/A	N/A	N/A	N/A	N/A
Ingram Yard	86 Ingram Dr.	2027	2031	Interior Lighting and Combined Electrical Replacement	166,000	N/A	N/A	N/A	N/A	N/A
Yonge Yard	1008 Yonge St.	2025	2029	Emergency and Interior Lighting Replacement and Combined Electrical Upgrade	251,001	N/A	N/A	N/A	N/A	N/A
Yonge Yard	1008 Yonge St.	2027	2032	Roof Membrane Replacement	507,000	N/A	N/A	N/A	N/A	N/A
Bermondsey Yard	188 Bermondsey Rd.	2027	2031	Electrical Upgrade 2029	98,000	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Bermondsey Yard	188 Bermondsey Rd.	2025	2029	Emergency, Interior Lighting & Electrical Replacement	193,001	N/A	N/A	N/A	N/A	N/A
Bermondsey Yard	188 Bermondsey Rd.	2028	2033	HVAC, Plumbing and Fire System Valves Replacement	842,000	N/A	N/A	N/A	N/A	N/A
Bermondsey Yard	188 Bermondsey Rd.	2028	2032	Roof C Membrane Replacement	403,001	N/A	N/A	N/A	N/A	N/A
Ingram Transfer Station	50 Ingram Dr.	2025	2025	Roof Membrane and Mechanical Equipment Replacement	3,658,941	N/A	N/A	N/A	N/A	N/A
Dufferin Transfer Station	35 Vanley Cres.	2026	2031	Building Electrical Replacement (Phase 2)	5,000,000	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Bermondsey Transfer Station	188 Bermondsey Rd.	2029	2033	Upgrades of Site Lighting	222,103	N/A	N/A	N/A	N/A	N/A
Bermondsey Transfer Station	188 Bermondsey Rd.	2029	2033	Building Window Repairs/Rehab	75,100	N/A	N/A	N/A	N/A	N/A
Commissioners St. Transfer Station	400 Commissioners St.	2029	2033	Replacement of Lighting Panel & Exterior Lighting	44,201	N/A	N/A	N/A	N/A	N/A
Disco Transfer Station	120 Disco Rd.	2029	2033	Electrical Upgrades	259,350	N/A	N/A	N/A	N/A	N/A
Disco Transfer Station	120 Disco Rd.	2029	2033	Replacement of Lighting Panel & site Lighting	144,300	N/A	N/A	N/A	N/A	N/A
Dufferin Transfer Station	35 Vanley Cres.	2029	2033	Replacement of Electrical Upgrades	165,100	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Ingram Transfer Station	50 Ingram Dr.	2031	2031	Replacement of Electrical and Mechanical Equipment	106,412	N/A	N/A	N/A	N/A	N/A
Ingram Transfer Station	50 Ingram Dr.	2031	2031	Building Window Repairs/Rehab	52,260	N/A	N/A	N/A	N/A	N/A
Scarborough Transfer Station	1 Transfer Pl.	2029	2033	Replacement of Interior Lighting & Control Panel	313,301	N/A	N/A	N/A	N/A	N/A
Scarborough Transfer Station	1 Transfer Pl.	2029	2033	Buildings Windows repairs/rehabilitation	349,441	N/A	N/A	N/A	N/A	N/A
Victoria Park Transfer Station	3350 Victoria Park Ave.	2029	2033	Replacement of Building Windows	302,901	N/A	N/A	N/A	N/A	N/A
Victoria Park Transfer Station	3350 Victoria Park Ave.	2029	2033	Replacement of Interior Lighting	168,000	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Dufferin Yard	75 Vanley Cres.	2029	2033	Replacement of various Electrical Equipment	107,900	N/A	N/A	N/A	N/A	N/A
Dufferin Transfer Station	35 Vanley Cres.	2030	2033	Bldg. 250 Roof Replacement (2032)	475,200	N/A	N/A	N/A	N/A	N/A
Bermondsey Yard	188 Bermondsey Rd.	2030	2033	Window Replacement	4,126,415	N/A	N/A	N/A	N/A	N/A
