TORONTO HYDRO Corporation

2023 ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

Message from the President & Chief Executive Officer, and the Executive Vice-President & Chief Human Resources, Environment & Safety Officer

Sustainability is inherent in our vision to provide safe reliable service to our customers in a cost effective and environmentally responsible manner. In 2023, Toronto Hydro continued to work on modernizing and sustaining the foundations of a safe and reliable grid to serve the current and future electricity needs of the city of Toronto. As customers and residents prepare for the climate change challenges and opportunities ahead, we at Toronto Hydro are ramping up to play a central role in supporting greenhouse gas (GHG) emissions reductions and helping customers be part of the shift to a sustainable and decarbonized economy.

As a clean energy leader, Toronto Hydro is committed to bold, practical climate action to support the City of Toronto's net-zero 2040 vision articulated through TransformTO. In 2021, Toronto Hydro developed a Climate Action Plan that supports the TransformTO strategy and received expanded mandates for climate action from Toronto City Council in July 2022. Since then, Toronto Hydro has turned this mandate into action by establishing a permanent Climate Action team and developing programs to support customers with their own climate action initiatives. The Climate Action Plan has two key areas of focus: 1) the Expanded Electricity Distributor and 2) Climate Advisory Services.

Toronto Hydro is dedicated to driving transformation across the city, from supporting municipal decarbonization projects to installing charging stations (193 installed with Toronto Parking Authority (TPA) in 2023). Aligned with the City's net-zero vision, Toronto Hydro has also committed to achieving net-zero Scope 1 GHG emissions and minimizing Scope 2 emissions through direct action and supporting decarbonization by 2040. In 2023, advancements in fleet electrification and building emissions reduction marked significant progress towards our goals. Toronto Hydro takes pride in being one of the first utility companies in Ontario to acquire a fully electric bucket truck, which is undergoing a pilot project in our training yard. We are excited to explore this new technology and are eager to integrate it into our operations in the future; a critical step as we continue in our fleet electrification journey.

In the past year, we were recognized as one of Canada's top 10 corporate citizens by Corporate Knights and received a 5-star Energy Resource Company rating from Canadian Occupational Safety magazine for our strong Environmental, Social and Governance (ESG) program, measurable positive environmental and social impact, and strong health and safety policy. We were also honoured as a sustainability leader by Canada's 2024 Clean50 and earned a spot on Canada's Clean16 list as a top contributor in the category of Traditional Energy for spearheading the development of the Climate Action Plan — the first of its kind by a utility in Canada and a pivotal component of our Utility of the Future strategy.

Thanks to the diligence and dedication of our workforce, as well as our innovative initiatives and solutions, we achieved a 25% reduction in Scope 1 GHG emissions from 2019 and recorded our best Total Recordable Injury Frequency rate on record (0.30). We continue to seek opportunities to shape a high-performing utility of the future, prioritizing net-zero emissions and the safety of our employees and our community.

Looking to the future, Toronto Hydro aims to cultivate a strong and diverse workforce to meet business needs. In 2023, Toronto Hydro collaborated with Electricity Canada, as well as local colleges and universities to encourage and mentor women pursuing educational programs in electrical engineering fields. This initiative aims to develop a gender-diverse talent pipeline to meet our short- and long-term workforce staffing and succession management requirements. In addition, Toronto Hydro has been a signatory to Electricity Human Resources Canada's Leadership Accord on Diversity, Equity and Inclusion since 2018 and a supporter of Catalyst, a global non-profit organization, since 2021. These connections affirm the organization's commitment to advance governance, education and best practices to achieve an equitable and diverse workforce with opportunities for growth and development.

Our 2023 ESG report underscores our strong performance and how our steadfast commitment to ESG principles has driven success across all facets of our corporation. We take pride in Toronto Hydro's accomplishments and eagerly anticipate building upon our successes in the future.

Anthony Haines
President and
Chief Executive Officer

Jodi Engel
Executive Vice President
and Chief Human
Resources, Environment
and Safety Officer

Introduction

Toronto Hydro is committed to delivering safe and reliable electricity to its customers in an environmentally responsible manner at reasonable costs. Five corporate pillars are at the core of Toronto Hydro's business strategy: People, Financial, Operations, Customer and Environment. The corporate pillars engrain sustainability into all aspects of the business and are aligned with Toronto Hydro's material ESG topics.

The 2023 ESG report highlights Toronto Hydro's commitment to sustainability. The report has been prepared with reference to the Global Reporting Initiative (GRI) Standards and covers the calendar year ended December 31, 2023 (in alignment with Toronto Hydro's financial reporting period). Additionally, the recommendations from the Financial Stability Board's industry-led task force — the Task Force on Climate-Related Financial Disclosures (TCFD) were used to shape the content of this report. If there are any questions relating to this report, please reach out to **sustainability@torontohydro.com**.

Toronto Hydro supports the United Nations Sustainable Development Goals (SDGs) and has highlighted the areas of the report that demonstrate contribution to the achievement of these goals. The SDGs are a set of 17 global goals adopted by the United Nations to end poverty, protect the planet and ensure peace and prosperity for all people by the year 2030.

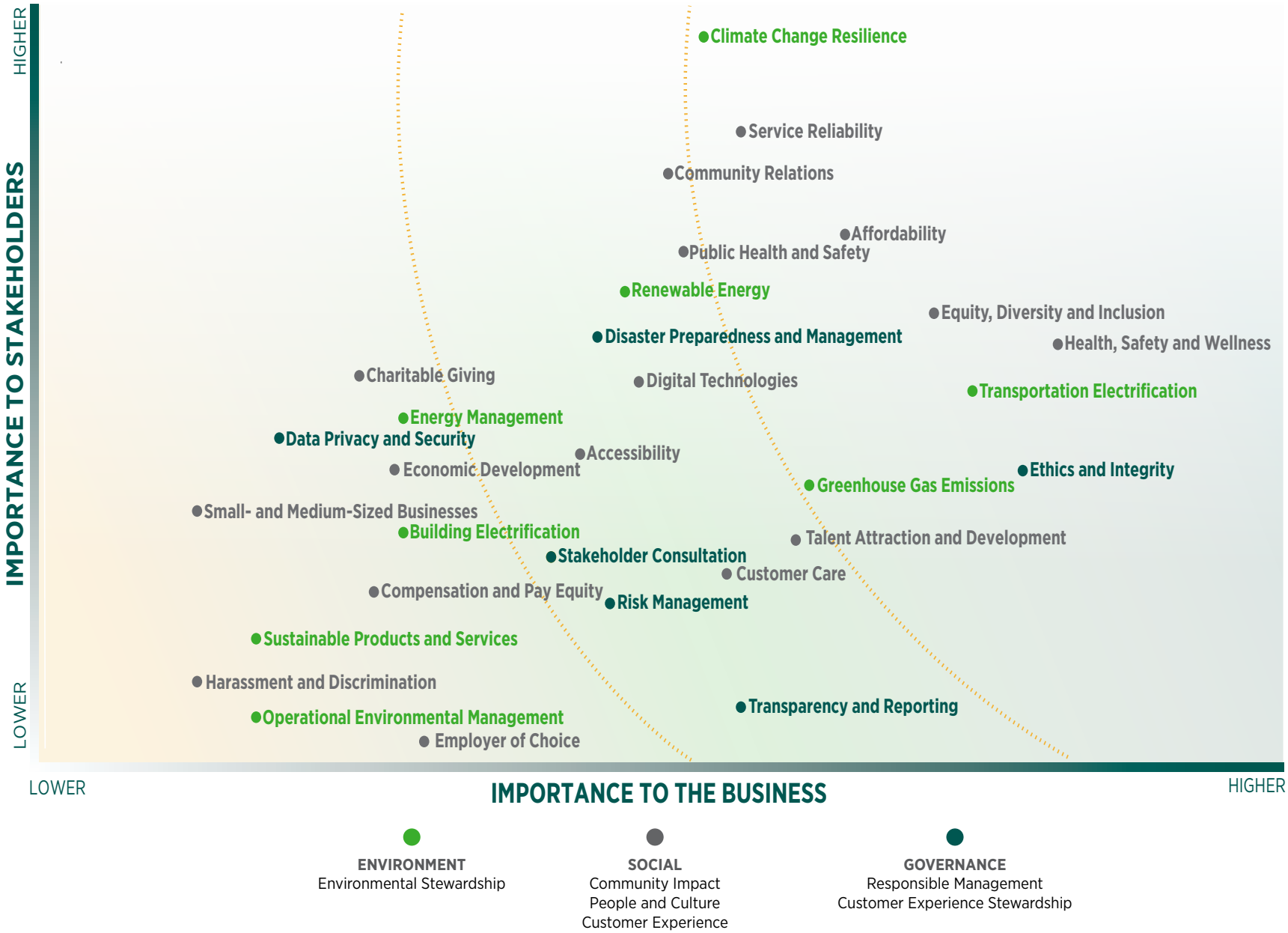
A list of material ESG topics has been established to ensure Toronto Hydro reports meaningful ESG information. Stakeholder engagement has been critical for determining the material topics. Specifically, Toronto Hydro has determined which topics are prioritized for inclusion in this report through a stakeholder assessment conducted in 2022. Working with a third-party consultant, Toronto Hydro gathered feedback from a variety of stakeholders, including customers, employees, executives, suppliers, community partners, academic partners and contractors. The feedback was used to identify Toronto Hydro's material ESG topics, as illustrated in Figure 1.

