Appendix A – GHG Reduction Actions in the 2026 Staff Prepared Budget

Introduction

This appendix provides details on the estimated emissions reduction impact of ongoing City-led greenhouse gas (GHG) Reduction Actions, including projects and programs, that continue year-over-year. For each action, a table presents the 2026 capital and operating budget amounts associated with the action, and, where available, the estimated GHG reduction in 2026. Certain GHG Reduction Actions also have additional notes below the table to clarify specific details. Where it is not currently possible to estimate the emission reduction impact for 2026, it is recognized that further data collection or analysis will be required to estimate these potential GHG reductions in future.

The following sections are organized to align with the structure used for tracking emissions in the City's annual Sector-Based GHG Inventory. GHG Reduction Actions are sorted according to the sector in which their primary emission reduction effect occurs:

- Community buildings,
- Community transportation,
- Corporate buildings,
- Corporate transportation, or
- Community/Corporate waste.

Each sector has its own section. Each section begins with a statement of the TransformTO goals relevant to that sector and information on actual emissions for that sector from the City's most recent Sector-Based GHG Inventory.

GHG Reduction Impact using LENZ Model

This year's Carbon Budget introduces the use of the City's Local Emissions for Net Zero (LENZ) Modelling Suite to quantify the greenhouse gas reduction impact of modelled budgeted actions. The LENZ model is a decision-support tool developed by the City of Toronto to simulate net-zero pathways and estimate GHG emissions from everyday activities across the city. It is an open-source, cost-optimization energy system model comprised of three integrated components (covering long-term energy planning, electricity grid operation, and a linking interface).

In this reporting year, LENZ is applied to a limited set of actions as work to calibrate the modelling is underway, with the intent of streamlining actions and expanding its use for GHG reduction estimates in future years.

By modeling Toronto's entire energy and waste systems, the LENZ model identifies how various technologies and policies could be deployed to meet energy demand while minimizing overall costs, all in pursuit of the City's 2040 net-zero emissions target. The LENZ model results are used to inform which climate actions are most impactful and cost-effective, ensuring the City's plans remain aligned with its long-term emissions goals.

Using the LENZ model means each modelled GHG Reduction Action is evaluated in the context of an optimized city-wide net zero system. For the purposes of the Carbon Budget, staff assessed each action by incorporating it into the LENZ model and observing the net change in city-wide emissions. **Crucially, the reported GHG reduction for an action reflects its net contribution at the whole-city level, rather than its isolated impact**.

By relying on the LENZ model for some of this year's Carbon Budget analysis, the City is adopting a more integrated and rigorous approach to estimating climate impacts. As use of LENZ modeling is expanded in the future, it will ensure that the projected GHG reductions associated with budget initiatives are grounded in realistic system-wide behavior and economic optimization.

The integration of LENZ into the Carbon Budget process strengthens the City's ability to prioritize high-impact climate actions. It allows for informed comparisons between initiatives by accounting for complex interactions within the urban energy system. Going forward, LENZ will be a key tool in tracking and refining Toronto's climate action portfolio, ensuring that annual budget decisions are aligned with the most effective pathways to net-zero emissions.

COMMUNITY EMISSIONS

The TransformTO Net Zero Strategy identified Toronto's GHG reduction targets from 1990 levels as:

- 65 per cent by 2030, and
- net zero by 2040.

In 2023, Toronto's community-wide greenhouse gas (GHG) emissions were **16.1 megatonnes (MT) of carbon dioxide equivalent (CO_2e)**, a two per cent increase over the 15.8 MT CO_2e emitted in 2022. Emissions were **35 per cent** less than 1990 levels.

Unlike corporate emissions, the City of Toronto only has indirect influence over community emissions. Investments in programs, projects and infrastructure are in place to help households and businesses reduce emissions, but utilization of these investments depends on uptake by the community. Community emissions may also be influenced through by-laws that regulate emission sources.

COMMUNITY BUILDINGS

The TransformTO Net Zero Strategy identified the following 2030 goals for community buildings:

- All new homes and buildings will be designed and built to be near zero greenhouse gas emissions.
- Greenhouse gas emissions from existing buildings will be cut in half, from 2008 levels.
- 50 per cent of community-wide energy comes from renewable or low-carbon sources.
- 25 per cent of commercial and industrial floor area is connected to low carbon thermal energy sources.

In 2023, emissions from residential, commercial, and industrial buildings accounted for approximately **8.8 MT** of the city's total inventory, making buildings the largest source of emissions at roughly **55 per cent** of community-wide emissions.

The largest single source of community-wide emissions is from natural gas heating in residential buildings, accounting for 26% of community-wide emissions in 2023.

ACTION: *Better Buildings Navigation & Support Services*

Description: Consulting support for building owners, operators, and property managers navigating the process of improving the energy efficiency of their buildings and reducing greenhouse gas emissions.

