Attachment A

TransformTO Net Zero Strategy Short-term Implementation Plan 2022-2025

	Actions for implementation 2022-2025	Divisions & Agencies Lead is listed first. Legend* below.	Description of action	Why it matters	Benefits			
					Health	Equity	Resilience	Prosperity
2030 target: 100 per cent of new buildings are designed and built to be near zero greenhouse gas emissions								

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1	Ensure near zero emissions for all new construction	CP, EED	New construction activities 2022-2025 include: i. Implement the Toronto Green Standard, which requires net zero emissions for new development applications in 2030. ii. Review options to advance higher levels of uptake of Tier 2 and 3 buildings to facilitate transformation to net zero earlier than 2030.	Buildings are the largest source of GHG emissions in Toronto. Net zero buildings are critical to achieving a net zero Toronto. Building emissions primarily come from burning natural gas to heat space and water.				
2	Evaluate and limit impacts of embodied carbon in construction	EED, CP	More information is needed to understand what kinds of materials and construction techniques should be used for Toronto. The City will study the impacts and set embodied carbon limits for building materials and construction practices in new buildings.	All materials and construction methods have an impact on our city. Using low-carbon materials, such as wood, and using low-carbon construction techniques, will reduce our impacts on the environment.				
2030 target: Greenhouse gas emissions from existing buildings are cut in half, from 2008 levels								
3	Advance Implementation of the Net Zero Existing Buildings Strategy. (Refer to the Net Zero Existing Buildings Strategy, adopted by City Council in July 2021, for a detailed short-term implementation plan.)	EED, TB, MLS, CP, SDFA	The Net Zero Existing Buildings (ExB) Strategy presents nine recommended actions for the City to undertake, identifies key design and implementation considerations for each action, and presents the potential impacts on emissions, costs and co-benefits. The ExB Strategy takes the approach of introducing voluntary programs and policies in the near-term, followed by a transition to mandatory requirements in the medium to long-term. A detailed short-term implementation plan has been adopted, which can be accessed on the City's website.	Buildings are the largest source of GHG emissions in Toronto, accounting for about 57 per cent of total community-wide emissions (based on the 2019 GHG inventory). Natural gas accounts for 92 per cent of emissions from buildings. Residential natural gas use alone accounts for 54 per cent of building emissions. These statistics highlight the need to reduce natural gas use in buildings to meet future emissions targets.				
2030 targets: • **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**								

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4	Work with industry experts to explore limiting the expansion of natural gas systems and reversing system growth, where feasible, and limiting installation of natural gas equipment	EED	Over 2022-2025 staff will explore tools to phase out natural gas installation and connections, including but not limited to: i. Develop a framework with City divisions and industry experts to limit the expansion of natural gas systems and reverse system growth, where feasible, and limit installation of natural gas equipment, and report back by Q2 2022 on recommended tools to limit use of natural gas. ii. Expand district heating systems into communities. iii. District energy heating system ready processes. iv. Neighborhood impact assessments.	Achieving net zero depends on quickly moving away from natural gas for space and water heating in buildings. Natural gas for buildings is the largest source of GHG in Toronto.				
5	Support adoption and mainstreaming of net zero, resilient energy sources for new and existing developments	EED, CP	Activities in 2022-2025 include: i. Plan for net zero emissions districts and large developments, including secondary and precinct plan areas, academic and healthcare campuses, commercial real estate portfolios, brownfield sites, and civic clusters. ii. Support various City Divisions and Energy Developers in developing renewable thermal energy projects where City-owned assets are involved, including sewer heat recovery, lake-based exchange, and geothermal projects. iii. Provide power engineering services for low-carbon backup power systems at designated emergency reception centres, and support the Office of Emergency Management in planning for new emergency reception centres.	Renewable thermal energy systems remove natural gas from the energy system, reduce annual maintenance costs, and increase resilience of the energy system through energy supply security. Low-carbon back-up power enables buildings to be available to provide essential services and act as community hubs during power outages due to extreme weather or other causes.				
6	Address barriers and develop strategies to increase the deployment of renewable energy and storage technologies, including but not limited to solar, wind, biomass, geothermal, waste heat recovery and heat pumps	EED	Activities to increase renewable energy over 2022-2025 include: i. Environment and Energy and other relevant parties to develop a Renewable Energy Taskforce to address barriers and develop strategies for increasing renewable energy development including; - Investigate opportunities to encourage wider adoption of renewable energy through regulatory and incentives structures such as rebates, low-interest financing and credits;	Decarbonizing buildings is only possible if there is a supply of renewable energy. The City has a supporting role in increasing supply and a key role in facilitating local access to that energy. Resilient solar (solar plus storage) allows buildings to operate during power outages due to extreme weather and become resilience hubs that				