Toronto Hydro's material ESG topics were determined to be:

- Climate Change Resilience
- Service Reliability
- Affordability
- Equity, Diversity and Inclusion
- Health, Safety and Wellness
- Transportation Electrification
- Ethics and Integrity
- Greenhouse Gas Emissions

Figure 1: Toronto Hydro materiality matrix — top 30

All material topics are addressed within this report to allow stakeholders to sufficiently assess Toronto Hydro's ESG performance in 2023.



ABOUT TORONTO HYDRO

About Toronto Hydro

Company overview

Toronto Hydro Corporation (THC) is a holding company that wholly owns two subsidiaries: Toronto Hydro Electric System Limited (THESL), which distributes electricity, and Toronto Hydro Energy Services Inc. (TH Energy), which provides streetlighting and expressway lighting services in the city of Toronto (collectively, "Toronto Hydro" or "the Company"). The City of Toronto ("the City") is the sole shareholder of THC.

THESL

The principal business of Toronto Hydro is the distribution of electricity by THESL. THESL owns and operates $6.5 billion of Capital Assets comprised primarily of an electricity distribution system that delivers electricity to approximately 793,000 customers located in the city of Toronto. THESL serves the largest city in Canada and distributes approximately 18% of the electricity consumed in Ontario.

Electricity is produced at generating stations and transmitted through transmission lines owned by Hydro One to terminal stations. From the terminal stations, the voltage is then reduced (or stepped down) to distribution-level voltages. Distribution-level voltages are then distributed across THESL's electricity distribution system to distribution class transformers, at which point the voltage is further reduced for supply to end-use customers. Electricity typically passes through a meter before reaching a distribution board or service panel that directs the electricity to end-use customers.

In addition to accommodating traditional power flows, THESL's distribution system is increasingly tasked with enabling the bi-directional flow of power due to the ongoing proliferation of distributed energy resources (DERs), including customer-owned solar installations and energy storage systems (e.g., lithium-ion battery systems) connected locally. To adapt to the operational complexities introduced by these technologies, THESL is continuously enhancing the distribution system and its control operations by implementing smart technologies (i.e., automated sensing and control technologies) that can manage real-time system performance (including safety and reliability) more efficiently and with greater precision.

TH Energy

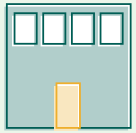
TH Energy provides streetlighting and expressway lighting services in the city of Toronto. TH Energy owns and operates $62.9 million of Capital Assets as of December 31, 2023. TH Energy owns certain streetlighting assets located in the city of Toronto, and has an agreement with the City to provide streetlighting system maintenance and capital improvement services. TH Energy subcontracts streetlighting services to THESL.

Our customers are serviced from:

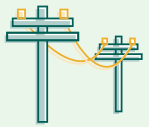
37
TERMINAL STATIONS

16,920*
PRIMARY SWITCHES

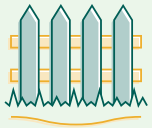
61,460*
DISTRIBUTION TRANSFORMERS



138
IN-SERVICE MUNICIPAL SUBSTATIONS



13,930*
CIRCUIT KILOMETRES OF OVERHEAD WIRES



13,765*
CIRCUIT KILOMETRES OF UNDERGROUND WIRES

184,330*
POLES

93,500
UNIT SMART METRES

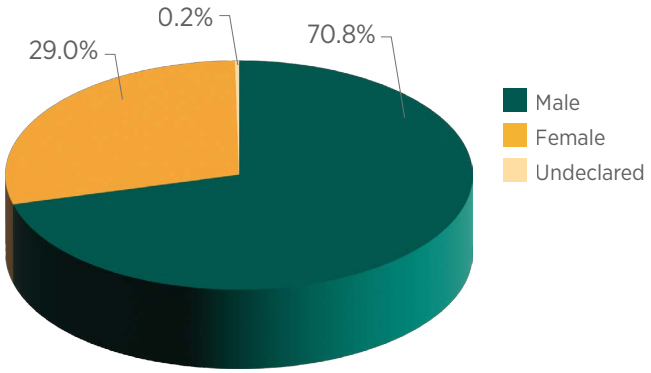
2
CONTROL CENTRES

*Figures are approximate (all figures above are as at December 31, 2023)

Toronto Hydro workforce

As of December 31, 2023, Toronto Hydro's workforce consists of 1,322 full-time permanent employees; 70.8% male employees (937), 29.0% female employees (383) and 0.2% undeclared employees (2), as illustrated in Figure 2.

Figure 2: Toronto Hydro's workforce breakdown



Of the total permanent employees, 50% are covered by collective bargaining units (664 employees). Labour unions at Toronto Hydro include: The Power Workers' Union (PWU) and The Society of United Professionals.

The exact composition of the bargaining unit depends on the terms of the collective agreement and the nature of the work performed by the employees. Of the total unionized employees, 514 members are represented by PWU, and 78 professional engineers and 72 IT professionals are represented by the Society of United Professionals. In terms of contract employees, there are a total of 34 individuals, of which 55.9% are male (19), 44.1% are female (15). Toronto Hydro has 2 part-time employees who are female, representing 100% of the part-time workforce.

Overall, Toronto Hydro has a total of 1,322 full-time permanent, 34 contract and 2 part-time employees.

Diversity and equal opportunity

As of December 31, 2023, females represented 55% (6 out of 11) of the THC's Board of Directors members, 67% (2 out of 3) of THC executive officers 50% (3 out of 6) of THESL executive officers. Inclusive of the executive officers, 29% of the workforce is female.

Since 2018, Toronto Hydro is a signatory to Electricity Human Resources Canada's Leadership Accord on Diversity, Equity and Inclusion and since 2021, a supporter of Catalyst, a global non-profit organization. These commitments affirm the organization's goals to advance governance, education and best practices to achieve an equitable and diverse workforce with opportunities for growth and development. In 2023, Toronto Hydro completed the delivery of an unconscious bias training program for frontline leaders; 92% of the leadership team has received the training so far. In addition, leading and creating a culture of inclusivity has been incorporated into leadership development program design for all leadership levels.

Through collaborations with Electricity Canada (EC) and local colleges and universities, and external partnerships with other organizations, the focus of Toronto Hydro's continuous efforts has been on the promotion and mentorship of women to pursue educational programs in electrical engineering fields of study to avail a gender-diverse talent pipeline to fulfill short- and long-term workforce staffing and succession management requirements. Toronto Hydro's efforts in this area support SDG 5 - Gender Equality, which aims to achieve gender equality and empower all women and girls.

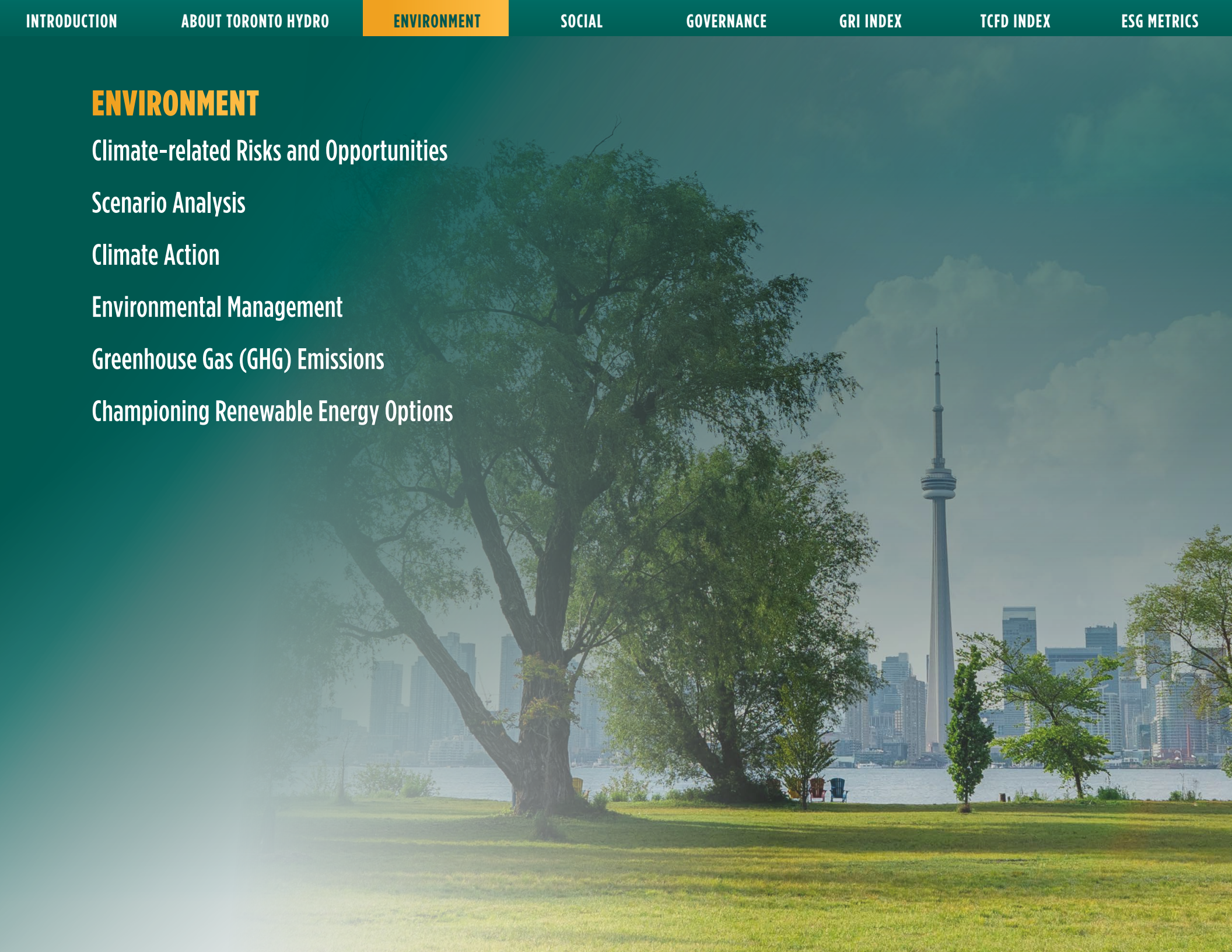
Membership associations

Toronto Hydro maintains an active role in a number of associations and organizations in Canada and globally, including:

- EC, which represents the electricity industry in Canada and promotes the development and growth of the industry
- The International Council on Large Electric Systems, which is an international organization dedicated to promoting the exchange of technical knowledge and experience in the electric power industry
- The Ontario Energy Association, which represents the diverse range of companies and organizations involved in the energy sector in Ontario, Canada
- The Infrastructure Health & Safety Association, which is a health and safety resource for effective sector-specific engagement, education, products and services
- The Association of Electrical Utility Safety Professionals is a professional association dedicated to promoting safety excellence and fostering collaboration among electrical utility safety professionals
- The Provincial Labour Management Safety Committee is a collaborative committee focused on improving workplace safety through joint efforts between labour and management within the province, particularly within the electrical sector

[1] The composition of the bargaining unit may change over time as a result of negotiations between the company and the union, or due to changes in the company's operations or workforce. The Power Workers' Union (PWU) collective agreements governing inside and outside employees span a five-ear period beginning February 1, 2022 to January 31, 2027. The Society of United Professional Engineers ratified a new Collective Agreement in December 2023, which covers a five-year period, from January 1, 2024, expiring December 31, 2028. The IT professionals represented by the Society of United Professionals have a five-year collective agreement for a period beginning January 1, 2021 and expiring December 31, 2025.

ENVIRONMENT



Environment

Climate-related risks and opportunities

Toronto Hydro faces various climate-related risks that could impact the achievement of its strategic objectives. The enterprise-wide approach to risk management is based on an overall enterprise risk philosophy, and achieved through a process of consolidating and aligning the various views of risk across the enterprise via a risk governance structure. Climate-related risks are routinely considered in forecasting, planning and executing key aspects of the business through the enterprise risk management (ERM) process, which is an integral part of the strategic management of Toronto Hydro.

Climate-related risks and opportunities are consolidated into Toronto Hydro's enterprise risks (i.e., franchise, governance, oversight, operations, financial, cybersecurity, safety and compliance). Table 1 summarizes the climate-related areas of the relevant enterprise risks and Toronto Hydro's management of the risk. It also classifies the risk as either a transition risk (i.e., risk related to the transition to a lower carbon economy) or a physical risk (i.e., risk related to the physical impacts of climate change). Finally, the table indicates the time horizon used to monitor the risk. The time horizons have been defined for the purpose of this report as short-term (quarterly), medium-term (prior to 2029 to align with Toronto Hydro's next rate period) and long-term (2040 to align with Toronto Hydro's Net Zero Scope 1 emissions 2040 target and the City's TransformTO timelines). Action plans are monitored against the medium- and long-term, and emerging issues on the short-term.

Table 1: Climate-related risks and opportunities

Risk type: Transition

ENTERPRISE RISK	EMBEDDED CLIMATE-RELATED RISK	POTENTIAL FINANCIAL IMPACT	TIME HORIZON	TORONTO HYDRO'S MANAGEMENT OF THE RISK
GOVERNANCE RISK	• Potential misalignment of priorities, approaches and timelines between the City and Toronto Hydro in their respective efforts to respond to the climate emergency in pursuit of environmental objectives and to support local electrification as a key tool to address climate change and the City's climate, social and environmental goals	• Early retirement of existing assets • Increased cost to provide new services • Increased cost of investment in infrastructure	• Short- and medium-term	**Completed:** • Established a Climate Action Plan adopted by City Council (refer to **Climate Action section** of this report for more information) • Entered into a memorandum of understanding with the City with respect to coordinating the City's and Toronto Hydro Climate Advisory Services' climate mitigation efforts **In progress/ongoing:** • Engagement with City representatives, departments and agencies to review and consider the impact of directives on Toronto Hydro's ability to meet business objectives and serve customers

Risk type: Transition

ENTERPRISE RISK	EMBEDDED CLIMATE-RELATED RISK	POTENTIAL FINANCIAL IMPACT	TIME HORIZON	TORONTO HYDRO'S MANAGEMENT OF THE RISK
OVERSIGHT RISK	• There can be no assurance that governmental authorities will pursue net-zero GHG policies that optimally utilize electrification or adequately support local distribution companies in facilitating electrification • Potential that broader climate change and energy government/regulatory policy framework does not align with Toronto Hydro's business direction and Climate Action Plan • There can be no assurance that the Ontario Energy Board (OEB) will approve and permit recovery through rates of past and future expenditures incurred by Toronto Hydro in preparing for or expanding electricity distribution service to meet increased electricity demand or other requirements resulting from net-zero GHG emission policies	• Loss of revenue due to lack of regulatory or governmental support for the provision of distribution infrastructure or services facilitating electrification • Disallowed or limited recovery of costs	• Short- to medium-term	**In progress/ongoing:** • Monitor proposed regulatory, climate change and energy policy changes that may support or impede its business • Actively engage with government entities and participate in industry organizations to monitor emerging policies and where possible, play an advocacy role • Employ a comprehensive organizational regulatory application program, which includes a risk assessment, to ensure that all applications to the OEB achieve the highest utility standard of evidence gathering, preparation and presentation, and most accurately reflect the needs of Toronto Hydro and its customers
FINANCIAL RISK	• A reduction in demand for grid-supplied electricity distribution may arise from conservation measures • New technologies, including those related to self-generation, could reduce customer demand for grid-supplied electricity distribution • Lack of access to/availability of cost-effective financial resources, and support for required capital structure, to undertake infrastructure expansion to facilitate customer electrification	• Lost revenue/higher customer rates due to reduction in delivery of electricity through the Toronto Hydro grid and reduced need to expand distribution infrastructure	• Medium-term	**In progress/ongoing:** • Invest in infrastructure to modernize the grid to drive resiliency, reliability, customer effectiveness and efficiency, and facilitate customer technology • Facilitate and integrate DERs to unlock grid benefits at the distribution level, and potentially at the bulk system level • Frequently engage with shareholder and capital market investors and institutions

Risk type: Transition

ENTERPRISE RISK	EMBEDDED CLIMATE-RELATED RISK	POTENTIAL FINANCIAL IMPACT	TIME HORIZON	TORONTO HYDRO'S MANAGEMENT OF THE RISK
FRANCHISE RISK	• Energy sources and services that offer alternatives to grid-based electricity	• Loss of revenue due to emerging competition	• Short-term	**Completed:** • Established a Climate Action Plan (Refer to **Climate Action section** of this report for more information), including a Climate Advisory Services department designed to facilitate reductions in GHG emissions via electrification by reducing stakeholder-identified barriers that prevent or inhibit customers from effectively participating in the energy transition **In progress/ongoing:** • Enhance the intelligence, automation and interactivity of Toronto Hydro's electricity distribution grid, including utilizing developing technology and facilitating customer use of technology and business models to support the reliability of core infrastructure grid operations, prepare for increased electricity demand from net-zero GHG emission policies, promote greater value, and deliver solutions for customers • Focus on effective connections processes required to balance bi-directional grid energy flows and enable a more flexible electricity system to facilitate use of DERs
OPERATIONS RISK	• As a result of net-zero GHG emissions policies, Toronto Hydro may need to accelerate capital investments to accommodate	• Increased investment funding requirements due to capital expenditures for system upgrades and new technologies to increase grid capacity and resilience • Customer affordability due to need to pass along costs of increased infrastructure and operational expenditures	• Medium- to long-term	**Completed:** • Commissioned a "Future Energy Scenarios" study to assess the future demand for electricity under different technology, policy and consumer uptake assumptions which have informed the 2025–2029 distribution rates application • Engaged in regional planning activities and processes to ensure the adequacy of the regional transmission system serving the city **In progress/ongoing:** • Align asset management system to the International Organization for Standardization (ISO) 55001:2014: Asset Management standard to cause the lifecycle of assets to be managed more effectively, reduce system costs and improve system visibility and reliability
COMPLIANCE RISK	• Climate change-related extreme weather events increasing federal, provincial and local regulation relating to the protection of the environment	• Fines, remediation activity expenditure costs or other incremental costs	• Short- to long-term	**Completed:** • Toronto Hydro has a Corporate Compliance program that strengthens the organization's culture of compliance • Commitment from leadership to provide suitable and sufficient resources for the environmental management system to ensure adherence with material compliance requirements

Risk type: Physical

ENTERPRISE RISK	EMBEDDED CLIMATE-RELATED RISK	POTENTIAL FINANCIAL IMPACT	TIME HORIZON	TORONTO HYDRO'S MANAGEMENT OF THE RISK
FINANCIAL RISK	• Outage-related concerns arising from extreme weather events reducing the demand for electricity	• Reduction in purchased electricity	• Short- to medium-term	**In progress/ongoing:** • Invest in infrastructure to modernize the grid to drive resiliency, reliability, customer effectiveness and efficiency
SAFETY RISK	• Extreme weather events impacting the safety of employees, contractors, customers and members of the public resulting from damage to Toronto Hydro assets	• Fines, remediation activity expenditures or other incremental costs	• Short- to medium-term	**In progress/ongoing:** • Toronto Hydro further mitigates health and safety risks to employees, customers and members of the public through equipment inspection, replacement and maintenance, employee training, communications programs, and reactive and emergency work • "Safety by Design" principles are applied in the development of construction standards and infrastructure design practices
OPERATIONS RISK	• Extreme weather events impacting Toronto Hydro's electricity distribution system	• Increased cost to repair damaged assets	• Short- to long-term	**Completed:** • Implemented an emergency and business continuity management program to support organization-wide resiliency • As of May 2023, the Standard Design Practices were updated to dictate that all new underground secondary distribution design (unless otherwise approved) shall utilize padmounted transformations **In progress/ongoing:** • Invest in infrastructure to modernize the grid to drive resiliency, reliability, customer effectiveness and efficiency • Continue to invest in the renewal of aging infrastructure and in the development of new infrastructure to address hardening the resiliency of the distribution system against the effects of climate change • Implementing a strategy to achieve net-zero Scope 1 GHG emissions by 2040

In addition to consolidating climate-related risk within its enterprise risks, Toronto Hydro has identified climate-related opportunities that align with its enterprise risks.