GHG Reduction Action	**Emissions Sector**	**Responsible**	**Capital** ($ millions)		**Operating** ($ millions)	**Emissions**
			2026 Capital Budget	**Capital Plan 2026 - 2035**	**2026 Operating Budget**	**2026 GHG Reduction (est.)** ($t CO_2e$)
Better Buildings Navigation & Support Services	Buildings	Environment, Climate & Forestry	-	-	0.48	N/A

GHG Impact Commentary

- Educational and support service programs are important parts of any city's climate action plan but are not suitable for a program-specific, quantified GHG reduction estimate.

***ACTION**: Eco-Roof Incentive Program*

Description: Financial support provided by the City to incentivize the installation of green roofs and cool roofs - known together as 'eco-roofs' - on Toronto homes and buildings.

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) (t CO_2e)
Eco-Roof Incentive Program	Buildings	Environment, Climate & Forestry	-	-	0.32[1]	23

GHG Impact Commentary

- Estimate is based on the best available data and methodology, using the average of historic annual reductions for the program (2022-2024).

***ACTION:** Green Roof By-law*

Description: By-law setting out a graduated green roof requirement (20-60% of the Available Roof Space) for new development or additions that are greater than 2,000 m² in gross floor area.

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) (t CO2e)
Green Roof By-law	Buildings	City Planning	-	-	0.08	-

GHG Reduction Commentary

- No estimate for 2026 emissions reductions due to lack of necessary data.

[1] The operating amount for Eco-Roof Incentive Program only reflects staff FTE salaries. Further amounts have been dedicated to disbursing incentives. Please see the Environment, Climate & Forestry Division's budget for further details.

ACTION: *Energy Retrofit Loan Program*

Description: Financing for the incremental part of energy efficiency measures and renewable energy projects to achieve full decarbonization of existing buildings in the city (except single family homes).

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) (t CO_2e)
Energy Retrofit Loan Program	Buildings	Environment, Climate & Forestry	-	112.00	0.05	-

GHG Reduction Commentary

- At this time, no projects have advanced to the stage where GHG estimates can be calculated; staff will report updated estimates as they become available. In 2026, the program will continue to support building retrofit projects while implementing updates to enable deeper decarbonization initiatives.

ACTION*: High-Rise Retrofit Improvement Support Program (HI-RIS)*

Description: Low-cost financing available for owners of residential apartment buildings built before 1990 of three or more stories to make improvements that reduce energy and water consumption.

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) (t CO_2e)
High-Rise Retrofit Improvement Support Program (HI-RIS)	Buildings	Housing Secretariat	3.50	7.80	-	119

GHG Reduction Commentary

- The GHG reductions are estimated based on the energy savings anticipated from measures analyzed in energy audits of buildings to be retrofitted. The estimate presumes building retrofit projects will be completed in 2026 and should be

considered as the upper bound of the potential GHG reduction once projects are complete.

ACTION: *Home Energy Loan Program (HELP)*

Description: Low-interest loan program providing up to $125,000 for homeowners to cover the cost of home energy improvements (low rise residential housing). HELP also has a capacity building function that helps homeowners understand and act on the need to make homes more energy efficient with fewer GHG emissions.

GHG Reduction Action	**Emissions Sector**	**Responsible**	**Capital** ($ millions)		**Operating** ($ millions)	**Emissions**
			2026 Capital Budget	**Capital Plan 2026 - 2035**	**2026 Operating Budget**	**2026 GHG Reduction (est.)** (t CO_2e)
Home Energy Loan Program (HELP)	Buildings	Environment, Climate & Forestry	7.70	37.40	0.40	445

GHG Reduction Commentary

- Emission reduction estimate is specific to the loan program. The capacity building function of HELP will lead indirectly to further, unquantifiable GHG reductions. Estimate for the loan program is based on average per building reductions reported by current program users, multiplied by expected number of buildings in the loan program in 2026. This methodology can be revised in future if data shows the range of reductions per building and the average changing over time.

ACTION: *Toronto Green Standard (TGS) – Community*

Description: Sets GHG and other performance requirements for new private developments, enforced via site-plan approval. Version 4 of the TGS consists of Tiers 1-3, with Tier 1 currently being a mandatory requirement of the planning process and Tiers 2 ("High Performance" level) and 3 ("Near Zero Emissions" level) incentivized via Development Charge Refund Program.

GHG Reduction Action	**Emissions Sector**	**Responsible**	**Capital** ($ millions)		**Operating** ($ millions)	**Emissions**
			2026 Capital Budget	**Capital Plan 2026 - 2035**	**2026 Operating Budget**	**2026 GHG Reduction (est.)** ($t CO_2e$)
Toronto Green Standard - Community	Buildings	City Planning	69.75*	470.40*	0.47	29,003

*This table does not include capital spending which City Planning invests to support TGS Tier 2 DC Refund Program, a major contribution in raising the bar in reducing GHG emissions for new development.