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			- Work with Toronto Hydro to enhance the Distributed Energy Resource interconnection process for renewable energy; - Review the building permitting process related to renewable energy and storage and explore opportunities for streamlining; - Review zoning requirements and identify restrictions that prohibit renewable energy development including solar photovoltaic, and assess opportunities for improvement; ii. Environment and Energy to report back in 2023 with findings from this work and identify specific budget requests, authorities and actions required for increasing renewable energy development, including but not limited to solar, heat pumps, geothermal, waste heat recovery and storage.	provide essential services to the community.				
7	Actively support, advocate to and partner with Toronto Hydro, as well as the Provincial and Federal governments and agencies, to decarbonize the provincial electricity grid, promote energy conservation and enable local renewable energy generation	CMO, EED, TH	Activities include: i. Continue to advocate to the Government of Ontario the critical importance of lowering GHG emissions from the electricity grid in order to reach net zero targets, and work with the Province and other partners in this regard. ii. Collaborate with and advocate to all levels of government and related agencies and utilities to bring about the changes in energy consumption and generation that are needed to reach net zero.	The City of Toronto cannot move Toronto to net zero on its own. Necessary collaboration will include re-evaluating current limits to the City of Toronto's authorities, and the roles various organizations can play in moving Toronto to net zero. Achieving net zero through the electrification of buildings and transportation relies on zero carbon, renewable electricity.				
2030 target: 75 per cent of school/work trips under 5 km are walked, biked, or by transit								
8	Expand biking and pedestrian infrastructure, including the rollout of cycling routes, bicycle parking and bike share at or near TTC stations	TSD, TTC, BST	The City will continue to expand active and multi-modal transportation infrastructure, building on progress made in accelerating ActiveTO, expanding Bike Share Toronto (including the pedal assist e-bike pilot program), and other initiatives.	Gas and diesel vehicles are a major source of GHG in Toronto. Active transportation and low-carbon transit reduce GHG emissions and benefit health by reducing air pollution and increasing physical activity.				

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9	Increase existing bus and streetcar service levels to encourage shifts to low-carbon, sustainable transportation	TTC, TSD, CP	The TTC's 5-Year Service Plan and 10-Year Outlook aim to move people more efficiently on transit using enhanced service levels and priority bus lanes to improve reliability, speed and capacity on some of the busiest transit routes in the city.	Increased transit service will improve access to employment, healthcare and community services, encourage shifts away from single-occupancy vehicles and improve transit equity.				
10	Update and accelerate implementation of city-wide Transportation Demand Management Strategy	TSD, EED, CP, EDC	Activities 2022-2025 include: i. The City will update, accelerate implementation, and measure the impact of the city-wide Transportation Demand Management (TDM) Strategy. ii. Pilot targeted residential TDM engagement in several of Toronto's communities to support the uptake of sustainable transportation and low-carbon commuting options. iii. Lead community outreach and engagement campaigns to support the uptake of more sustainable modes of transportation/ commuting (including, but not limited to, promoting public uptake of active transportation, transit, carpooling and telework). iv. Work with Toronto-based employers and businesses to implement TDM and other sustainable transportation best practices as a part of COVID-19 recovery and rebuild process. v. Convene a Transportation Demand Management leaders table, which would include relevant City of Toronto divisions and agencies and would promote uptake of TDM best-practices.	Transportation Demand Management eases traffic congestion and reduces transportation emissions of GHGs and air pollutants through transportation alternatives, ride sharing, teleworking and other approaches.				
11	Develop tools to address emissions of greenhouse gases and air pollutants on an area or project level	TSD, CP, EED	The City will develop a framework to address emission reductions of greenhouse gases and air pollutants on an area or project level, including guidance documents and technical modelling, and report back in 2023 with a framework to be implemented in 2024.	Many cities successfully assess potential GHG and air pollutant emissions from an area as a whole, rather than from each source in isolation, using these tools.				
2030 target: 30 per cent of registered vehicles in Toronto are electric								
12	Align the City's Electric Vehicle (EV) Strategy to the net zero goals and implement the EV Strategy	EED, TSD, TPA, TH, CP, FS,	The City, along with its partners, will implement the City's Electric Vehicle Strategy and align it to the Net Zero Strategy goals. Activities planned for 2022-2025 include:	Internal combustion engine (ICE) vehicles are a major source of GHG in Toronto. Quickly transitioning these vehicles to electric vehicles, and				