Yonge Yard	1008 Yonge St.									
Ingram Yard	86 Ingram Dr.									
Dufferin Transfer Station	35 Vanley Cres.	2026	2031	Electrical Upgrades at Substation and Electrical Rooms	1,000,000	N/A	N/A	N/A	N/A	N/A
Ingram Yard	86 Ingram Dr.	2024	2024	HVAC & Plumbing Rehab (2024)	630,960	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Dufferin Transfer Station	35 Vanley Cres.	2024	2024	Spray Insulation for Welding Shop	200,000	N/A	N/A	N/A	N/A	N/A
Multiple locations	Multiple addresses	2024	2024	Lighting Upgrades	300,000	N/A	N/A	N/A	N/A	N/A
Commissioners St. Transfer Station	400 Commissioners St.	2024	2024	Emergency Lights Replacement	45,000	N/A	N/A	N/A	N/A	N/A
Ingram Transfer Station	50 Ingram Dr.									
Bermondsey Transfer Station	188 Bermondsey Rd.	Jun-17	Sep-25	Engineering and construction efforts for the replacement of the tip floor topping, replacement of windows, installation of a new sprinkler system and	198,569	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
				installation of a new tarping platform						
Scarborough Transfer Station	1 Transfer Pl.	Jun-20	Sep-21	Batteries (emergency lighting fixtures) replacement	48,000	N/A	N/A	N/A	N/A	N/A
Dufferin Yard	75 Vanley Cres.	Jan-21	Dec-23	Bldg. 75 Emergency Lighting Replacement	93,277	N/A	N/A	N/A	N/A	N/A
Dufferin Yard	75 Vanley Cres.	Apr-20	Jul-23	Bldg. 75 Windows Repair	88,355	N/A	N/A	N/A	N/A	N/A
Dufferin Transfer Station	35 Vanley Cres.	Sep-20	Dec-23	Building Electrical Replacement (Phase 1)	305,656	N/A	N/A	N/A	N/A	N/A
Bermondsey Transfer Station	188 Bermondsey Rd.	Jun-17	Sep-25	Bunker Building Fire Protection System	717,047	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Commissioners St. Transfer Station	400 Commissioners St.	Dec-21	Dec-26	Electrical Upgrade Project (Combined)	1,471,548	N/A	N/A	N/A	N/A	N/A
Ingram Transfer Station	50 Ingram Dr.	Jun-21	Sep-23	Emergency Lighting, Panels and Electrical Components Replacement	214,104	N/A	N/A	N/A	N/A	N/A
Bermondsey Yard	188 Bermondsey Rd.	Oct-19	Dec-23	Exterior Lighting Improvement	1,044,796	N/A	N/A	N/A	N/A	N/A
Bermondsey Transfer Station	188 Bermondsey Rd.	Oct-17	Sep-20	Garage Roof Repair	4,192	N/A	N/A	N/A	N/A	N/A
Yonge Yard	1008 Yonge St.	Jan-23	Dec-23	HVAC (Rooftop Units & Wall Fans) Renewal	91,000	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Yonge Yard	1008 Yonge St.	Oct-20	Mar-24	HVAC Replacement and Electrical Upgrade	1,675,391	N/A	N/A	N/A	N/A	N/A
Scarborough Transfer Station	1 Transfer Pl.	Sep-19	Dec-19	HVAC Systems (Retainer #16)	49,875	N/A	N/A	N/A	N/A	N/A
Bermondsey Yard	188 Bermondsey Rd.	Jan-23	Jan-24	HVAC, Plumbing Renewal 2023	128,377	N/A	N/A	N/A	N/A	N/A
Bermondsey Yard	188 Bermondsey Rd.	Feb-21	Aug-23	Lighting and Panel Renewal	98,190	N/A	N/A	N/A	N/A	N/A
Ingram Yard	86 Ingram Dr.	Jan-22	Dec-22	Low Sloped Roof Rehab	74,712	N/A	N/A	N/A	N/A	N/A
Bermondsey Transfer Station	188 Bermondsey Rd.	Dec-16	Dec-19	Lower/Haulage Lunchroom Renovations/Upgrades	228,443	N/A	N/A	N/A	N/A	N/A