GHG Reduction Commentary

- Estimate based on projecting forward a 5-year trailing average. Emission reductions are based on the difference between GHG values from energy modelling for the proposed new developments and the same values for equivalent reference buildings built to Ontario Building Code minimum standards.

***ACTION**: Building Emission Performance Standards (BEPS) (in-development)*

Description: Consistent with City Council direction, the City will undertake analysis and stakeholder consultation to inform potential future Building Emission Performance Standards (BEPS). This work will support a report to the Infrastructure and Environment Committee in the first quarter of 2027 and will examine economic impacts, legal considerations, and tenant protections associated with BEPS. No regulatory decisions or implementation actions are planned in 2026.

GHG Reduction Action	**Emissions Sector**	**Responsible**	**Capital*** ($ millions)		**Operating** ($ millions)	**Emissions**
			2026 Capital Budget	**Capital Plan 2026 - 2035**	**2026 Operating Budget**	**2026 GHG Reduction (est.)** ($t CO_2e$)
Building Emission Performance Standards (BEPS)	Buildings	Environment, Climate & Forestry	-*	-*	0.98	N/A

*Capital impacts are expected with by-law implementation and are yet to be defined.

GHG Reduction Commentary

- No GHG reductions are estimated in 2026, as Council direction is limited to analysis, stakeholder consultation, and reporting in advance of any potential future decision on Building Emission Performance Standards.

***ACTION:** Enabler - Community Buildings*

Description: This action includes various activities funded through the capital and/or operating budget that are important enablers of action to reduce GHG emissions in the buildings sector but may not have a direct or immediate impact (e.g., policy work, feasibility studies, education).

GHG Reduction Action	**Emissions Sector**	**Responsible**	**Capital** ($ millions)		**Operating** ($ millions)	**Emissions**
			2026 Capital Budget	**Capital Plan 2026 - 2035**	**2026 Operating Budget**	**2026 GHG Reduction (est.)** ($t CO_2e$)
Enabler-Community Buildings	Buildings	Environment, Climate & Forestry	6.95	7.05	-	N/A

GHG Reduction Commentary

- Enabler actions are important parts of any city's climate action plan but are not suitable for quantified GHG reduction estimates.

COMMUNITY TRANSPORTATION

The TransformTO Net Zero Strategy identified the following 2030 goals for community transportation:

- 30 per cent of registered vehicles in Toronto are electric.
- 75 per cent of school/work trips under 5km are walked, bicycled or by transit.

Transportation sector emissions continued to be the second largest source of GHG emissions in Toronto, accounting for **36 per cent** of community-wide emissions in 2023.

These emissions were mostly attributable to gasoline used in passenger cars and trucks, accounting for 22 per cent of community-wide emissions in 2023.

***ACTION**: Bike Share Toronto*

Description: City-wide bike share system offering paid access to over 10,000 bikes at over 1,000 stations across Toronto.

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) (t CO_2e)
Bike Share Toronto	Transportation	Toronto Parking Authority	8.18	19.08	-	600

GHG Reduction Commentary

- Estimate based on the LENZ model and evaluated in the context of an optimized city-wide net zero system. The reported GHG reduction for this action reflects its incremental, city level contribution, rather than its isolated impact.

ACTION: *Complete Streets*

Description: Capital projects implementing the Complete Streets design guidelines to make Toronto's streets and roads more accessible and safe for active transportation.

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) ($t CO_2e$)
Complete Streets projects	Transportation	Transportation Services	96.80*	1,442.47*	-	N/A

*Figures reflect the full cost of capital projects that have been tagged as Complete Streets projects. Transportation Services has estimated a proportion of the right of way for such projects that is solely devoted to motor vehicles versus sidewalk or street space used for active transportation. The proportion dedicated to Complete Streets is currently estimated at $979 million for the total ten year plan. This provides a methodology for determining the percentage of the projects that relates to GHG reductions.

GHG Reduction Commentary

- No category-wide estimation methodology could be used based on the broad variety of capital projects and lack of data about how the complete streets projects underway affect transportation mode share. In general, complete streets support GHG reduction by increasing right of way for pedestrians, cyclists, and potentially transit vehicles.

ACTION: *Cycling Network Plan*

Description: Ongoing capital projects to build out and renew cycling network bikeways (near-term implementation plan covers 2025-2027, long-term plan to 2030).