Opportunity type: Transition

ENTERPRISE RISK	EMBEDDED CLIMATE-RELATED RISK	POTENTIAL FINANCIAL IMPACT	TIME HORIZON	TORONTO HYDRO'S MANAGEMENT OF THE RISK
GOVERNANCE RISK	• Directives or mandates to provide new services to achieve climate objectives	• Increased revenue from new services	• Short- and medium-term	• Established a Climate Action Plan (refer to **Climate Action section** of this report for more information)

Opportunity type: Transition

ENTERPRISE RISK	EMBEDDED CLIMATE-RELATED RISK	POTENTIAL FINANCIAL IMPACT	TIME HORIZON	TORONTO HYDRO'S MANAGEMENT OF THE RISK
OVERSIGHT RISK	• Extreme weather events impacting the safety of employees, contractors, customers and members of the public resulting from damage to Toronto Hydro assets	• Increased revenue from optimal use of electrification to achieve climate objectives	• Medium- and long-term	• Participate in industry engagement efforts to realize opportunities in climate policy development • Comprehensive regulatory application program to achieve approval for the modernization and asset renewal required to prepare for growth and electrification
FRANCHISE RISK	• Investments in infrastructure will be made to increase the capacity and resilience of the grid as required to support the electrification of both the economy and people's daily lives, thereby supporting the achievement of government net-zero GHG emission targets	• Increased funding to meet growth in electricity demand requirements	• Medium-term	• Toronto Hydro uses advanced, detailed scenario analysis to consider consumer behaviour, policy impacts and other external drivers, and to guide its investment strategies
OPERATIONS RISK	• Increased customer connections and electricity demand to support electrification (including electric vehicles and heating sources)	• Increased revenue	• Medium- to long-term	• Toronto Hydro uses advanced, detailed scenario analysis to consider consumer behaviour, policy impacts and other external drivers, and to guide its investment strategies • Engaged in regional planning activities and processes to ensure the adequacy of the regional transmission system serving the city of Toronto • 2025–2029 Rate Application includes capital expenditures for system upgrades and new technologies to increase grid capacity and resilience • Established a Climate Action Plan (see the **Climate Action section** of this report for more information)

Scenario analysis

Toronto Hydro uses advanced, detailed scenario analysis to consider consumer behaviour, policy impacts and other external drivers (including climate-related factors) to guide its investment strategies. Scenario analysis is particularly important in a world of uncertainty; scenarios are explored to ensure alternatives are in place for events that could significantly alter business-as-usual assumptions.[2]

Future energy scenarios

Toronto Hydro commissioned a study to assess future demand for electricity under different technology, policy and consumer uptake assumptions.

[2] **tcfdhub.org/scenario-analysis/**

Table 2: Future energy scenario — Changing energy landscape

PURPOSE	To project the actual impact on electricity demand (MW) and consumption (MWh) so that Toronto Hydro can better understand the challenges posed by a changing energy landscape.
SCENARIO ANALYSIS TYPE	Transition-focused. Quantitative analysis.
TIMEFRAME	2022 to 2050
SCOPE	Toronto Hydro's electrical distribution system within the city of Toronto. Specific inputs included: 1. Core demand (residential, industrial and commercial). 2. Electric vehicle (EV) growth (light-duty battery EV and plug-in hybrid EVs (PHEV), medium- and heavy-duty EVs, EV buses, electrified rail). 3. Decarbonized heating (air source, ground source and hybrid heat pumps, biomass; electric). 4. Distributed generation (solar and wind, biogas and other non-renewable generation). 5. Storage (residential, industrial and commercial). 6. Efficiency measures (electrical and thermal efficiency forecasts, EV demand response).
PROCESS	Four different future scenarios for the city of Toronto have been developed and analyzed, each with different assumptions around the degree of decarbonization and societal change, including uptake of low-carbon technologies. Three of the scenarios use the base assumption that measures will be implemented to achieve net-zero emissions by 2050, at a minimum.[3] Drivers of electricity demand and generation, including building stock, electrification of transportation, decarbonized heating, distributed generation, battery storage and flexibility, were modelled individually on a low/medium/high basis to develop a single cohesive view of a potential future world for each scenario. **Scenario 1 – net zero by 2040:** Highest ambition, meeting key policy targets and aligning with the City's TransformTO net-zero goals. **Scenario 2 – consumer transformation:** A central scenario, aligning with net zero 2050, achieving decarbonization through a bottom-up approach with high societal change. This scenario involves high electrification, energy efficiency and DERs. **Scenario 3 – system transformation:** A central scenario, aligning with net zero 2050, achieving decarbonization through a top-down approach with low societal change. This scenario involves high levels of transportation electrification, but lower levels of heating electrification, energy efficiency and DERs. **Scenario 4 – steady progression:** A low-ambition scenario, aligned with the TransformTO business as planned, seeing deployment of existing plans but falling short of 2030 and 2050 targets. This scenario reflects minimal consumer behaviour change and is the slowest decarbonization scenario.
KEY INSIGHTS/ FINDINGS	The findings from the scenario analysis are being used to understand the impact of different policy, technology and consumer behaviour drivers on the electricity distribution system. The insights have informed Toronto Hydro's 2025–2029 Rate Application.

[3] **ipcc.ch/sr15/** Chapter 2

Table 3: Climate change vulnerability assessment

PURPOSE	To perform risk assessment for the various components and areas of the distribution system that would be affected by climate change, and evaluate the vulnerability of Toronto Hydro's electrical distribution system within the city of Toronto related to a changing climate by employing Engineers Canada's Public Infrastructure Engineering Vulnerability Assessment Protocol.
SCENARIO ANALYSIS TYPE	Physical-focused (Representative Concentration Pathways (RCP) 4.5 and RCP 85 of Intergovernmental Panel on Climate Change Fifth Assessment Report (IPCCAR5). Qualitative analysis.
TIMEFRAME	2015 to 2050
SCOPE	Toronto Hydro's electrical distribution system within the city of Toronto.
PROCESS	A system-level approach was employed to assess the impacts of climate change on the electrical distribution system. This approach divided the distribution system into six major asset categories: stations, feeders, communication systems, civil structures, auxiliary mechanical systems and human resources.
KEY INSIGHTS/ FINDINGS	The results were used to develop a roadmap on climate adaptation initiatives (such as changing the specifications for transformers in below-grade vaults to require that transformers be constructed from stainless steel, a material more resistant to corrosion) and implementing procedures requiring consideration of climate risk when planning new projects.

Climate action

Climate Action Plan

The City of Toronto has established an ambitious climate action strategy to reduce GHG emissions within the city to net zero by 2040.[4] Toronto Hydro is a key enabler of this strategy and has similarly committed to achieving net-zero Scope 1 GHG emissions by 2040 within its own operations. Additionally, Toronto Hydro is actively working towards minimizing Scope 2 emissions through direct action and supporting decarbonization by 2040.

Toronto Hydro's Climate Action Plan supports the City's net-zero 2040 vision. In 2022, Toronto Hydro received expanded mandates for climate action from Toronto City Council. Since then, Toronto Hydro has turned this mandate into action by executing early climate wins, establishing a permanent Climate Action team, and developing programs to support customers with their own climate action initiatives. The Climate Action Plan has two key areas of focus: 1) the Expanded Electricity Distributor and 2) Climate Advisory Services, both of which are described in the following sections.

Expanded Electricity Distributor

The energy transition will require expanded capacity and capabilities from Toronto Hydro's distribution grid. More local distribution infrastructure may be required to get electricity from where it is generated to where it is needed every instant of every day. Toronto Hydro is actively planning for grid expansion and modernization to enable the energy transition in Toronto.

Toronto Hydro is committed to making it easier and faster to electrify customers and help them get the power they need while investing in technology to get more use out of existing equipment and build a smarter, more efficient and reliable grid.

TORONTO HYDRO EARNS A SPOT ON CANADA'S 2024 CLEAN16 FOR ITS SUSTAINABILITY EFFORTS

Toronto Hydro is honoured to be recognized as a sustainability leader by Canada's 2024 Clean50, in addition to earning a spot on Canada's Clean16 list as a top contributor in the category of Traditional Energy.

Notably, Toronto Hydro was commended for the development of its Climate Action Plan — the first of its kind by a utility in Canada — demonstrating its commitment to climate action while continuing to deliver safe, reliable and clean electricity to the largest and fastest growing city in the country.

Canada's Clean50 annually recognizes sustainability leaders from across the country, and hosts a summit for cross-sectional learning, collaboration and engagement.

As the electricity distribution company powering Canada's largest city, Toronto Hydro is committed to helping the City reach its net-zero vision, as well as achieving net-zero emissions in its operations.