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Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Bermondsey Transfer Station	188 Bermondsey Rd.	Dec-23	Mar-24	Maintenance Shop and Other Enclosed Areas Supply Air and Heating Design (Retainer Assignment #08)	50,000	N/A	N/A	N/A	N/A	N/A
Bermondsey Transfer Station	188 Bermondsey Rd.	Mar-20	Dec-26	MCC #1 & 2, Road Guardrail and Rooftop Fans Replacement	550,471	N/A	N/A	N/A	N/A	N/A
Bermondsey Transfer Station	188 Bermondsey Rd.	Mar-20	Dec-26	MCC #1 & 2, Road Guardrail and Rooftop Fans Replacement	1,250,000	N/A	N/A	N/A	N/A	N/A
Victoria Park Transfer Station	3350 Victoria Park Ave.	May-19	Jun-23	Men's & Women's Change Room and Storage Room Renovations	429,918	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Commissioners St. Transfer Station	400 Commissioners St.	Jun-22	Jul-27	MRF Building Rehabilitation	1,195,191	N/A	N/A	N/A	N/A	N/A
Disco Transfer Station	120 Disco Rd.	Jan-20	Nov-26	Replace Tipping Floor Exhaust Fans	1,875,746	N/A	N/A	N/A	N/A	N/A
Disco Transfer Station	120 Disco Rd.	Jan-21	May-28	Replacement of Compactors (4)	6,089,629	N/A	N/A	N/A	N/A	N/A
Ingram Transfer Station	50 Ingram Dr.	Jan-23	Dec-27	Roof Membrane and Mechanical Equipment Replacement-E	444,285	N/A	N/A	N/A	N/A	N/A
Commissioners Transfer Station	400 Commissioners St.	Dec-21	Jul-27	Roof Membrane Replacement						
Ingram Yard	86 Ingram Dr.				3,092,252	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Yonge Yard	1008 Yonge St.	Aug-21	Nov-22	Roof Rehab	81,819	N/A	N/A	N/A	N/A	N/A
Disco Transfer Station	120 Disco Rd.	Jan-21	Jun-22	Scale House Window Replacement	30,800	N/A	N/A	N/A	N/A	N/A
Bermondsey Transfer Station	188 Bermondsey Rd.	Jun-17	Sep-25	Window Replacement	477,939	N/A	N/A	N/A	N/A	N/A
Bermondsey Transfer Station	188 Bermondsey Rd.	Jan-22	Dec-22	Emergency Lighting Replacement	38,522	N/A	N/A	N/A	N/A	N/A
Victoria Park Transfer Station	3350 Victoria Park Ave.	Mar-20	Dec-23	Windows repair	99,758	N/A	N/A	N/A	N/A	N/A
Multiple locations	Multiple addresses	Jan-21	Sep-26	Upgrade Interior Lighting at Haulage and Tip Floor Area	819,316	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Multiple locations	Multiple addresses	Mar-24	May-26	Upgrades for Exterior Lighting and for Mobile Generator Connections	6,067,263	N/A	N/A	N/A	N/A	N/A
Scarborough Transfer Station	1 Transfer Pl.	Dec-19	Jul-27	Upper Tipping Floor Repairs & Switchgear/Breaker Replacement	6,010,803	N/A	N/A	N/A	N/A	N/A
Dufferin Transfer Station	35 Vanley Cres.	Oct-19	Dec-25	WalkWay and Lighting	388,310	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Ingram Transfer Station	50 Ingram Dr.	Jan-20	Mar-26	Window Replacement	2,716,606					
Scarborough Transfer Station	1 Transfer Pl.					N/A	N/A	N/A	N/A	N/A
Commissioners St. Transfer Station	400 Commissioners St.	Jan-23	Jun-27	Windows and Salt Bunker	1,116,357	N/A	N/A	N/A	N/A	N/A
Rosehill Pumping Station	240 Mount Pleasant Rd.	2024	2025	Increase pumping station efficiency by 2.5% via pump replacement	TBD	N/A	N/A	N/A	307,000	N/A
FJ Horgan treatment plant	201 Copperfield Rd.	2023	2024	Lighting upgrade from Induction to LED for the base plant	73,000	N/A	N/A	N/A	16,060	N/A