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) ($t CO_2e$)
Cycling Network Plan	Transportation	Transportation Services	55.00	276.75	-	N/A

GHG Reduction Commentary

- As a result of recent Provincial legislation that has only recently come into effect, the City of Toronto will require time to discuss next steps with the Province and to assess the impacts on the City's cycling infrastructure as well as the associated delivery plan for cycling for the coming years.

ACTION: *Smart Commute*

Description: Educational program promoting sustainable commuting (e.g., carpooling, cycling, and public transit) and providing tools and resources for businesses and individuals.

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) (t CO_2e)
Smart Commute	Transportation	Environment, Climate & Forestry	-	-	1.30	N/A

GHG Reduction Commentary

- Enabler actions are important parts of any city's climate action plan but are not suitable for quantified GHG reduction estimates.

ACTION: *Transit expansion projects*

Description: Capital funding supporting the build out of SmartTrack Stations Program.

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.)
Transit expansion projects	Transportation	Transit Expansion	129.84	696.00	-	-

GHG Reduction Commentary

- No estimate for 2026 emission reductions because stations are not anticipated to be in operation until 2029.
- GO Expansion will shift over 145,000 cars off the road each day leading to significant GHG reductions. By 2055, Metrolinx expects this will amount to cumulative reductions of 7.3 megatonnes of CO_2e.

***ACTION**: Enabler - Community Transportation*

Description: This action includes various activities funded through the capital and/or operating budget that are important enablers of action to reduce GHG emissions in the transportation sector but may not have a direct or immediate impact (e.g., policy work, feasibility studies, education).

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) ($t CO_2e$)
Enabler - Community Transportation	Transportation	Environment, Climate & Forestry Toronto Parking Authority	2.21	47.33	0.20	N/A

GHG Reduction Commentary

- Enabler actions are important parts of any city's climate action plan but are not suitable for quantified GHG reduction estimates.

CORPORATE EMISSIONS

The TransformTO Net Zero Strategy set a goal for the City of Toronto's corporate GHG emissions to be reduced by 65 per cent over 2008 levels by 2030.

In 2023, corporate emissions were **0.89 MT**, which was about **six per cent of Toronto's community-wide emissions**. The City's corporate emissions increased by four per cent from 2021 but remained a stable share of community-wide emissions between 2022 and 2023.

The City of Toronto's corporate (or local government) emissions are calculated based on the energy used in all municipal buildings (offices, community recreation centres, Toronto Community Housing Corporation (TCHC) housing), vehicle fleets including Toronto Transit Commission (TTC) transit vehicles, waste, water supply, and treatment, as well as streetlights.

Buildings accounted for 38 per cent, the largest source of corporate emissions, followed by transportation emissions at 31 per cent and water & wastewater emissions accounting for 27 per cent, and lastly waste emissions at 4 per cent.

CORPORATE BUILDINGS

In 2023 corporate buildings emissions were **0.34 MT**, which is about **38 per cent** (38%) of total corporate emissions. Natural gas consumption used primarily for space heating facilities including THCH housing, comprised approximately 34 per cent of all corporate emissions and accounted for the largest single source of emissions.

***ACTION**: Workplace Modernization Program*

Description: Plan to reduce the City's office footprint from 55 to 15 locations, reducing the City office floor area by 1 million square feet or 33 percent.

GHG Reduction Action	**Emissions Sector**	**Responsible**	**Capital** ($ millions)		**Operating** ($ millions)	**Emissions**
			2026 Capital Budget	**Capital Plan 2026 - 2035**	**2026 Operating Budget**	**2026 GHG Reduction (est.)** ($t CO_2e$)
Workplace Modernization Program	Buildings	Corporate Real Estate Management	13.14	184.75	2.11	448

GHG Reduction Commentary

- Estimate based on emission reductions due to optimization of the City's office portfolio.
- Additional GHG reductions in future years, is expected from the action identified through the Carbon Budget Prioritization Process (see Appendix B).

ACTION: *Net Zero Carbon Plan - Toronto Green Standard (TGS) - Corporate*
Description: GHG and other performance requirements for new City Agency, Corporation and Division-owned building developments and additions greater than 100m^2. TGS for Corporate buildings requires Net Zero Emissions and an embodied emissions cap.

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) (t CO_2e)
Net Zero Carbon Plan- Toronto Green Standard (TGS) - Corporate	Buildings	Children's Services Corporate Real Estate Management Environment, Climate & Forestry Fire Services Housing Secretariat Parks & Recreation Toronto & Region Conservation Authority Toronto Housing Corporation Toronto Paramedic Services Toronto Police Service Toronto Public Library Toronto Shelter and Support Services Toronto Zoo	476.16*	4,172.71*	0.14	353

*Figures reflect the full cost of capital projects that have been tagged as relating to a TGS Net Zero Corporate new building. CREM advises the incremental cost of work to make a new building net zero is generally up to 15% of total project cost, depending on building type.