[4] **toronto.ca/services-payments/water-environment/environmentally-friendly-city-initiatives/transformto/transformto-climate-action-strategy/**

Climate Advisory Services

A second key focus of Toronto Hydro's Climate Action Plan involves partnering with customers and local cleantech businesses to meaningfully enhance Toronto's collective capacity to achieve net zero. Together with customers, local cleantech companies, governments and stakeholders, Toronto Hydro is committed to delivering significant emission reductions, stimulating and facilitating the local cleantech economy, and advancing social equity in Toronto.

Toronto Hydro works directly with customers — free of charge — to encourage and help them find personalized, sustainable energy solutions tailored to their needs. Toronto Hydro is enabling projects across the city that electrify buildings and transportation, build renewable generation capacity, and enhance energy efficiency in an effort to accelerate the shift to a sustainable economy.

For more information, refer to Toronto Hydro's most recent **Climate Action Status Report**.

Transportation electrification

EV charging

Vehicles continue to be one of the largest sources of GHG emissions in Toronto, contributing to approximately one-third of GHG emissions in the city. The transition to EVs is one of the primary actions noted in the City's TransformTO Net Zero 2040 Strategy. Toronto Hydro is supporting transportation electrification by helping to increase the availability of EV charging stations for the residents of Toronto, as well as Toronto Hydro employees.

Figure 3: Charging stations at Toronto Hydro	
14 Carlton Street	**10**
71 Rexdale Boulevard	**10**
715 Milner Avenue	**4**
500 Commissioners Street	**4**

Toronto Hydro is committed to removing barriers to EV ownership for its employees. As of December 31, 2023, there were 28 charging stations available across Toronto Hydro's four main work centre locations for employee use (Figure 3). While employees are required to pay for use of the chargers, the infrastructure is intended to support employees in the transition to EVs.

Toronto Hydro encourages employees to use Toronto Hydro-owned EVs and PHEVs when travelling between work centres or attending job sites; there are seven EVs and nine PHEVs between all four work centres for general employee use. Recognizing potential barriers to EV use, Toronto Hydro developed an online course to help employees understand how EVs work, learn about the different vehicles at Toronto Hydro and understand the importance of transitioning to EVs. Alongside this optional training, employees are required to complete the Simulated Defensive Driving (SDD) program before operating any Toronto Hydro vehicles.

EV CHARGING IN THE CITY

Toronto Hydro has supported the TPA with the installation and connection of on- and off-street EV chargers since 2020.

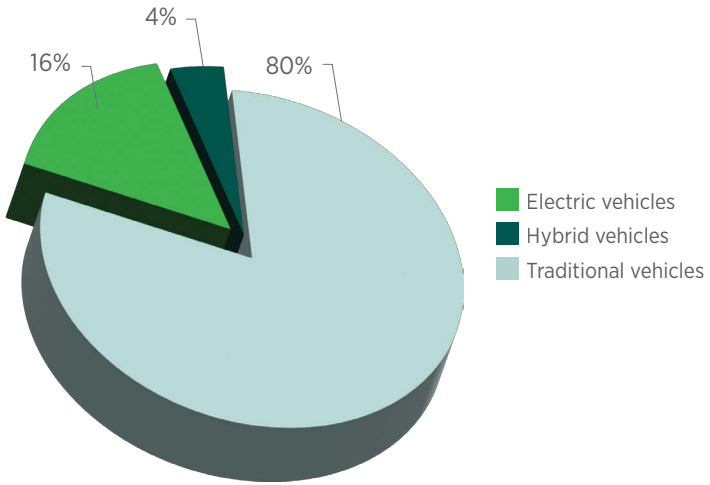
- In 2023, the TPA with Toronto Hydro's support, installed 193 off-street and 50 on-street charging stations that will be energized and operational in 2024
- Toronto Hydro also sold its 117 off-street and 47 on-street public charging stations to the TPA to be added to its "Green P" network

Toronto Hydro is continuing to help add stations to "Green P" parking lots.

Fleet electrification

EVs and PHEVs make up 20% of Toronto Hydro's fleet as illustrated in Figure 4; surpassing the annual fleet electrification target by 7%. Toronto Hydro's fleet includes 14 light-duty battery EVs, 3 hybrid bucket trucks, 1 fully electric bucket truck, 20 hybrid minivans, 26 hybrid pickup trucks and 9 hybrid SUVs. To accommodate the growing electric fleet, Toronto Hydro has installed 22 new chargers at 500 Commissioners Street, 14 new chargers at 715 Milner Avenue, and 12 new chargers at 71 Rexdale Boulevard, totaling 70 charging stations dedicated for fleet vehicles across all work locations.

Figure 4: Fleet electrification



TORONTO HYDRO ACQUIRES FIRST FULLY ELECTRIC BUCKET TRUCK

Toronto Hydro was one of the first utility companies in Ontario to acquire a fully electric bucket truck. To ensure seamless integration and operational readiness, Toronto Hydro is piloting the electric bucket truck in its training yard. The training yard serves as a testing ground for operational equipment and a training hub for staff to learn and hone their skills in a safe environment. Piloting the bucket truck in the training yard allows for the assessment of operational impacts in a controlled environment and supports in the gathering of valuable insights that will support Toronto Hydro's goal of reaching net zero by 2040.

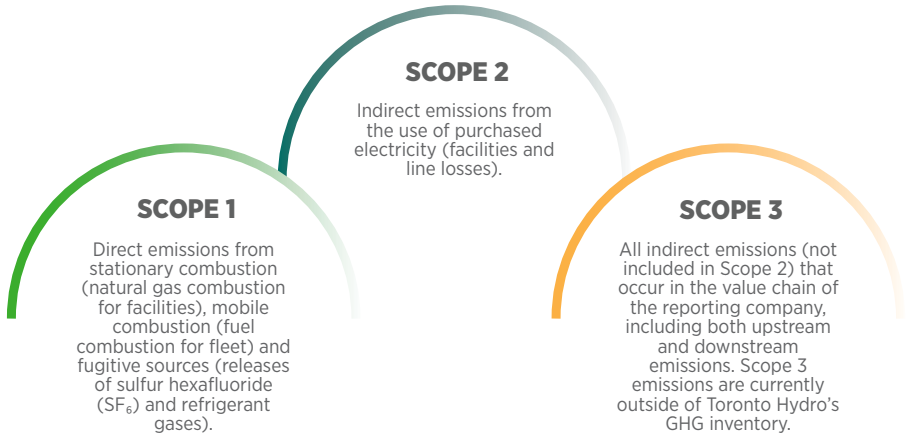
Environmental management

Toronto Hydro is committed to delivering safe and reliable electricity to its customers in an environmentally responsible manner. Toronto Hydro has maintained a strong record of environmental performance for many years, continues to strive to be a sustainable electricity company, and has received recognition for its leadership in ESG, sustainability and climate adaptation.

ORGANIZATION	ACHIEVEMENT
International Organization for Standardization (ISO)	**Completed an external audit confirming effective maintenance of an Environment, Health and Safety (EHS) Management System in accordance with the ISO Environmental Management Systems (ISO14001:2015) and the Standard for Occupational Health and Safety Management Systems (ISO45001:2018). This marks the 11th consecutive year that Toronto Hydro has been certified.**
Electricity Canada	**Recognized as a Sustainable Electricity Leader™ by Electricity Canada following a comprehensive evaluation.**
Building Owners and Managers Association (BOMA) Best	**Certified (at three work centres) as meeting the requirements for building environmental standards (BOMA BEST).**
Corporate Knights	**Ranked 19th overall in Corporate Knights' list of the Best 50 Corporate Citizens in Canada for 2023 and third among electricity transmission and distribution utilities in Canada. This is the sixth time Toronto Hydro has been recognized for its leadership in environment, social and governance (ESG) objectives, sustainability and climate adaptation.**
Canada's Clean50	**Recognized as a sustainability leader by Canada's 2024 Clean50, in addition to earning a spot on Canada's Clean16 list as a top contributor in the category of Traditional Energy. Toronto Hydro was recognized for leading the development of the utility's Climate Action Plan — the first of its kind by a utility in Canada and a key component of the Company's Utility of the Future strategy.**
Canadian Occupational Safety	**Received the 2023 5-Star Energy and Resource Companies award, given to companies that demonstrated a strong ESG program, a measurable environmental and social impact, and a consistent health and safety policy.**

In alignment with the City's TransformTO Net Zero Strategy, Toronto Hydro has committed to achieving net-zero Scope 1 emissions and minimizing Scope 2 emissions though direct action and supporting decarbonization by 2040. Since 2022, Toronto Hydro has monitored its progress towards achieving net-zero GHG emissions by 2040 through two metrics: 1) building emissions reduction and 2) fleet electrification. Dedicated management and steadfast commitment across all corporate levels led to surpassing the annual targets for each metric in 2023.

Toronto Hydro's GHG inventory includes Scope 1 and 2 emissions, quantified in accordance with national and provincial GHG reporting guidelines[5] and the GHG Protocol Corporate Accounting and Reporting Standard.[6]



The organizational boundary of this GHG inventory includes all Toronto Hydro-owned and controlled (i.e., leased) facilities, equipment and vehicles. There were no significant changes in 2023 to Toronto Hydro's organizational boundaries. The emission factors used to calculate GHG emissions are published by Environment and Climate Change Canada[7] and are representative of Ontario's energy supply mix. GHG emissions are measured in tonnes of carbon dioxide equivalent (tCO_2e).

[5] Environment and Climate Change Canada, Technical Guidance on Reporting Greenhouse Gas Emissions, available at **ec.gc.ca**; Ontario Ministry of the Environment, Conservation and Parks, Guideline for Quantification, Reporting and Verification of Greenhouse Gas Emissions, available at **ontario.ca/page/ministry-environment-conservation-parks**.