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Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
FJ Horgan treatment plant	201 Copperfield Rd.	2022	2025	Replace raw water pump discharge valves to eliminate water recirculation	1,413,000	N/A	N/A	N/A	460,000	N/A
Humber Treatment Plant	130 The Queensway	2020	2026	Retrofit 3 boilers with proper controls and burners to use digester gas	TBD	N/A	N/A	N/A	N/A	1,630,830
Humber Treatment Plant	130 The Queensway	2019	2028	Blower replacements to optimize aeration energy use	TBD	N/A	N/A	N/A	3,800,000	N/A
Highland Creek Treatment Plant	51 Beechgrove Dr.	2015	2024	Liquid Process Train Rehab and Upgrades Contract 1: blower and diffuser upgrades to optimize aeration energy use	2,400,000	N/A	N/A	N/A	TBD	N/A

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Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Highland Creek Treatment Plant	51 Beechgrove Dr.	2023	2032	Liquid Process Train Rehab and Upgrades Contract 2 includes blower and diffuser upgrades to optimize aeration energy use	TBD	N/A	N/A	N/A	TBD	N/A
Highland Creek Treatment Plant	51 Beechgrove Dr.	2023	2032	Fluidized Bed Incinerator / South Facility Upgrades to reduce natural gas use	TBD	N/A	N/A	N/A	TBD	TBD
High Park Greenhouse Complex	High Park	2024	2025	Net-zero retrofit, scope TBD	TBD	TBD	TBD	TBD	TBD	TBD
Metro Hall	55 John St.	May-24	TBD	Pneumatic curtailment (central plants & basement)	900,000	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Fire & EMS	all	funding dependent	3-year window	Integrate all Fire & EMS locations to centralized BAS. Where BAS does not exist (which is most locations), install it.	7,000,000	N/A	N/A	N/A	N/A	N/A
East Animal Shelter	821 Progress Ave.	2023	2024	HVAC system upgrade, BAS upgrade, electrify domestic hot water, LED lighting retrofit, air source heat pump, solar PV	TBD	TBD	TBD	TBD	422,985	42,638
West Animal Shelter	146 The East Mall	2023	2024	HVAC system upgrade, BAS upgrade, electrify domestic hot water, LED lighting retrofit,	TBD	TBD	TBD	TBD	436,170	32,785

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
				air source heat pump, solar PV						
St. Lawrence Market South	91 Front St. E.	2023	2026	Net-zero retrofit, scope TBD	TBD	TBD	TBD	TBD	TBD	TBD
Etobicoke Olympium	590 Rathburn Rd.	2019	2024	LED Lighting retrofit, chiller replacement, pool make-up water conservation, air-source heat pump, envelope upgrades	3,000,000	FCM	Grant	$48,000	391,185	169,467
Multiple locations	Multiple addresses	2022	2024	LED Lighting retrofit	3,205,000	Toronto Hydro	SaveOn Energy	62,675	1,253,506	N/A
2 Civic Centre Court	2 Civic Centre Crt.	Sep-23	May-24	Integrate boiler/AHU controls to existing BAS	55,155	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Metro Hall	55 John St.	May-20	TBD	Compartment unit controls upgrades & network upgrades	980,062	IESO	electrical	14,079	140,796	N/A
Scarborough Civic Centre	150 Borough Dr.	Sep-21	TBD	Design an HVAC analytics strategy and pilot on a sample building.	80,808	IESO	electrical	47,865	465,479	N/A
Police HQ	40 College St.	Mar-23	May-25	BAS Replacement & HVAC/Energy Upgrades	3,951,078	IESO	electrical	56,600	785,941	304,610
Toronto Zoo	361A Old Finch Ave.	Jan-24	Dec-24	Hippo Filtration Systems - installation of filtration systems for pygmy hippo and River hippo pools	1,744,972	City of Toronto - Better Buildings Program	Energy Retrofit Loan	1,744,972	-52,560	11,215