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		MLS, SDFA, CREM, EDC	i. Relevant Divisions and Agencies will report to City Council in 2023 with options for how the City of Toronto can support and encourage provision of the home and workplace EV charging infrastructure needed to accommodate growth in EV ownership to 5 per cent of registered personal vehicles in 2025 and 30 per cent in 2030. ii. Relevant Divisions and Agencies will report to City Council in 2023 with a strategy to meet the 2025 targets in the EV Strategy for public EV charging infrastructure and ensure that sufficient public EV charging infrastructure will be in place to accommodate growth in EV ownership to 30 per cent of registered personal vehicles in 2030.	shifting our electricity supply to net zero, renewable sources, are critical to achieve a net zero Toronto. Switching from fossil fueled to electric vehicles also reduces air and noise pollution and decreases vehicle energy costs.				
	A) Increase public EV charging infrastructure	TSD, TPA, TH, CP, EED, FS, CREM	The City will develop a strategy and plans to meet the 2025 targets in the EV Strategy for public charging infrastructure (220 Level 3 DCFC ports and 3,000 Level 2 ports are installed in public locations) and to ensure that sufficient public charging infrastructure will be in place to accommodate growth in EV ownership to 30 per cent of registered personal vehicles by 2030. Next steps 2022-2025: i. Identify high priority public charging areas. ii. Explore potential partnerships to support development of public charging infrastructure. iii. Apply for funding (e.g. ZEVIP) and secure match funding.	In addition to active transportation and transit, electric vehicles are a key part of reaching net zero GHG emissions in Toronto. Public EV charging infrastructure alleviates range anxiety and provides charging options to people who need charging on the go or don't have charging at home. It can also support cargo and logistics, operational fleets, vehicles for hire and car sharing.				
	B) Increase EV charging at residential, commercial, institutional and industrial buildings	CP, EED, SDFA, TH	2022-2025 activities to increase EV charging include: i. Mandate EV ready requirements for all new developments to ensure that buildings in Toronto will have sufficient EV charging infrastructure to accommodate growth in EV ownership to 30 per cent of registered personal vehicles and 35 per cent of commercial vehicles by 2030 and 100 per cent of all vehicles by 2050. ii. Provide incentives for charging infrastructure in home, public, workplace and fleet settings, as feasible and as needed to improve equity and spur EV adoption.	Sufficient EV charging where people live, work and play is necessary for widespread adoption of EVs. Together with walking, cycling and transit, electrification of transportation is an important part of the pathway to a net zero Toronto.				

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			iii. Expand financing options for charging infrastructure installation on private property, as feasible and as needed to improve equity and spur EV adoption. iv. Explore the feasibility of Toronto Hydro offering rebates for Electric Vehicle charging in residential properties during off-peak hours. v. Work with Toronto Hydro and the provincial regulator to remove barriers to the installation of EV charging by changing the regulations related to new electrical connections or requests for additional capacity. vi. Develop policies, regulations and/or programs to support provision of EV charging infrastructure in existing homes and workplaces.					
	C) Review the Electric Vehicle Strategy	EED, TSD, TPA, TH, CP, FS, MLS, SDFA, CREM, EDC	The City will conduct a comprehensive review of the Electric Vehicle Strategy in 2024-2025.	EV technology, adoption and infrastructure change rapidly. Reviewing the EV strategy will keep our shared approach current and relevant.				
13	Determine options to incentivize EV adoption and disincentivize use of gas and diesel vehicles	EED, TSD, TPA, CP	The City will determine options to incentivize EV adoption and disincentivize use of gas and diesel vehicles. Incentives and disincentives may be financial and/or non-financial. Activities 2022-2025 include: i. Advocate to other levels of government to provide/expand purchase incentives for new EVs. Advocate to both levels of government to provide incentives for purchase of used EVs. Advocate for additional taxes/fees on new internal combustion engine vehicles and use money collected to fund rebates for low-cost EVs, additional EV infrastructure and/or transit/active infrastructure (particularly in low income areas). Next steps: - Form a working group to determine the priority of preferred actions by the provincial and federal governments. - Advocate for governments to pursue EV enabling activities or policies.	Incentives are needed to accelerate the shift from gasoline and diesel vehicles to electric vehicles, transit, walking and cycling and reduce GHG emissions. Relative to fossil fuelled vehicles, electric vehicles have a low lifetime cost due to reduced fuel/energy costs as well as reduced maintenance. Financial incentives help people overcome the initial higher purchase price for an EV.				