GHG Reduction Commentary

- Estimate based on the difference between GHG and energy intensity values from energy modelling for the proposed new developments and the same values for equivalent reference buildings built to Ontario Building Code minimum standards.
- The reported GHG reductions are from two near-net-zero TGS Corporate facilities that opened in November 2025.
- Additional GHG reductions of 64 t CO2e in future years are expected from the action identified through the Carbon Budget Prioritization Process (see Appendix B).

ACTION: *Net Zero Carbon Plan - Renewable Natural Gas (RNG) Utilization - Buildings*

Description: Displacement of a portion of fossil natural gas consumption in Corporate buildings by consumption of renewable natural gas (RNG) produced at City anaerobic digesters.

GHG Reduction Action	**Emissions Sector**	**Responsible**	**Capital** ($ millions)		**Operating** ($ millions)	**Emissions**
			2026 Capital Budget	**Capital Plan 2026 - 2035**	**2026 Operating Budget**	**2026 GHG Reduction (est.)** (t CO_2e)
Net Zero Carbon Plan - Renewable Natural Gas (RNG) Utilization	Buildings	Corporate Real Estate Management Environment, Climate & Forestry Solid Waste Management Services	-	-	5.65	8,352

GHG Reduction Commentary

- Estimate based on the difference between the emissions of combusting RNG, which produces only biogenic CO_2 emissions that do not contribute to climate change, and the emissions of an equivalent amount of fossil natural gas for heating Corporate buildings.
- Further reductions can be realized in future due to the City's work to expand the Disco Road Organics Processing Facility and make improvements to the Dufferin Organics Processing facility, which will both result in increased RNG production.

ACTION: *Net Zero Carbon Plan - Fuel switching + Efficiency retrofits*

Description: Implementation of fuel switching from natural gas to clean electricity and efficiency retrofits at Corporate buildings.

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) ($t CO_2e$)
Net Zero Carbon Plan (Fuel switching + Efficiency retrofits)	Buildings	Children's Services, Corporate Real Estate Management Economic Development & Culture Exhibition Place Toronto & Region Conservation Authority Toronto Paramedic Services Toronto Public Library Toronto Shelter and Support Services Toronto Transit Commission Toronto Zoo	100.07*	871.71*	5.50	500-1,000

*Figures reflect the full cost of capital projects that have been tagged as containing one or more components related to fuel switching and/or efficiency retrofits. CREM advises the incremental cost of fuel switching and energy efficiency work to make existing buildings net zero is generally 15%, depending on building type, on top of the figures reported above which generally cover baseline SOGR work.
**CREM can provide figures on expected emission reductions (tonne/$) among Corporate buildings. These figures are derived from the incremental costs, above the cost of SOGR, for emission Reduction Actions analyzed in the Net Zero Carbon Plan.

GHG Reduction Commentary

- The GHG reduction estimate for 2026 is based on available data. Processes for pre- and post-project analysis and data collection for fuel-switching and efficiency retrofit projects are continuing to evolve under the Net Zero Carbon Plan.

- Additional GHG reductions of 6,740 t CO_2e in future years, is expected from the three actions identified through the Carbon Budget Prioritization Process (see Appendix B).
- This action also includes projects that will be implementing on-site renewables and energy storage at Corporate buildings.

ACTION: *Net Zero Carbon Plan - Training and Education*
Description: Training and Education at City-owned buildings to move toward a uniform, portfolio-wide process for maintaining efficient building operations and achieving incremental efficiency improvements.

GHG Reduction Action	**Emissions Sector**	**Responsible**	**Capital** ($ millions)		**Operating** ($ millions)	**Emissions**
			2026 Capital Budget	**Capital Plan 2026 - 2035**	**2026 Operating Budget**	**2026 GHG Reduction (est.)** (t CO_2e)
Net Zero Carbon Plan (Training and Education)	Buildings	Corporate Real Estate Management Economic Development & Culture	-	-	0.19	N/A

GHG Reduction Commentary

- Educational and training programs are an important action under the Net Zero Carbon Plan but do not directly produce emission reductions, rather they support emission reductions in the Plan's other aspects such as fuel switching and efficiency retrofits.

ACTION: *Sustainable Energy Plan Financing*

Description: Program to provide financing at the City's cost of borrowing to invest in energy efficiency, renewable energy, and emission reduction projects for new construction (primarily in buildings) in support of TransformTO.

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) ($t CO_2e$)
Sustainable Energy Plan Financing	Buildings	Environment, Climate & Forestry	7.95	128.36	0.16	N/A

GHG Reduction Commentary

- There are a number of projects that are under scope review with one project underway, the Emergency Medical Services (EMS) Headquarters, which is yet to be completed. The future GHG reduction estimate once this project is complete will be 472 t CO_2e.