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Toronto Zoo	361A Old Finch Ave.	Apr-24	Dec-24	Africa, Indo and Hoofstock heating system replacement with heat pumps	4,143,323	City of Toronto - Better Buildings Program	Energy Retrofit Loan	4,143,323	-833,272	304,174
Members & Visitor Centre	361A Old Finch Ave.	Jan-24	Dec-28	Replace exhaust fans, boiler, AHU, water heater, condensing unit, split cooling system and heaters with high efficiency systems or heat pumps and retrofit lighting with LED	423,515	N/A	N/A	N/A	-47,307	241,36

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Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Education/Retail	361A Old Finch Ave.	Jan-24	Dec-28	Replace exhaust fans, boiler, AHU, water heater, condensing unit, split cooling system and heaters with high efficiency systems or heat pumps and retrofit lighting with LED	1,216,670	N/A	N/A	N/A	-737,66	33,028
Bird Barn	361A Old Finch Ave.	Jan-24	Dec-28	Replace DHW, exhaust fans and unit heaters with higher efficiency or heat pumps and retrofit lighting with LED	55,810	N/A	N/A	N/A	83,859	0

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Waterside Holding	361A Old Finch Ave.	Jan-24	Dec-28	Replace AC units, DHW, exhaust fans with higher efficiency or heat pumps and retrofit lighting with LED	55,810	N/A	N/A	N/A	21,544	0
Transit	361A Old Finch Ave.	Jan-24	Dec-28	Replace AC units, DHW, exhaust fans with higher efficiency or heat pumps and retrofit lighting with LED	258,140	N/A	N/A	N/A	-89,950	27,438
Administrative Complex	361A Old Finch Ave.	Jan-24	Dec-28	Replace AC units, DHW, exhaust fans with higher efficiency or heat pumps and retrofit lighting with LED	8,518,900	N/A	N/A	N/A	-359,017	214,133

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Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Horticulture & MC Complex	361A Old Finch Ave.	Jan-24	Dec-28	Replace AC units, DHW, exhaust fans with higher efficiency or heat pumps and retrofit lighting with LED	3,290,000	N/A	N/A	N/A	-108,403	53,962
WHC	361A Old Finch Ave.	Jan-24	Dec-28	Recommissioning	3,421,259	N/A	N/A	N/A	-134,278	82,478
Americas Pavilion	361A Old Finch Ave.	Jan-24	Dec-28	Recommissioning, retrofit lighting with LED, replacement of pumps	2,129,725	N/A	N/A	N/A	-180,834	62,745
Caribou Café	361A Old Finch Ave.	Jan-24	Dec-28	Replace restaurant equipment and heating system	809,157	N/A	N/A	N/A	-34,389	13,536
Indo-Malaya Pavilion	361A Old Finch Ave.	Jan-24	Dec-28	Equipment replacement	3,129,340	N/A	N/A	N/A	19,580	620,566

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Indian Rhino House	361A Old Finch Ave.	Jan-24	Dec-28	Replace exhaust fans, boiler, AHU, water heater, condensing unit, split cooling system and heaters with high efficiency systems or heat pumps and retrofit lighting with LED	850,555	N/A	N/A	N/A	-45,767	18,292
Giraffe House	361A Old Finch Ave.	Jan-24	Dec-28	Replace exhaust fans, boiler, AHU, water heater, condensing unit, split cooling system and heaters with high efficiency systems or heat pumps and retrofit lighting with LED	1,250,500	N/A	N/A	N/A	73,355	30,941

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Hippo House	361A Old Finch Ave.	Jan-24	Dec-28	Replace exhaust fans, boiler, AHU, water heater, condensing unit, split cooling system and heaters with high efficiency systems or heat pumps and retrofit lighting with LED	1,250,500	N/A	N/A	N/A	-9,106	15,612
Africa Restaurant	361A Old Finch Ave.	Jan-24	Dec-28	Replace exhaust fans, boiler, AHU, water heater, condensing unit, split cooling system and heaters with high efficiency systems or heat pumps and retrofit lighting with LED	1,369,190	N/A	N/A	N/A	-208	21,203