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			ii. Explore providing purchase incentives, including potential funding sources and equity considerations and measures to mitigate the potential for increasing auto ownership rates. Incentives for EVs should be offset by disincentives for internal combustion engine vehicles. iii. Explore other incentives such as those related to parking.					
14	Encourage the adoption of electric commercial and freight vehicles, including EVs and e-bikes for last-mile deliveries	TSD, CP, TPA, TH, EED, FS	The City will explore opportunities and develop policies to encourage the use of EVs and e-bikes for commercial and freight transportation.	Reducing emissions from freight transportation also improves health and equity. Vulnerable populations are more often located near major freight routes and disproportionately experience traffic-related air pollution health impacts.				
	A) Encourage the use of e-bikes and EVs for last-mile deliveries	TSD, CP	Activities: i. In consultation with the freight industry, develop policies to encourage and facilitate use of e-bikes, cargo e-bikes and electric vehicles for last-mile deliveries. ii. Explore opportunities to facilitate provision of charging infrastructure and parking for e-bikes, cargo e-bikes and electric vehicles used for last-mile deliveries.	E-bikes including e-cargo bikes, and electric vehicles, reduce neighbourhood GHG and air pollutant emissions caused by the "last mile" of delivery. E-cargo bikes also provide a more affordable transportation option for small businesses and individuals.				
	B) Encourage adoption of electric commercial and freight vehicles	EED	Activities: i. Explore opportunities to encourage and support adoption of electric vehicles for commercial and freight use, including light-duty, medium-duty, and heavy-duty vehicles. ii. Explore opportunities to encourage increased availability of electric light-duty, medium-duty and heavy-duty commercial and freight vehicles in the GTHA.	Heavy commercial and freight vehicles are predominantly fueled by diesel, a significant source of GHG and air pollutant emissions in Toronto. Air pollution and health impacts from transportation are inequitably distributed, with higher levels near major roadways. Switching to electric vehicles reduces emissions and helps protect health.				
2030 target: Identify pathways to more sustainable consumption in City of Toronto operations and in Toronto's economy								

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15	Continue to pursue policy and programmatic interventions that help the City reach its aspirational goals of zero waste and a circular economy, and which identify pathways to more sustainable consumption in both municipal operations and in all sectors of the economy	SWMS, other City divisions	The City will identify and implement new policies and operational changes across City divisions, and enter into strategic partnerships where possible, to reduce waste, maximize resources and support positive environmental outcomes through circular and sustainable consumption.	Cities are well-positioned to play a critical role in achieving climate neutrality and moving to more sustainable consumption models. Accelerating Toronto's circular city transition will contribute to the City's climate action goals and will play a key role in building a resilient, inclusive, green, and prosperous future for residents and businesses.				
	A) Develop a City-wide governance structure, strategy and policy framework to establish a path to make the City the first municipality in the Province of Ontario with a circular economy and to align with the Provincial goal as part of the Waste Free Ontario Act	SWMS, other City divisions	SWMS, with involvement and leadership from other City Divisions, will develop a Circular Economy Road Map for Toronto that will help guide the City in becoming the first municipality in the province with a circular economy. Once finalized, Toronto's Circular Economy Road Map will inform policy and program changes to advance the City's aspirational circular economy goals.	Circular economy strategies consider sustainable resource consumption and material efficiency for their potential impacts on climate change, environmental degradation, and social outcomes. Continued relationship building and partnerships will be important to accelerate the City of Toronto's progress toward its aspirational circular economy outcomes and climate action targets.				
	B) Conduct a consumption based emissions inventory and identify targets that would meaningfully reduce consumption based emissions	EED	The City will: i. Conduct a consumption based emissions inventory. ii. Set short- and long-term community-wide consumption emission reduction targets. iii. Report back by Q2 2023.	Understanding and reducing GHGs released during the manufacture and transport of articles and services we use helps address Toronto residents' true climate impact.				
	C) Enable Torontonians to reduce waste and engage in sustainable consumption by implementing the Single	SWMS, other City divisions	The City will: i. Implement a voluntary measures program that enables and encourages businesses to reduce waste in their operations.	It is estimated that approximately 400 million single-use plastic bags, 85 million foam takeaway containers and cups, and 39 million single-use hot and				

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	Use and Takeaway Items Reduction Strategy		ii. Introduce mandatory measures to reduce and prevent the generation of single-use and takeaway items in Toronto.	cold drink cups are generated annually by single family households in Toronto. Through consultation, the City identified strong public support for the implementation of mandatory measures (e.g. bylaws) restricting single-use and takeaway items.				
2030 target: 70 per cent residential waste diversion from the City of Toronto's Integrated Waste Management System								
16	Continue implementation of the City's Long Term Waste Management Strategy which sets a goal of diverting 70 per cent of waste managed from City customers away from landfill, by focusing on waste reduction, reuse and recycling activities that promote resource conservation and reduce environmental impact	SWMS	Reduction, reuse and recycling activities include a food waste reduction strategy, textile collection and reuse strategy, supporting other reduction and reuse programs, exploring new technologies and creating a Circular Economy and innovation unit within SWMS help Toronto reach its goal of becoming the first circular city in Ontario. Within the scope of the Long Term Waste Management Strategy, opportunities to explore waste reduction outside of the integrated waste management system are identified and actioned where within the scope of control of SWMS, for example, the Community Reduce and Reuse Programs and public communications for waste related information.	There are challenges with achieving this target including the transition of the City's Blue Bin Recycling program to extended producer responsibility (EPR). Currently, the direct impact of diversion on the reduction of greenhouse gas emissions is not known. Also, weight-based metrics such as diversion do not take into account the evolving nature of packaging and limit the amount of control SWMS has to make an impact on the measure. The Long Term Waste Management Strategy 5-year review is upcoming, and may result in changes to performance measurement and implementation strategies.				
	A) Continue outreach and engagement on waste reduction and diversion, with a focus on food and organic waste	SWMS, EED	The City will continue to enable food and organic waste reduction and diversion among City waste customers through implementation of strategic action roadmaps such as the Long Term Waste Management Strategy.	Outreach and engagement are critical to helping residents have the knowledge, opportunities, and passion for reducing waste. Organic (food) waste in particular creates powerful GHG emissions when it reaches the landfill so is a key area for engagement.				