ACTION: *TCHC - Energy Efficiency Action Plan*

Description: Capital projects to achieve 25% reduction in energy consumption in Toronto Community Housing Corporation (TCHC) buildings by 2028.

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) ($t CO_2e$)
TCHC - Energy Efficiency Action Plan	Buildings	Toronto Housing Corporation	206.83	1,354.22	-	3,840

GHG Reduction Commentary

- Estimate is based on aggregated emission savings reported in Level 2 energy audits, energy models and detailed engineering studies for TCHC capital projects, and comparison to similar projects.
- Additional GHG reductions of 1,000 t CO_2e in future years, is expected from the action identified through the Carbon Budget Prioritization Process (see Appendix B).

***ACTION**: Enabler - Corporate Buildings*

Description: This action includes various activities funded through the capital and/or operating budget that are important enablers of action to reduce GHG emissions in the buildings sector but may not have a direct or immediate impact (e.g., policy work, feasibility studies, education).

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) (t CO_2e)
Enabler-Corporate Buildings	Buildings	Various	20.07	127.72	0.32	N/A

GHG Reduction Commentary

- Enabler actions are important parts of any city's climate action plan but are not suitable for quantified GHG reduction estimates.

CORPORATE TRANSPORTATION

In 2023, corporate transportation emissions were **0.28 MT**, which is about **31 per cent** of total corporate emissions. Within transportation, diesel and biodiesel emissions accounted for about 79 per cent of corporate transportation emissions, while gasoline emissions represented approximately 14 per cent.

ACTION: *Sustainable City Fleets*

Description: Corporate-wide plan to reduce emissions from Corporate fleet vehicles 65% below 2008 levels by 2030 and to net zero by 2040, primarily through fuel switching to biodiesel and procurement of zero emission vehicles to replace internal combustion engine vehicles.

GHG Reduction Action	**Emissions Sector**	**Responsible**	**Capital** ($ millions)		**Operating** ($ millions)	**Emissions**
			2026 Capital Budget	**Capital Plan 2026 - 2035**	**2026 Operating Budget**	**2026 GHG Reduction (est.)** (t CO_2e)
Sustainable City Fleets	Transportation	Fleet Services Toronto Paramedic Services Toronto Parking Authority Toronto Police Service Wastewater Program	157.65	2,167.19	0.11	8,020

GHG Reduction Commentary

- Estimate based on the LENZ model and evaluated in the context of an optimized city-wide net zero system. The reported GHG reduction for this action reflects its incremental, city level contribution, rather than its isolated impact.
- Additional GHG reductions of 132 t CO_2e in 2026, and a further 246 t CO_2e in future years, is expected from the three actions identified through the Carbon Budget Prioritization Process (see Appendix B).

ACTION: *Renewable Natural Gas (RNG) Utilization - Transportation*

Description: Displacement of a portion of compressed fossil natural gas consumption in Corporate fleet vehicles by consumption of renewable natural gas (RNG) produced at City anaerobic digesters.

GHG Reduction Action	**Emissions Sector**	**Responsible**	**Capital** ($ millions)		**Operating** ($ millions)	**Emissions**
			2026 Capital Budget	**Capital Plan 2026 - 2035**	**2026 Operating Budget**	**2026 GHG Reduction (est.)** (t CO_2e)
Renewable Natural Gas (RNG) Utilization - Transportation	Transportation	Fleet Services Environment Climate & Forestry Solid Waste Management Services	-	-	0.39	574

GHG Reduction Commentary

- Estimate based on the difference between the emissions of combusting RNG, which produces only biogenic CO_2 emissions that do not contribute to climate change, and the emissions of an equivalent amount of compressed fossil natural gas for powering Corporate fleet vehicles.
- Further reductions can be realized in future due to the City's work to expand the Disco Road Organics Processing Facility and make improvements to the Dufferin Organics Processing facility, which will both result in increased RNG production.

***ACTION**: Enabler - Corporate Transportation*

Description: This action includes various activities funded through the capital and/or operating budget that are important enablers of action to reduce GHG emissions in the transportation sector but may not have a direct or immediate impact (e.g., policy work, feasibility studies, education.

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) (t CO_2e)
Enabler - Corporate Transportation	Transportation	Fire Services Toronto Transit Commission	13.81	78.22	-	N/A

GHG Reduction Commentary

- Enabler actions are important parts of any city's climate action plan but are not suitable for quantified GHG reduction estimates.

***ACTION:** Green Bus Program*

Description: The Green Bus Program, which includes the procurement of electric and hybrid buses for TTC's conventional bus and WheelTrans fleets to replace less efficient and higher-emissions diesel vehicles, represents the most significant initiative for reducing corporate emissions. TTC is anticipated to procure electric vehicles to meet the City of Toronto's Sustainable Fleet Targets.