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Australasia Pavilion	361A Old Finch Ave.	Jan-24	Dec-28	Replace exhaust fans, boiler, AHU, water heater, condensing unit, split cooling system and heaters with high efficiency systems or heat pumps and retrofit lighting with LED	5,111,340	N/A	N/A	N/A	-226,032	80,585
Valley Halla	361A Old Finch Ave.	Jan-25	Dec-28	Replace exhaust fans, boiler, AHU, water heater, condensing unit, split cooling system and heaters with high efficiency systems or heat pumps and retrofit lighting with LED	850,000	N/A	N/A	N/A	-63,101	18,800

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Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Riverdale Zoo - Francey Barn	201 Winchester St.	2028	2028	Riverdale Zoo - Francey Barn- Structural, doors, windows, mechanical and electrical.	563,000	N/A	N/A	N/A	N/A	N/A
Edwards Gardens Free Standing Greenhouse	755 Lawrence Ave E.	2028	2028	Edwards Gardens Free Standing Greenhouse - CAMP SGR Mechanical replacement	126,000	N/A	N/A	N/A	N/A	N/A
Kipling Park Yard Barn Bldg.	441 Kipling Ave.	2028	2028	Kipling Park Yard Barn Bldg. - structural, cladding, electrical,	426,000	N/A	N/A	N/A	N/A	N/A

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Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Cloud Garden Conservatory	14 Temperance St.	2025	2027	Cloud Garden Conservatory - Structural Concrete, Ex. doors, envelope, General exhaust, heating system, plumbing, Pool filter/pump/valves, walkWays, fixtures, site work, retaining walls, Ext. stairs, Ext. guards and handrails, accessibility	898,000	N/A	N/A	N/A	N/A	N/A
Riverdale Zoo - The Residence	201 Winchester St.	2025	2026	Riverdale Zoo - The Residence - Foundation waterproofing, windows, flooring.	1,111,000	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Cummer Park	6000 Leslie St.	2027	2027	Cummer Park - AODA doors for Health Club and pool doorways	460,000	N/A	N/A	N/A	N/A	N/A
St. Lawrence	230 The Esplanade	2024	2025	St. Lawrence - only the chiller & roof	2,512,000	N/A	N/A	N/A	N/A	N/A
Scarborough Gardens Arena	75 Birchmount Rd.	2024	2025	Scarborough Gardens Arena- Roof replacement	23,492,000	N/A	N/A	N/A	N/A	N/A
Chris Tonks Arena	2801 Eglinton Ave. W.	2024	2024	Chris Tonks Arena - Camp SGR roof repair	311,000	N/A	N/A	N/A	N/A	N/A
Mimico Arena	31 Drummond St.	2024	2024	Mimico Arena - SGR Rehab + Roof, Bldg. Envelope	100,000	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Oriole Parks Yard	2747 Old Leslie St.	2027	2028	Oriole Parks Yard - Re-roofing, Flooring and heating	1,424,000	N/A	N/A	N/A	N/A	N/A
York CC	115 Black Creek Dr.	2024	2025	York CC - Replace roof	3,223,000	N/A	N/A	N/A	N/A	N/A
Oakridge CC	63 Pharmacy Ave.	2024	2024	Oakridge C.C.- Replacement of roof cooling unit Critical List	280,000	N/A	N/A	N/A	N/A	N/A