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Develop and implement strategies to improve greenspace infrastructure to build climate resilience								
17	Increase canopy cover and biodiversity and enhance greenspaces	PFR	Over 2022-2025 the City will continue to increase tree canopy cover including prioritizing tree planting programs on both public and private lands to help achieve a more equitable distribution of canopy cover across the city. In collaboration with multiple City divisions, the implementation of the Strategic Forest Management Plan, Parkland Strategy, Ravine Strategy and Version 4 of the Toronto Green Standard will continue to contribute to canopy, biodiversity and greenspace goals.	Toronto's urban forest is a vital city asset that contributes to quality of life and healthy communities. The city's tree population helps to filter air pollution and save energy by helping to cool neighbourhoods and buildings in the summer. Trees also sequester carbon as they grow. Equitable access to greenspaces, including trees, parks and ravines, and their benefits is important to creating a healthy, livable city.				
	A) Achieve equitable distribution of the urban forest, increasing tree canopy and naturalized greenspace where it is most needed	PFR	In collaboration with other City divisions, Parks, Forestry and Recreation will continue to protect existing trees and increase tree canopy cover where it is currently lacking, creating more equitable distribution of the valuable services and benefits the urban forest provides.	A well-managed urban forest is vital to quality of life and supports climate resilience, disaster risk reduction, ecosystems conservation, food security, poverty alleviation, and improved quality of life. Equitable distribution of the City's tree canopy brings with it a more equitable distribution of the services and benefits provided by trees and greenspace.				
Ensure equitable implementation and ongoing improvement of engagement and reporting								
18	Support resident-led climate action and engagement	EED	Over 2022-2025, the City will continue to implement city-wide climate action engagement under the Live Green Toronto banner. Outreach will be focused on those most impacted by climate change and equity deserving groups to lead and implement local climate action.	Engaging and enabling the community to lead on climate issues is central to achieving a net zero GHG Toronto.				
	A) Support resident-led climate action engagement through Climate Action Grants	EED	Over 2022-2025, the City will scale up and design new grant programs including those directed to Indigenous communities and youth.	Funded projects will increase awareness and engagement on climate action at the local level. They also strengthen the efforts and capacity of				

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				local community agencies, grassroots groups and resident leaders.				
	B) Expand Neighbourhood Climate Action Champions Program	EED	Over 2022-2025, the City will continue to implement city-wide climate action engagement, specifically continue and scale-up the Neighbourhood Champions program through 2030.	Neighbourhood Climate Action Champions inspire, motivate and encourage residents to undertake community-focused actions to support TransformTO and reduce emissions to net zero.				
19	Work with Indigenous rights holders and urban Indigenous communities to share knowledge and learnings	EED, IAO	The City will develop a plan for meaningful, in-depth, respectful, and ongoing engagement with local Indigenous communities to provide feedback on City's Strategy implementation. 2022-2025 activities include a climate action grants program as well as: i. Ensure TransformTO policies, programs and services are developed with and for Indigenous communities to ensure a just economic transition. ii. Ensure opportunities for Indigenous representation in TransformTO engagement and advisory processes. iii. Explore ways to measure and communicate progress that speaks to broader questions such as "Are we good ancestors?" or "How are we honouring the land, water, and all our relations?" iv. Implement Reconciliation Action Plan. v. Connect with Indigenous Affairs Office and Placemaking Advisory Circle on future placemaking and place-keeping initiatives.	Meaningfully working with members of Toronto's Indigenous communities, and including an Indigenous worldview in the Net Zero Strategy, are important to our ongoing relationship with Indigenous communities on climate issues and the successful implementation of the Strategy.				
	A) Develop and deliver Indigenous Climate Action Grants program	EED	Over 2022-2025, EED will work with the Indigenous Affairs Office to design and deliver a new grant program dedicated specifically to local Indigenous climate action.	Supporting local level Indigenous climate action projects is essential, and current funding models need adaptation to ensure accessibility to Indigenous communities.				
20	Develop and implement youth engagement strategy	EED	Over 2022-2025 the City will develop and implement a youth engagement strategy, launch an academic innovation hub, and continue to involve youth in developing and implementing the Net Zero Strategy.	Youth involvement is critical to the design and implementation of the Net Zero Strategy. Meaningfully including youth voices is important from an				