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) (t CO_2e)
Green Bus Program	Transportation	Toronto Transit Commission	250.75	1,466.93	-	62,800

GHG Reduction Commentary

- GHG reduction estimates are based on annual average of the 10-year cumulative difference in emissions between the forecasted Green Bus and WheelTrans Fleets, which increase electric, hybrid, and gasoline vehicles for WheelTrans, and a 2017 baseline diesel vehicle fleet operating equivalent kilometers. Actual annual emission reductions will be larger in future years as a result of rising share of electric vehicles in the fleet.

- The GHG reduction estimate may increase to approximately 206,900 t CO_2e, in future years, with the inclusion of seven actions identified through the Carbon Budget prioritization process (refer to Appendix B).

COMMUNITY / CORPORATE WASTE

The TransformTO Net Zero Strategy set a goal that by 2030, 70 per cent residential waste diversion from the City of Toronto's waste management system.

In 2022, waste sector emissions, primarily from landfills, were **1.5 MT**, the third largest source at roughly just under **10 per cent** of community-wide emissions. This remained stable compared to 2022. In 2023, corporate water & wastewater emissions were 0.24 MT, while waste emissions were 0.03 MT, which combined is about 31 per cent of total corporate emissions.

ACTION: *Green Bin Organics Program*

Description: Service collecting and diverting organic material from approximately 460,000 houses and approximately half of apartment and condo buildings as well as schools and City-owned buildings.

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) (t CO_2e)
Green Bin Organics Program	Waste	Solid Waste Management Services	4.35	192.47	29.74	35,393

GHG Reduction Commentary

- Estimate based on the difference between emissions if organics collected by the City were sent to landfill instead of being processed at City-owned or contracted anaerobic digesters. 35,393 t CO_2e represents the annualized reduction over a 30-year period (reflecting the decay period of organics in landfill) between the organics and landfill scenario.
- Further annualized reductions of 3,329 t CO_2e have been estimated for future years, as the City is working to expand the Disco Road Organics Processing Facility, which will enable it to process all collected organics at City-owned anaerobic digesters instead of sending a portion to contractors, and will be making process improvements at the Dufferin Organics Processing Facility.

***ACTION**: Enabler - Community & Corporate Waste*

Description: This action includes various activities funded through the capital and/or operating budget that are important enablers of action to reduce GHG emissions in the waste sector but may not have a direct or immediate impact (e.g., policy work, feasibility studies, education).

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) (t CO_2e)
Enabler-Community & Corporate Waste	Waste	Solid Waste Management Services Toronto Zoo Toronto Water	3.89	20.19	7.79	N/A

GHG Reduction Commentary

- Enabler actions are important parts of any city's climate action plan but are not suitable for quantified GHG reduction estimates.
- Additional GHG reductions may be realized in 2026 from the two actions identified through the Carbon Budget Prioritization Process (see Appendix B).

***ACTION**: Yard Waste Program*

Description: Service collecting yard wase material from approximately 460,000 houses and approximately half of apartment and condo buildings and diverting it from landfill.

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) (t CO_2e)
Yard Waste Program	Waste	Solid Waste Management Services	-	-	16.60	19,103

GHG Reduction Commentary

- Estimate based on the difference between emissions if yard waste collected by the City was sent to landfill instead of being sent to third-party contractors for aerobic composting. 19,103 t CO_2e represents the annualized reduction over a 30-year period (reflecting the decay period of yard waste in landfill) between the yard waste and landfill scenario.

***ACTION**: Biogas gas capture for beneficial use (RNG) and reduced methane flaring*

Description: This action involves capital and operating projects that support emission reduction from reduced flaring at the Organics Processing Facilities.

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) ($t CO_2e$)
Biogas gas capture for beneficial use (RNG) and reduced methane flaring	Waste	Solid Waste Management Services	0.02	0.06	1.54	377

GHG Reduction Commentary

- The GHG reduction estimate results from a reduction of methane flaring at the Dufferin and Disco organics processing facilities as part of the process of upgrading biogas into renewable natural gas (RNG).
- The RNG produced by City facilities is currently purchased by the City and used to displace consumption of fossil natural gas in Corporate buildings and Corporate fleet vehicles. Note: Estimated emission reductions due to this displacement are reported in the Corporate Buildings and Corporate Transportation sectors.

***ACTION:** Energy Optimization Plan*

Description: Load shifting and energy efficiency techniques for water treatment and supply system.