Cummer Park Community Centre	6000 Leslie St.	2024	2026	Cummer Park Community Centre - Camp SGR Roof	976,000	N/A	N/A	N/A	N/A	N/A
Centennial	578 Finch Ave. W.	Q2 - 2024	TBD	Demolition of existing building and construction of a new net-zero large building	21,000,000	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Dawes Road Library	416 Dawes Rd.	Q2 - 2024	TBD	Demolition of existing building and construction of a new library. Net zero carbon.	36,000,000	N/A	N/A	N/A	N/A	N/A
North York Central Library	5120 Yonge St.	phase 1	TBD	Renovation with new HVAC controls, LED lighting and new chillers	14,166,000	N/A	N/A	N/A	N/A	N/A
Northern District Library	40 Orchard View Blvd.	TBD	TBD	Renovation of an existing branch with new HVAC and lighting systems	TBD	N/A	N/A	N/A	N/A	N/A
Perth Dupont Library	299 Campbell Ave.	24-Apr		Building expansion and equipment upgrade	3,160,000	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Pleasant View Library	575 Van Horne Ave.	TBD Q2 - 2024	TBD	Planned expansion of free-standing building. Upgrading equipment	TBD	N/A	N/A	N/A	N/A	N/A
Locke Library	3083 Yonge St.	Q2 - 2024	TBD	Renovation to include new roof top units and building envelope improvements.	5,051,000	N/A	N/A	N/A	N/A	N/A
Fairview Library	35 Fairview Mall Dr. N.	Oct-23	TBC	Renovation of the 3rd floor. Lighting upgrades	2,994,000	N/A	N/A	N/A	N/A	N/A
Comstock/Eglinton Garage	38 Comstock Rd.	Jul-24	Dec-26	Eglinton Garage (Comstock) - HVAC Systems Condition Assessment Studies (Element #4)	N/A	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Harvey Shop at Hillcrest	1138 Bathurst St.	Feb-23	Jan-24	Harvey Shop - High & Low Voltage Electrical Equipment - Condition Assessment Studies (Element #5)	N/A	N/A	N/A	N/A	N/A	N/A
Russell Carhouse	1411 Queen St E.	Jul-22	Mar-28	Russell Carhouse Extension (D6-26)	N/A	N/A	N/A	N/A	N/A	N/A
Russell Carhouse	1411 Queen St E.	Jun-23	Dec-25	Russell Carhouse Boiler Replacement (D6.29)	N/A	N/A	N/A	N/A	N/A	N/A
Queensway Garage	400 Evans Ave.	Jul-25	Sep-27	Queensway Bus Garage - HVAC Replacement at Degrease Room & Paint Room	N/A	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
Multiple Types of Assets / Locations	29 Lascelles Blvd.	Jul-25	Dec-26	Davisville Boiler Roofing Rehabilitation	N/A	N/A	N/A	N/A	N/A	N/A
Davisville Carhouse	29 Lascelles Blvd.	Jul-25	Apr-28	Davisville Carhouse-Roofing Rehabilitation	N/A	N/A	N/A	N/A	N/A	N/A
Comstock/Eglinton Garage	38 Comstock Rd.	May-19	Jun-28	Comstock/Eglinton Bus Garage - Roofing Rehabilitation (E4-14)	N/A	N/A	N/A	N/A	N/A	N/A
Malvern Garage	5050 Sheppard Ave E.	May-22	Aug-25	1810 Markham Road Roofing Rehabilitation (H60-11)	N/A	N/A	N/A	N/A	N/A	N/A
Inglis Building at Hillcrest	1138 Bathurst St.	Feb-19	Mar-27	Inglis Building Sections A-E, H Roofing	N/A	N/A	N/A	N/A	N/A	N/A