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				equity perspective, and the Strategy also benefits from this group's innovative thinking.				
	A) Design and launch a City-academic innovation hub to support youth-led climate initiatives and innovative student pilot projects	EED	Over 2022-2025, the City will design and establish an innovation hub where City staff, youth, students, faculty, and community will work together to design innovative local projects.	Supporting youth climate action projects is essential to inspire current and future climate action.				
21	Design and launch a climate advisory group for 2022 and beyond to ensure implementation of the Net Zero Strategy is equitable and reflects the priorities and interests of the community	EED	The Net Zero Advisory Group will be updated and refreshed as the City moves from design of the Net Zero Strategy in 2021 to implementation over 2022-2025.	Receiving advice from diverse sources is critical to the design and implementation of a robust Net Zero Strategy that reflects the priorities of residents and stakeholders.				
22	Develop equity indicators to be reported on as part of the TransformTO implementation status update	EED	Staff will be developing equity indicators where possible and reporting on them regularly.	Ensuring equitable implementation is an important goal of Net Zero Strategy. Measuring and reporting on indicators is an effective way to stimulate and track progress.				
23	Encourage the growth of green industry to provide the products and services needed to enable a net zero city	EDC	The City and partners will encourage the growth of the green industries to enable net zero. 2022-2025 activities: i. Work with Toronto's green industries to undertake market research of key products and services required to achieve the Net Zero Strategy targets and goals and to provide a report to Council by Q3 2024. ii. Develop green industry growth roadmaps for each green sector, including a workforce development plan (a low-carbon job strategy), in partnership with Toronto's green industries and report back to Executive Committee – 2023 through 2024. iii. Consult with the local green industries on the opportunities to develop green industries cluster	Developing green industry can create economic benefits to the region and provide the materials and services needed to enable a net zero city. An industry's growth is generally controlled by six key drivers: Advocacy; Collaboration Building; Market Development; Marketing; Policies and Regulations; and Workforce Development.				

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			management organizations and identify the preferred form of the organization or organizations and the necessary steps to achieve implementation – by 2023. (The proposed timelines for these actions are contingent upon additional funding).					
24	Leverage Live Green Toronto to develop and implement a city-wide climate action awareness campaign	EED	Over 2022-2025 the City will develop and implement a city-wide climate action awareness campaign.	Communication is key to creating understanding, enthusiasm and participation in moving our city to net zero.				
2030 target: Lead by Example – Corporate emissions are reduced by 65 per cent over 2008 base year								
25	Develop and apply a Climate Lens in decision-making	EED, CFO	The City will continue to advance a climate lens systematically including climate priorities, opportunities and risks in decision making. Activities over 2022-2025 are outlined below.	Applying a climate lens to decision-making ensures that climate impacts, opportunities, risks and potential benefits and savings are systematically considered.				
	A) Implement a Climate Lens Program	EED, CFO	A Climate Lens Program integrates climate considerations in all new operating programs and capital projects and builds staff competency to assess both climate change mitigation and adaptation impacts. The City will: - Apply climate lens to all new operating and capital projects by 2022. - Apply climate lens to all existing programs, services, and assets by 2024.	A climate lens evaluates and considers the climate implications of all major City of Toronto decisions, guiding the City toward sound, long-term decision-making and GHG reduction goals.				
	B) Report on climate risks to assets	EED, CFO, AS	The CFO to report on all major climate risks associated with existing programs, services and assets, identified via the Climate Lens Program, to Council by 2024, and Council to direct the appropriate Divisions/Agencies to address risks in future capital planning. The CFO is to also provide ongoing annual updates on the City's climate risks as part of its annual consolidated financial statements.	Identifying and disclosing climate-related risks to assets enables the City to minimize risk, inform more efficient, long-term decision-making and enhance accountability to meeting targets.				
	2030 target: Lead by Example in Procurement – Greenhouse gas emissions from food the City of Toronto procures are reduced by 25 per cent							

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	C) Enhance Sustainable Procurement	PMMD	Align procurement policies with the following climate lens objectives: 1. Integrate climate considerations into strategic decision-making 2. Build staff climate competency and leadership 3. Increase climate accountability 4. Increase transparency through reporting 5. Monitor climate performance This action targets reporting in Q2 2022 and implementation into 2023. Enhancing sustainable procurement will also include working toward reducing emissions from food by 25 per cent by 2030 relative to a 2015 base year as per the City's Cool Food Pledge, and in alignment with the City's C40 Good Food Cities Declaration. Staff will report back on the status of corporate food-related emissions and recommended actions through Net Zero's status update on implementation in Q2 2025.	The City's purchasing power is one way that the City can make environmentally sustainable and equitable investments for today and the future.				
	D) Consider a carbon offset purchase policy and update the Carbon Credit Policy	CMO	Consider a carbon offset purchase policy and review the Carbon Credit Policy in a way that prioritizes achieving local emission reductions	The use of carbon offsets can make or break an effective net zero strategy. Toronto's Net Zero Strategy will reduce local emissions before considering purchasing offset credits. An offset purchase policy will be developed with the spirit and intent of reaching net zero.				
26	Design and implement a Toronto Carbon Budget	EED, CFO	Design a Toronto Carbon Budget and associated key performance metrics, which aligns with the City's financial budgets, to manage corporate and community GHG emissions within an absolute limit.	A carbon budget is the current best practice for cities that are serious about ensuring transparency and accountability in their climate action work.				