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) ($t CO_2e$)
Energy Optimization Plan	Buildings	Toronto Water	4.30	14.14	-	N/A

GHG Reduction Commentary

- GHG reduction estimate of 135 t CO_2e, based on anticipated reductions to grid electricity consumption due to Energy Optimization Plan projects, once fully implemented.
- Projects included under this action:
    - Raw Water Pump Discharge Valves Upgrades at Horgan WTP.
    - VFD Installation and Lighting Upgrades at Harris WTP.
    - Building Envelope SOGR and TOO Program Upgrades
    - Upgrades at the Rosehill Pumping Station.

ACTION: *Wastewater treatment facilities - Service rehab and upgrades*
Description: Process changes or equipment changes, including energy efficiency projects at wastewater facilities that reduce GHG emissions.

GHG Reduction Action	**Emissions Sector**	**Responsible**	**Capital** ($ millions)		**Operating** ($ millions)	**Emissions**
			2026 Capital Budget	**Capital Plan 2026 - 2035**	**2026 Operating Budget**	**2026 GHG Reduction (est.)** (t CO_2e)
Wastewater treatment facilities - Service rehab and upgrades	Buildings	Toronto Water	25.20	452.89	0.04	N/A

GHG Reduction Commentary

- Estimated GHG reductions of 6,480 t CO_2e per year starting in 2028.
- Projects included under this action:
    - Digester Gas System Upgrades at Highland Creek WWTP.
    - Blower replacement at Humber WWTP.
    - Multiple maintenance and reliability upgrades to boilers and BAS system at Humber WWTP.
    - Process Upgrades with improved energy efficiency at Humber WWTP
    - Solar Panel Installation at Ashbridges Bay WWTP.
    - Effluent Filtration and Heat Recovery at Humber WWTP.

ACTION: *Pelletizer Facility*

Description: This action involves capital projects to support pelletizer facility to run on digester gas.

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) (t CO_2e)
Pelletizer Facility	Buildings	Toronto Water	20.22	305.02	-	N/A

GHG Reduction Commentary

- The new pelletizer facility will be able to run on digester gas once commissioned and will displace approximately 50% of current natural gas consumption.
- Annual GHG emissions are expected to decrease by 4700 t CO_2e starting in 2033 (approx. 50 percent reduction compared to base case).

ACTION: *Fluidized bed incinerator*

Description: This action involves replacing old multiple hearth furnaces with fluidized bed incinerator (FBI) technology.

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) (t CO_2e)
Fluidized bed incinerator	Buildings	Toronto Water	4.35	19.55	-	N/A

GHG Reduction Commentary

- The fluidized bed incinerator (FBI) project involves moving from existing antiquated multiple hearth furnace technology to new FBI technology which will remove a significant amount of GHG emissions.
- This alternative will reduce annual GHG emissions by 6,000 t CO_2e at Highland Creek Wastewater Treatment Plant (HCTP) starting in 2031, representing approximately 72% reduction compared to base case.

ACTION: *Heat recovery from fluidized bed incinerator and other upgrades*

Description: Capital project to support heat recovery from the fluidized bed incinerator (FBI) and a 4 MW Thermal Oil Economizer (TOE) system, cutting 50% of non-process heating needs.

GHG Reduction Action	**Emissions Sector**	**Responsible**	**Capital** ($ millions)		**Operating** ($ millions)	**Emissions**
			2026 Capital Budget	**Capital Plan 2026 - 2035**	**2026 Operating Budget**	**2026 GHG Reduction (est.)** (t CO_2e)
Heat recovery from fluidized bed incinerator and other upgrades	Buildings	Toronto Water	0.46	79.94	-	N/A

GHG Reduction Commentary

- This project includes additional heat recovery from the FBI as well as other upgrades to achieve a beneficial use designation for the process.
- This project will reduce annual GHG emissions by 4,200 t CO_2e at HCTP starting in 2033, representing approximately 50% reduction compared to base case.

CROSS-SECTOR

ACTION: *Enabler – TransformTO*

Description: This action includes various activities funded through the operating budget that are important enablers of action to support the implementation of the TransformTO Net Zero Strategy and reduce GHG emissions across the City but may not have a direct or immediately measurable impact. Important examples include providing support for emission reductions in the buildings and transportation sector, as well as cross-sector policy work, public consultation, and education.

GHG Reduction Action	Emissions Sector	Responsible	Capital ($ millions)		Operating ($ millions)	Emissions
			2026 Capital Budget	Capital Plan 2026 - 2035	2026 Operating Budget	2026 GHG Reduction (est.) (t CO_2e)
Enabler – TransformTO	-	Corporate Real Estate Management Environment, Climate & Forestry Solid Waste Management Services Toronto & Region Conservation Authority Toronto Zoo	5.90	30.51	4.50	N/A

GHG Reduction Commentary

- Enabler actions are important parts of any city's climate action plan but are not suitable for quantified GHG reduction estimates.
- Additional GHG reductions may be realized in 2026 from the two actions identified through the Carbon Budget Prioritization Process (see Appendix B).