[6] The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (World Resources Institute and World Business Council for Sustainable Development), available at **ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf**

[7] Emission factors published in Environment Canada's **National Inventory Report 1990-2021: Greenhouse Gas Sources and Sinks in Canada**.

GHG emissions

In 2023, Toronto Hydro's total GHG emissions were 22,682 tCO_2e. Figures 5 and 6 show the make-up of Toronto Hydro's carbon footprint. In summary, 76% of emissions are from line losses (17,315 tCO_2e), 11% are from SF_6 emissions (2,509 tCO_2e), 8% are from facilities (electricity and natural gas use) (1,656 tCO_2e) and 5% are from fleet emissions (1,201 tCO_2e).

Figure 5: 2023 emissions (by scope)

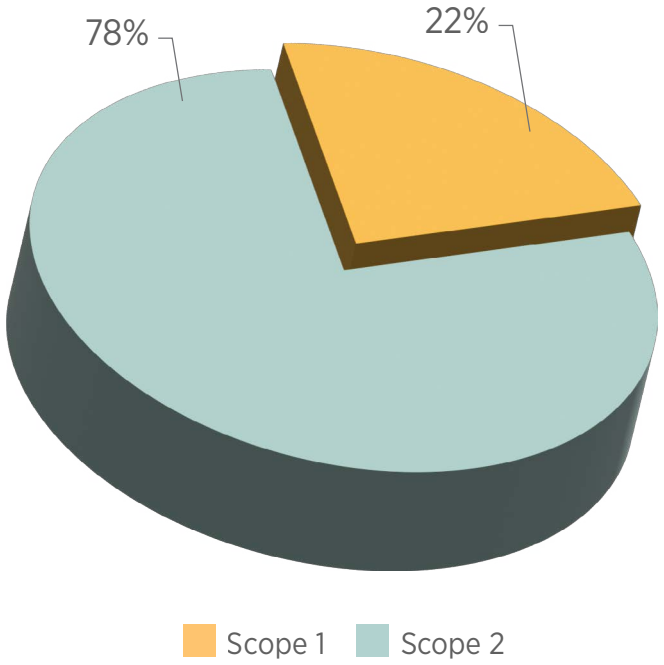
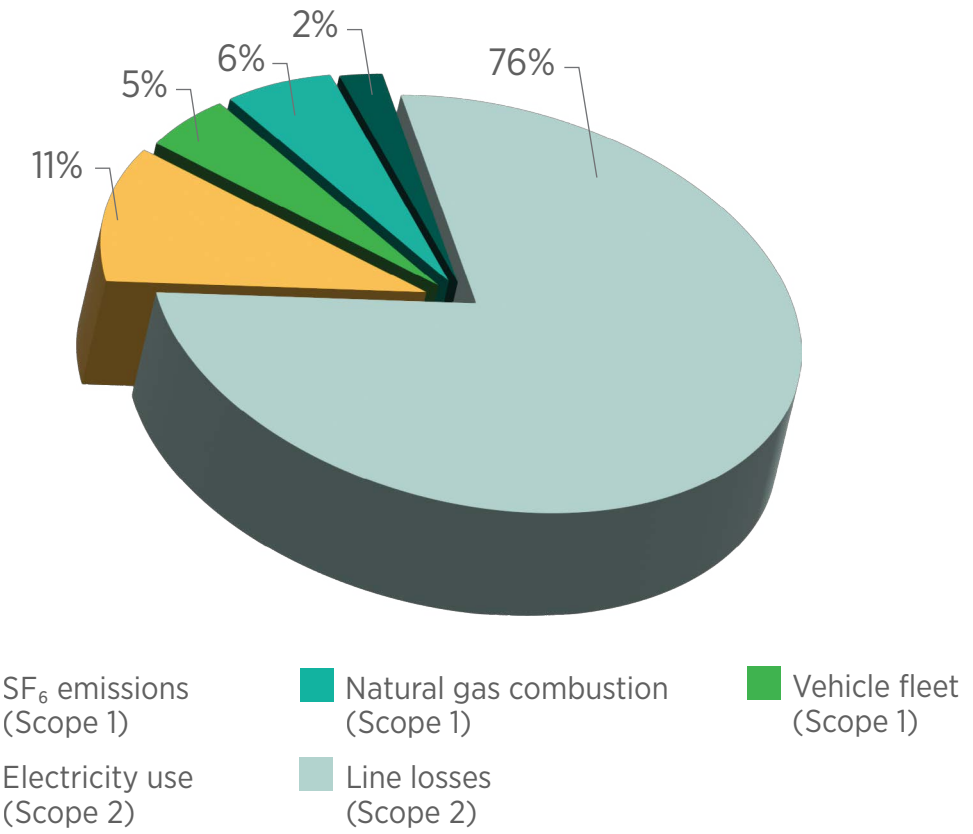


Figure 6: 2023 emissions (by source)



In 2023, Scope 1 emissions decreased by 25% in comparison to baseline year 2019. Scope 2 emissions, however, have increased by 28%. The increase can be attributed to a year-over-year rise in the provincial emission factor[8] for line losses. Toronto Hydro's efforts to increase the efficiency of the system contributed to a 24% (191,473 MWh) reduction in line losses in 2023 compared to 2019, however, due to changes in the provincial emissions factor, the emissions calculated[9] were higher in 2023. Line losses account for 76% of Toronto Hydro's total GHG emissions and 98% of Scope 2 emissions.

[8] Emission factors published in Environment Canada's **National Inventory Report 1990-2021: Greenhouse Gas Sources and Sinks in Canada. Table A13-7: Electricity Generation and GHG Emission Details for Ontario Generation Intensity**

[9] Emissions calculated for line losses = energy lost x emission factor.

Highlights from 2023 include:

- Achieved a 21% reduction in building emissions compared to 2019 (baseline)
- Reduced annual paper consumption by 89% over the past five years by employing technology solutions including electronic tailboards, employee communication boards and inspection forms
- Achieved a recycling rate of 91%, surpassing the target by 11%
- EVs and PHEVs account for 20% of Toronto Hydro's fleet pool
- Removed 68 gasoline-powered vehicles, comprising 19 heavy-duty and 49 light-duty vehicles

Toronto Hydro facilities

Managing building emissions is a critical aspect of Toronto Hydro's plans to achieve net zero by 2040. In 2023, Toronto Hydro prioritized energy conservation and capital investments to meet annual targets. Building emissions were 14% below the annual target and 16% lower than the emissions recorded in 2022. A significant contributing factor to this achievement is the reduced use of natural gas. Natural gas combustion at Toronto Hydro's facilities has decreased by 31% since 2019 and by 22% since 2022.

With respect to energy conservation, a key driver was leveraging building automation systems (BAS) to optimize heating and cooling schedules, manage air intake in unoccupied rooms, and reduce temperature set points where possible — all in an effort to reduce unnecessary gas and electricity consumption. GHG emission monitoring was improved by the incorporation of sensors that track emissions. This enables the identification of specific areas for strategic planning and action. Toronto Hydro enhanced older assets by incorporating sensors, enabling monitoring and control through the BAS. This strategic approach eliminates the need for a complete replacement of older assets with new smart alternatives.

Toronto Hydro prioritizes investments in its work centres based on safety, reliability and functional availability to ensure business continuity. When making asset investments, Toronto Hydro evaluates whether repairing or replacing work centre assets presents opportunities to achieve additional goals, such as enhancing resilience against natural and physical threats (e.g., extreme weather and vandalism) or delivering reductions in GHG emissions.

One notable replacement in 2023 was the transition from a natural gas heating, ventilation and air conditioning (HVAC) unit to an electric heat pump at Toronto Hydro's 14 Carlton Street work centre. When comparing the last two months of 2023 to the last two months of the baseline year (2019), this change resulted in a 30% reduction in the building emissions at 14 Carlton Street. Note, the data has been normalized to account for different weather conditions in 2023 compared to 2019.

Toronto Hydro's fleet

Toronto Hydro continued its implementation of anti-idling technology on its vehicles, complying with City bylaws. This technology automatically shuts off the engine after one minute of idling and switches to auxiliary battery power. Approximately 17% of Toronto Hydro's on-road vehicle fleet, including cube vans, single and double bucket trucks, and pickup trucks, are equipped with this Governor to Reduce Idling and Pollution (GRIP) technology, resulting in a 31% decrease in idling time for cube vans compared to non-equipped vehicles. Furthermore, Toronto Hydro is actively exploring other emerging technologies to further reduce idling time and emissions from its fleet vehicles. One such technology is the electric power take-off system (ePTO), which uses lithium-ion batteries to provide electric power and eliminate emissions from the fossil fuel-powered engine. The ePTO is used to operate the boom of a bucket truck, allowing the boom to run independently from the rest of the vehicle. Traditionally, a vehicle would have to idle in order for the boom to operate. Five Toronto Hydro bucket trucks were equipped with ePTO systems in 2023, with plans for deployment in Q1 2024.

SF_6 emissions

Toronto Hydro continues to closely monitor SF_6 emissions. SF_6 is used at Toronto Hydro as an insulating gas for electrical equipment. In 2023, SF_6 emissions were 22% lower than the previous year. Despite this positive trend, SF_6 emissions still contribute to 51% of Toronto Hydro's Scope 1 emissions. In recognition of the scale of SF_6 emissions, Toronto Hydro initiated an internal, multi-disciplinary team in 2023 to develop and manage an aligned approach to the elimination of SF_6 emissions. In 2023, the team identified areas for enhancing the inspection process, with a focus on utilizing tools to aid in SF_6 detection. An SF_6 gas detection tool was introduced to identify and address small leaks early. In addition, a pilot program was initiated for completing temporary, ad-hoc repairs.