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					Health	Equity	Resilience	Prosperity
2030 targets: Lead by Example in Buildings • **All City Agency, Corporation and Division-owned new developments are designed and constructed to applicable Toronto Green Standard Version 4 standard achieving zero carbon emissions, beginning in 2022** • **Greenhouse gas emissions from City-owned buildings are reduced by 60 per cent from 2008 levels; by 2040, City-owned buildings reach net zero greenhouse gas emissions**								
27	Ensure net zero City-owned buildings	CREM, CP	Transitioning City-owned buildings to be net zero buildings.	Buildings are the largest source of GHG emissions in Toronto. The Net Zero Carbon Plan demonstrates the City leading by example to achieve net zero emissions in both new and existing City buildings.				
	A) Constructing new City-owned buildings to net zero on a go forward basis	CREM, CP	Update construction processes and design standards to include a requirement to construct new City buildings to Toronto Green Standard Version 4 Tier 4, to identify a net zero target in the design/construction procurement process and to identify planned facility construction projects for compliance.	Design and construction of net zero emissions buildings supports the City's systematic approach to achieving City Council's emission reduction targets.				

	Actions for implementation 2022-2025	Divisions & Agencies Lead is listed first. Legend* below.	Description of action	Why it matters	Benefits			
					Health	Equity	Resilience	Prosperity
	B) Pursuing a Net Zero Carbon Plan for existing City buildings	CREM	In July 2021, City Council adopted CREM's Net Zero Carbon Plan. This Plan provides a road map to achieve net zero emissions in City buildings first and foremost through changes to facility utilities consumption. It offers seven initiatives to reach this goal, including, fuel switching and efficiency retrofits, lower-carbon new builds, strategic divestment, on-site renewables and storage, training and education, enhanced use of building performance data and carbon offsets and off-site renewables. The Plan focuses on making the right investments into City buildings in order to meet the targets set by City Council. The Plan would be delivered by CREM in collaboration with other City Divisions and Agencies. Work is underway to integrate the Plan into the capital planning process, with the expectation that the Plan will be incorporated into the 2023 budget process.	The City can most significantly reduce GHG emissions through fuel switching in its existing buildings. The move away from carbon-intensive equipment is a cost-avoidance action that reduces both operating expenditures and emissions. The City may be able to achieve 50 per cent reduction in GHG emissions through the application of the Net Zero Carbon Plan for existing City buildings.				
2030 targets: Lead by Example in Transportation • **50 per cent of the City-owned fleet is transitioned to zero-emissions vehicles** • **50 per cent of the TTC bus fleet is zero-emissions**								
28	Reduce emissions from City and Agency-owned vehicles	FS, TTC	Over 2022-2025 the City will continue to reduce GHG and air pollutant emissions from City-owned and operated vehicles, fuels and practices.	Transportation is a significant source of GHG and air pollutant emissions in Toronto. The City of Toronto has a role to play in rapidly demonstrating success in moving toward net zero transportation.				
	A) Update and implement the Sustainable City of Toronto Fleets Plan to support the transition of 20 per cent of City fleet to zero-emission by 2025 and 50 per cent by 2030. Starting in 2022, for any light duty vehicle being purchased by the City, the City will select only the	FS	Activities include: i. Accelerate transition of City Fleets to sustainable, climate resilient, carbon-neutral operations by 2040. ii. Expand City's corporate EV charging infrastructure (1,200 charge ports by 2025, and 2,400 charge ports by 2030). iii. Identify needs and opportunities for providing EV charging for City staff and members of the public. iv. Develop associated policies, operational procedures, training and instructional material, and promotional material.	As the largest municipal fleet in Canada, City of Toronto fleets play an important leadership role in advancing technologies that aim to significantly reduce environmental impacts, and improve vehicle efficiency, reliability, and safety, while reducing life-cycle costs and associated impacts.				