						External Funding/Incentives			Projected Annual Energy Savings	
Location Name	**Address**	**Project Start Date**	**Anticipated Completion Date**	**Project Description**	**Project Cost ($)**	**Source**	**Type**	**Amount (%) or ($)**	**Electricity (kWh)**	**Gas (m^3)**
				Rehabilitation (N1-24)						
Lakeshore Wheel Trans Garage	580 Commissioners St.	Dec-18	Sep-26	Lakeshore Bus Garage - Storage Barn - Roofing Rehabilitation (Wt1-35)	N/A	N/A	N/A	N/A	N/A	N/A
Alliance Building	391 Alliance Ave.	May-21	Jun-27	391 Alliance Avenue Building-Roofing Rehabilitation (X60-8)	N/A	N/A	N/A	N/A	N/A	N/A

Appendix G: City of Toronto Proposed Renewable Energy Efficiency Measures (2024-2029)

Table 100: Proposed Renewable Energy Efficiency Measures 2024-2029

							External Funding/Incentives			Projected Energy Generation, kWh				
Location Name	**Address**	**Project Start Date**	**Projected Completion Date**	**Description of System**	**System Capacity (kW)**	**Project Cost ($)**	**Source**	**Type**	**Amount ($) or (%)**	**2024**	**2025**	**2026**	**2027**	**2028**
Chaplin Cres storage	329 Chaplin Cres.	2024	2026	roof top solar panels	58dc/ 49ac	145,000,000	Capital	N/A	100%	72	72	72	72	72
New LTC Home	4610 Finch	2025	2028	Construction of new LTC home	N/A	350,000,000	LTC	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Island Water Treatment Plant	446 Lakeshore Ave.	2018	2029	Install a 3.5 MW ground mount solar PV system and a 6.3 MWh BESS	3500	16,900,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ashbridge's Bay Treatment Plant	9 Leslie St.	2019	2024	Installation of a solar system on D building roof	735	1,400,000	N/A	N/A	N/A	776,250	N/A	N/A	N/A	N/A

							External Funding/Incentives			Projected Energy Generation, kWh				
Location Name	**Address**	**Project Start Date**	**Projected Completion Date**	**Description of System**	**System Capacity (kW)**	**Project Cost ($)**	**Source**	**Type**	**Amount ($) or (%)**	**2024**	**2025**	**2026**	**2027**	**2028**
Humber Treatment Plant	130 The Queensway	2022	2026	Solar system on Admin. Building Roof	25	TBD	N/A	N/A	N/A	TBD	N/A	N/A	N/A	N/A
Ambulance Headquarters	4330 Dufferin St.	2019	2024	Solar PV carport	500 AC	2,150,000					2,640,000			
Bridlewood Library	2900 Warden Ave.	Apr-23	Jul-24	Relocation and expansion in leased premises with solar panels.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
East York Curling Club	901 Cosburn Ave.	N/A	2024	Solar PV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

							External Funding/Incentives			Projected Energy Generation, kWh				
Location Name	**Address**	**Project Start Date**	**Projected Completion Date**	**Description of System**	**System Capacity (kW)**	**Project Cost ($)**	**Source**	**Type**	**Amount ($) or (%)**	**2024**	**2025**	**2026**	**2027**	**2028**
Fairfield 50kW Senior Centre	80 Lothian Ave.	N/A	2024	Solar PV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
O'Connor Community Centre	1386 Victoria Park Ave.	N/A	2024	Solar PV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Corporate Printing	2 Hobson Ave.	N/A	2024	Solar PV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ellesmere A Building	1050 Ellesmere Rd.	N/A	2024	Solar PV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forest Hill Community Centre	666 Eglinton Ave. W.	N/A	2024	Solar PV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Northwest Station	1300 Wilson Ave.	N/A	2024	Solar PV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

							External Funding/Incentives			Projected Energy Generation, kWh				
Location Name	**Address**	**Project Start Date**	**Projected Completion Date**	**Description of System**	**System Capacity (kW)**	**Project Cost ($)**	**Source**	**Type**	**Amount ($) or (%)**	**2024**	**2025**	**2026**	**2027**	**2028**
Albion Childcare	1545 Albion Rd.	N/A	2024	Solar PV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Willowridge Childcare	30 Earldown Rd.	N/A	2024	Solar PV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Regent Park Childcare	30 Regent St.	N/A	2024	Solar PV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
EMS 43	126 Pape Ave.	N/A	2024	Solar PV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
North East Scarborough Community Recreation and Child Care Centre	8450 Sheppard Ave. E.	2022	2025	Net-Zero build: Solar Thermal PV, solar PV carpark	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

							External Funding/Incentives			Projected Energy Generation, kWh				
Location Name	**Address**	**Project Start Date**	**Projected Completion Date**	**Description of System**	**System Capacity (kW)**	**Project Cost ($)**	**Source**	**Type**	**Amount ($) or (%)**	**2024**	**2025**	**2026**	**2027**	**2028**
Toronto Paramedic Services Multifunction Paramedic Station	300 Progress Avenue	2022	2026	Net-Zero build: Solar Thermal PV, low carbon material, energy recovery ventilation, EV charging, solar PV carpark	N/A	14,328,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Wallace Emerson Community Recreation Centre and New Child Care Centre	1260 Dufferin St.	2020	2025	High efficiency new build: heat recovery to pre-heat pool water, solar PV	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Further Information

To view a paper copy or obtain further information regarding the City of Toronto’s 2024-2029 ECDM Plan please contact the AMBP team at energy@toronto.ca or call 416-392-5177.