Line losses

Multi-year investments to replace obsolete equipment increase the efficiency of the distribution system and contribute to reduced line losses. In 2023, Toronto Hydro's efforts to increase the efficiency of the system contributed to a 24% (191,473 MWh) reduction in line losses compared to 2019. However, total emissions associated with line losses increased in 2023 due to a year-over-year increase in the provincial emission factor.[10]

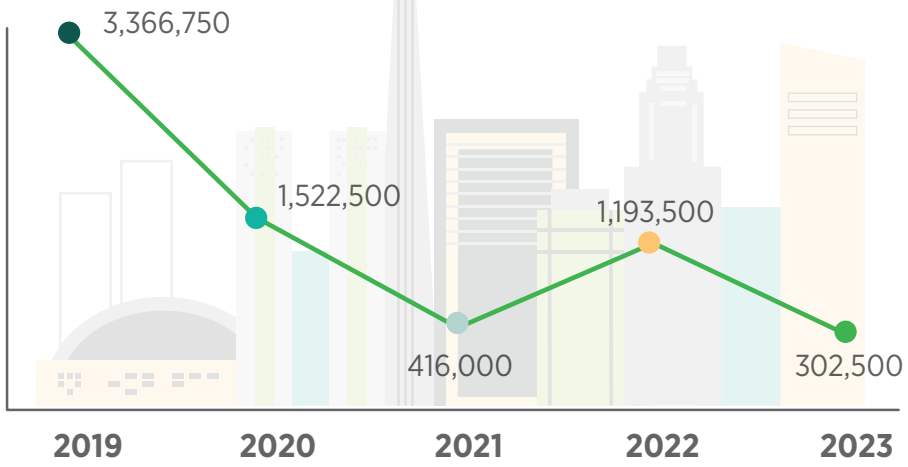
PAPERLESS BILLING INITIATIVES

In 2023, 51% (approximately 406,000) of Toronto Hydro customers (approximately 793,000) received their bills electronically compared to 48% (approximately 382,000) of Toronto Hydro customers (approximately 791,000) in 2022, representing a steady improvement. The increase of approximately 24,000 customers in 2023 compared to 2022 is attributable to customer moves, which provides opportunity to directly connect with customers to promote electronic bills (eBills). The increase is also partly due to targeted marketing campaigns and effective communication to create a more positive customer experience. Together with Tree Canada, Toronto Hydro will plant one tree for each customer who switches to eBills; up to 5,000 trees.

Waste reduction - paper consumption

Toronto Hydro has undertaken several initiatives to reduce paper use, resulting in a significant 91% decrease in annual consumption over the past five years (from 2019 to 2023, see Figure 7). This translates to a reduction of approximately 3,064,250 sheets of paper (13,768 kg). An equivalent stack of paper would measure approximately 1,000 feet — more than half the height of the CN Tower, which stands at 1,815 feet tall.

Figure 7: Sheets of paper purchased



This reduction has had a substantial environmental impact, leading to a savings of around 39 tCO_2e in associated GHG emissions. Additionally, there are tangible financial benefits, with procurement costs reduced by approximately $21,500. These savings calculations do not include extra costs associated with paper record storage and transportation.

The successful reduction in paper use throughout 2023 can be attributed to the implementation of electronic tailboards (eTailboard) for job planning, electronic tablets for training sessions, virtual reality (VR) training, electronic employee communication boards, and strategically placed TV screens across all facilities. Additionally, Toronto Hydro implemented a flexible work arrangement policy in 2022. When employees are in the office, they print less and prioritize enhanced face-to-face communication, active participation in organizational events, or sharing updates within the company digitally. Toronto Hydro remains committed to these efforts and will continue to explore innovative strategies to further reduce paper consumption in the future.

[10] This policy is a requirement of the Ontario Occupational Health and Safety Act and ISO45001.

Championing renewable energy options

Technology and innovation are driving the need for a more dynamic system that is transitioning away from usual patterns of supply and demand towards more complex interactions and inputs with regard to electricity generated and consumed. Toronto Hydro's role continues to evolve to support a smart grid ecosystem, comprising renewable and other DERs, such as EVs, solar panels and battery energy storage systems.

Battery Energy Storage Systems (BESS)

Toronto Hydro is actively exploring innovative approaches to incorporate energy storage into distribution system planning. The primary focus of BESS is to manage and alleviate constraints against connecting customer-owned renewable energy generation. The integration of renewable energy sources will require a reliable and flexible solution to address the potential of grid instability and to enable integration of high levels of renewable energy. An illustrative instance of this effort is the Toronto Hydro Bulwer BESS project, which was commissioned in 2021. It serves as a noteworthy demonstration of how utility-owned storage systems can effectively complement traditional utility infrastructure. Situated in a decommissioned downtown Toronto Hydro station near Queen Street West and Spadina Avenue, the 2MW/2MWh battery system is strategically designed to prolong the lifespan of existing utility infrastructure by effectively managing peak demand in the area.

This project has provided Toronto Hydro's Control Centre, engineering and field maintenance crews with firsthand experience in operating a BESS. This practical exposure has yielded valuable insights into how battery storage can contribute significant value to the community and the overall distribution system. Such insights are crucial as the electricity distribution industry undergoes transformation in response to technological advancements and evolving policy dynamics. With increasing customer demands for solar and battery connections, the knowledge gained from this project is anticipated to play a pivotal role moving forward. Toronto Hydro remains committed to exploring potential locations where BESS may deliver value to customers, enhance the overall efficiency of the distribution system and enable more renewable generation.

Solar connections

As of the end of 2023, Toronto Hydro has connected more than 2,400 solar projects throughout the city with a total capacity of over 110 MW. Table 4 summarizes Toronto Hydro's solar connections over the last five years:

Table 4: Solar connections

		2018	2019	2020	2021	2022	2023
Annual </= 10kW	Connections	261	19	25	49	81	190
	MW	2.20	0.11	0.16	0.38	0.52	1.24
Annual > 10kW	Connections	61	4	11	12	15	15
	MW	9.46	1.22	1.23	2.51	1.56	2.95
Annual total	Connections	**322**	**23**	**36**	**61**	**96**	**205**
	MW	**11.66**	**1.33**	**1.39**	**2.89**	**2.07**	**4.18**
Total capacity </= 10kW	Connections	1,407	1,426	1,451	1,500	1,581	1,771
	MW	9.67	9.79	9.95	10.33	10.84	12.08
Total capacity > 10kW	Connections	656	660	671	683	698	713
	MW	92.45	93.66	94.89	97.40	98.95	101.90
Total capacity all	Connections	**2,063**	**2,086**	**2,122**	**2,183**	**2,279**	**2,484**
	MW	**102.12**	**103.45**	**104.83**	**107.72**	**109.80**	**113.98**

Toronto Hydro has been reviewing its solar and storage connection process with the objectives of increasing transparency and improving the overall customer experience.

SOCIAL

Occupational Health and Safety Management System

Hazard Identification, Risk Assessment and Incident Investigation

Electrical Safety Enhancements

Contractor Safety Management

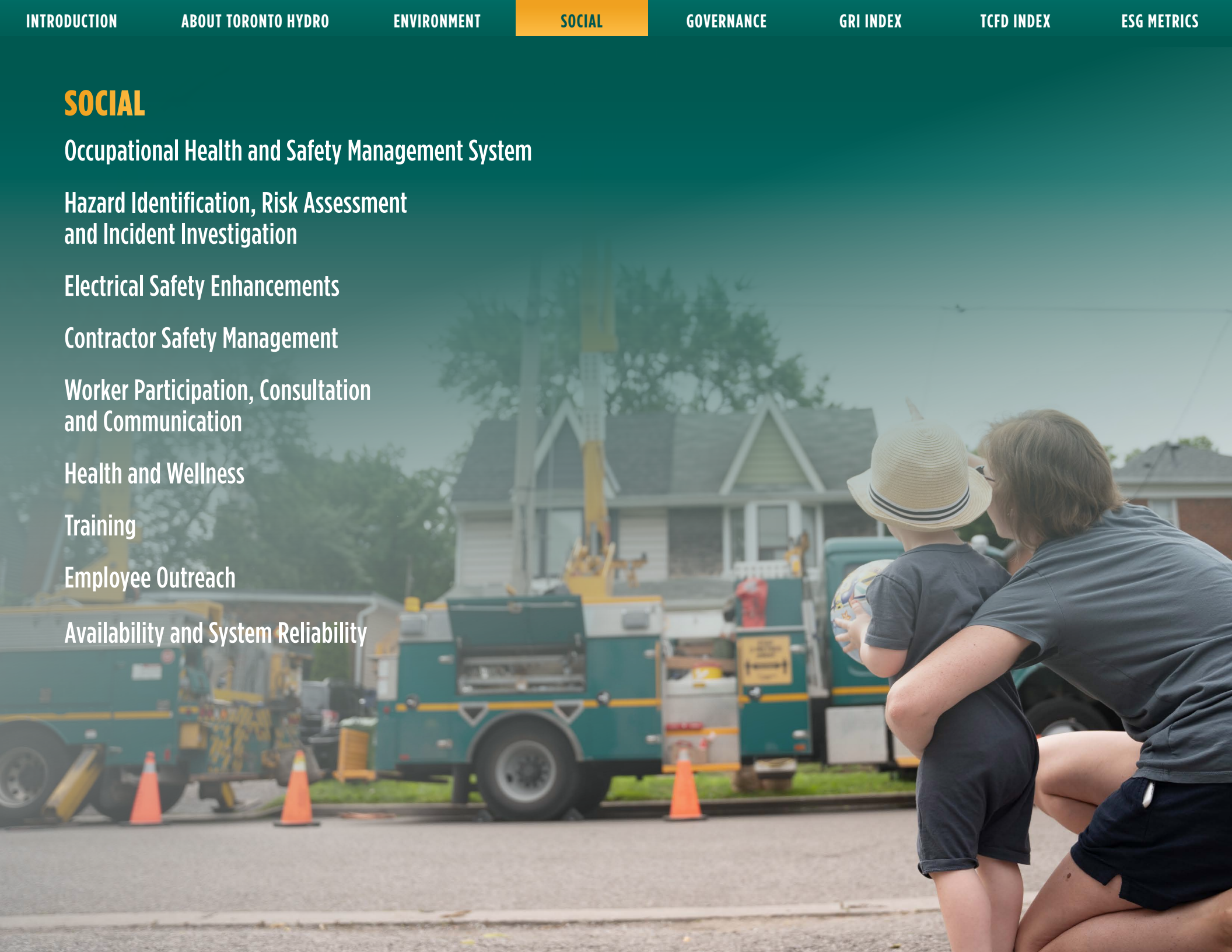
Worker Participation, Consultation and Communication