	Actions for implementation 2022-2025	Divisions & Agencies Lead is listed first. Legend* below.	Description of action	Why it matters	Benefits			
					Health	Equity	Resilience	Prosperity
	electric version of this vehicle where operationally feasible.							
	B) Implement the TTC Green Bus Program to achieve target of 20 per cent of TTC buses zero emission by 2025-2026	TTC	Implement TTC Green Bus Program.	Zero-emission buses replace diesel buses, reducing the demand for diesel fuel, reducing emissions of GHGs and air pollution. Transportation is the largest source of air pollution in Toronto.				
29	Encourage City staff to adopt sustainable and climate positive practices at work and in their commutes	EED	Over 2022-2025 the City will encourage staff to adopt sustainable, low-carbon practices by implementing the Live Green @ Work Strategy alongside the Smart Commute Toronto program.	The City of Toronto is the largest employer in Toronto, and as such can introduce many people to sustainable practices and enable staff to lead while at work and at home.				
	A) Implement Live Green @ Work Strategy	EED	The Live Green @ Work Strategy: Staff engagement and organizational citizenship behaviour directed toward the environment encourage City employees to engage with climate action. This activity is important to the City as a green employer.	City of Toronto employees provide service to the public and businesses across the city. City employees can act as climate leaders at work and at home.				
	B) Encourage City staff to take transit, carpool, cycle or walk rather than drive alone to work, through the Smart Commute program	EED	Update the online tool that assists staff in finding sustainable commute options (transit routes, cycling routes, carpool matching). Conduct a commuter survey for City staff to identify current commuting practices and opportunities for assisting staff in reducing the carbon footprint of their commutes.	Low- or zero-carbon commuting choices reduce emissions of GHGs and air pollutants and also help alleviate congestion. Walking and cycling improve health through physical activity.				

	Actions for implementation 2022-2025	Divisions & Agencies Lead is listed first. Legend* below.	Description of action	Why it matters	Benefits			
					Health	Equity	Resilience	Prosperity
2030 targets: Lead by Example in Managing Waste • **Generate and utilize 1.5 Million Gigajoules of energy from biogas** • **Approximately 107,700 tonnes CO2e per year are reduced through Organics Processing with Renewable Energy and Landfill Gas Utilization** • **All City-owned facilities have achieved zero waste**								
30	Lead by example in managing waste and producing renewable energy from biogas at City facilities	SWMS, TW, CREM	The City will build on existing programs to lead by example in managing waste and producing renewable energy from biogas at City facilities, as described below.	Renewable energy reduces the demand for other forms of energy. It is important for the City to lead by example in managing waste.				
	A) Begin development of a third organics processing facility with renewable energy, targeting completion by 2028	SWMS	SWMS will build a third organics processing facility (OPF) with renewable energy. Diversion of organics from landfill and processing through the facility will contribute to a reduction in GHG emissions. In addition, Landfill gas control and utilization from Green Lane and Keele Valley landfills will contribute to this target.	Decarbonization of City operations is a critical way that the City can lead by example in the work toward net zero. The City operates one of the most progressive and sustainable waste management systems in North America. Ongoing innovation in our operations can serve as an industry standard for waste management.				
	B) Produce renewable natural gas from the Disco Road Organics Processing Facility, Dufferin Organics Processing Facility and the third organics processing facility (target completion by 2028) and landfill gas control and utilization systems at Green Lane and Keele Valley Landfills (target completion by 2026).	SWMS	SWMS will continue to capture biogas for beneficial use. The City has implemented renewable natural gas (RNG) processing at the Dufferin organics processing facility, and is currently working at the Disco Road organics processing facility to produce RNG from Green Bin organic waste, which will be injected into the natural gas grid for City use. The RNG produced will be blended with the natural gas that the City buys to create a low-carbon fuel blend that will be used across the organization to power vehicles and heat City-owned facilities, allowing for a reduction in GHG emissions Citywide. The City has also identified potential biogas and landfill gas upgrading opportunities at other City waste facilities including the Green Lane and Keele Valley landfills and a future third organics processing facility.	Renewable energy produced from biogas reduces the demand for other forms of energy.				

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	C) Produce renewable natural gas from wastewater	TW	Toronto Water will continue to make better use of biogas through production of renewable energy at its facilities.	Renewable energy produced from biogas reduces the demand for other forms of energy.				
	D) Divert waste from landfill in City-owned facilities	CREM, SWMS	Waste generated at City-owned facilities is diverted from landfill, reducing associated GHG emissions.	It is important for the City to set a community-wide example in increasing diversion of waste from landfill. Landfill emissions (particularly organics) generate methane, which has a higher global warming potential than carbon dioxide. Recycled materials also save resources and reduce energy and water use.				

***Divisions & Agencies:**
AS – Accounting Services
BST – Bike Share Toronto
CFO – Chief Financial Officer & Treasurer's Office
CMO – City Manager's Office
CP – City Planning
CREM – Corporate Real Estate Management
EED – Environment & Energy
EDC – Economic Development & Culture
FP – Financial Planning
FS – Fleet Services Division
IAO – Indigenous Affairs Office
MLS – Municipal Licensing & Standards
PFR – Parks, Forestry & Recreation
PMMD – Purchasing & Materials Management
SDFA – Social Development, Finance & Administration
SWMS – Solid Waste Management Services
TH – Toronto Hydro
TSD – Transportation Services
TTC – Toronto Transit Commission
TW – Toronto Water