Health and Wellness

Training

Employee Outreach

Availability and System Reliability



Social

Occupational health and safety management system

Toronto Hydro is committed to a healthy and safe work environment for all employees, contractors, visitors and the public. This commitment supports SDG 8 – Decent Work and Economic Growth, which includes the promotion of safe and secure working environments for all workers. Toronto Hydro's management approach to occupational health and safety is to meet, and even exceed legal compliance requirements, eliminate or control known occupational hazards and risks, and implement opportunities for continual improvement.

Toronto Hydro is committed to providing safe and healthy working conditions for the prevention of occupational injury and ill health, and continual improvement in Occupational Health and Safety (OH&S) management and performance. To achieve this, the Toronto Hydro OH&S Policy[11] establishes specific commitments to continuously monitor and improve Toronto Hydro's OH&S Management System. The policy applies to all employees, officers and directors of THC, as well as contractors and visitors to Toronto Hydro facilities and sites. It is reviewed and approved annually by the Board of Directors.

The policy outlines Toronto Hydro's core principles, which include:

- Compliance
- Risk management
- Continual improvement
- Contractor management
- Engagement and consultation
- Incident investigation
- Communication
- Performance monitoring
- Accountability
- Wellness

Toronto Hydro manages its health and safety management system in conformance with ISO 45001:2018. Toronto Hydro's legislated OH&S requirements come under provincial jurisdiction exclusively and all legislated occupational health and safety reporting requirements are complied with. Management assurance that these requirements are met is accomplished by commissioning a third-party health and safety management system as well as compliance audits conducted in conformance with Toronto Hydro's environmental, health and safety audit plan. Other tools that support Toronto Hydro's health and safety management system include: documented procedures and programs, performance monitoring (scorecards), incident investigations, training, internal audits and inspections.

In 2023, Toronto Hydro passed an external audit confirming it effectively maintained its Environment, Health and Safety Management System in accordance with the ISO 2018 Standard for Occupational Health and Safety Management Systems (ISO 45001:2018).

This marks the **11th consecutive year** that Toronto Hydro has been certified to stringent, internationally recognized standards for occupational safety management systems by independent third-party auditors.

[11] This policy is a requirement of the Ontario Occupational Health and Safety Act and ISO45001.

Hazard identification, risk assessment and incident investigation

The nature of work performed at electrical utilities requires active and ongoing identification, evaluation and management of health and safety hazards and risks. Toronto Hydro mitigates these risks through various approaches, including:

- Development and implementation of work procedure and program requirements
- Performance of worksite-level risk assessments
- Application of safe work practices taught in training
- Proactive equipment maintenance and replacement
- Apply "Safety by Design" principles in the development of construction standards and design practices
- Completion of risk assessments on new products and equipment introduced for use in the distribution system, while also actively engaging employees in this evaluation process
- Conducting safety inspections and audits to identify hazards, collaborating with employees to eliminate or mitigate these risks, and subsequently developing and implementing action plans based on the findings of these activities
- Development and sharing of health and safety communications and messaging

Toronto Hydro clearly defines responsibility and accountability for every individual at each level within the organization. All Toronto Hydro employees participate in the recognition, control and reporting of hazards.

Health and safety hazards and risks are regularly assessed at Toronto Hydro to continually improve health and safety for employees, contractors and visitors. Common hazards and risks identified[12] for the work performed by Toronto Hydro include:

- Contact with electrical voltage, exposure to electrical flashover or arcing
- Slip, trips and falls
- Overexertion produced by physical exertion when lifting, pulling, pushing or throwing an object
- Struck by/against public traffic/vehicles, falling objects or mobile work equipment
- Caught between or compressed by equipment or materials while loading or unloading onto trailers or trucks
- Harassment or violence due to interacting with the public (including customers)
- Occupational exposure to infectious disease

[12] Hazards identified in annual workshop and documented 'EHS Hazards and Risks Database'

Managing hazards and risks

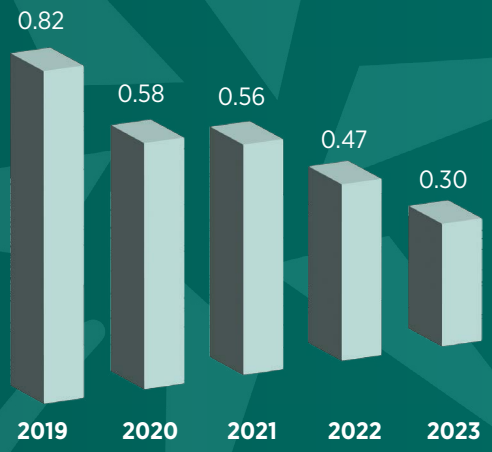
ELECTRONIC WORKSITE RISK ASSESSMENT (ETAILBOARD)	A risk assessment[13] is conducted by the trained onsite leader prior to undertaking any non-routine jobs and it is discussed with all employees on the job site and any visitors. The eTailboard improves the quality of the job planning process by consolidating various inputs into one application. The application streamlines access to programs, procedures, legislation and business rules, enabling increased focus on critical tasks, emergency response plans and communication of the job plan between crew members. The inclusion of an audio recording feature allows for playback, fostering continual improvement in completing these assessments.
SAFETY LEADERSHIP INSPECTIONS	Toronto Hydro leaders completed 15,602 inspections in 2023. Inspections allow leaders to engage with and listen to the safety concerns of their employees, identify hazards, determine underlying causes, and collaborate with employees to eliminate hazards or control the risk. Top inspection forms include: Working from Home Safely, Worksite Risk Assessment (tailboard), Office Ergonomics and Personal Protective Equipment.
AUDITS	Toronto Hydro has a detailed auditing strategy to cover the Environment, Health and Safety Management System (EHSMS), compliance and internal audits. Annual audits include EHSMS External Audit (Certification and Maintenance), EHSMS Internal Audit and department level operational control audits. In 2023, Toronto Hydro completed eight internal operational control audits, an internal EHSMS Audit and Environmental Compliance Audit and external surveillance audit 14001:2015 and 45001:2018. Action plans are developed for all audit findings and non-conformances. Non-conformances identified through audits allow Toronto Hydro to continually improve the safety management, assess trends to highlight process changes, as well as assess the effectiveness of management system.
INCIDENT INVESTIGATIONS	All incidents are investigated to identify causation (apparent, contributory and root cause), and to develop and implement corrective actions to prevent recurrence of the incident. Corrective actions address the identified root cause and contributing factors and, if implemented and sustained, will control the hazard. Risk assessments are completed for corrective actions to verify that the new action, if implemented as intended, will not introduce a new uncontrolled OH&S risk or environmental impact. Trending incidents support continual improvement in Toronto Hydro's EHSMS.
ENVIRONMENT, HEALTH AND SAFETY (EHS) HAZARDS AND RISKS DATABASE	Toronto Hydro leverages a database to quantify the risks of operations and activities that can impact health and safety. The database is reviewed annually by a cross-sectional group of employees to ensure accuracy and relevance.
MANAGEMENT OF CHANGE	Changes to existing processes, activities, projects or the introduction of new tools are reviewed to ensure hazards introduced by change are identified, analyzed and controlled prior to implementation. In 2023, 83 product change risk assessments were completed.
SAFETY CONCERN REPORTING	A process supporting the Internal Responsibility System (IRS). It provides a documented method for an employee to raise an occupational health and safety concern that they believe has not been adequately addressed through normal communication channels with their leader.

[13] As per Electrical Utility Safety Rule 107 and CAN/ULC-S801-14 Section 4

BEST TOTAL RECORDABLE INJURY FREQUENCY (TRIF) PERFORMANCE IN HISTORY

Toronto Hydro had its best TRIF performance in history, with a rate of 0.30. There were eight total months without a recordable injury.

Figure 8: TRIF Performance



Electrical safety enhancements

Over the past year, Toronto Hydro implemented a number of initiatives aimed at preventing electrical incidents. One of the primary goals of these initiatives is to provide additional controls to employees in the form of tools, equipment and information aimed at improving safety associated with performing work on and around energized equipment in the field. Specific projects initiated during this time included:

- Selected and implemented insulated hand tools and rubber products
- Introduced additional personal protective equipment (such as longer insulated rubber gloves and insulated rubber arm sleeves)
- Developed specific procedures aimed at protecting workers from arc flash
- Sourced insulated power tools for use on energized apparatus
- Enhanced audit process to add additional focus on electrical safety
- Enhanced engineering controls in network vaults to allow for remote access to limit worker exposure to potential electrical hazards (e.g., sensors that provide readings for temperature and oil levels, etc.)

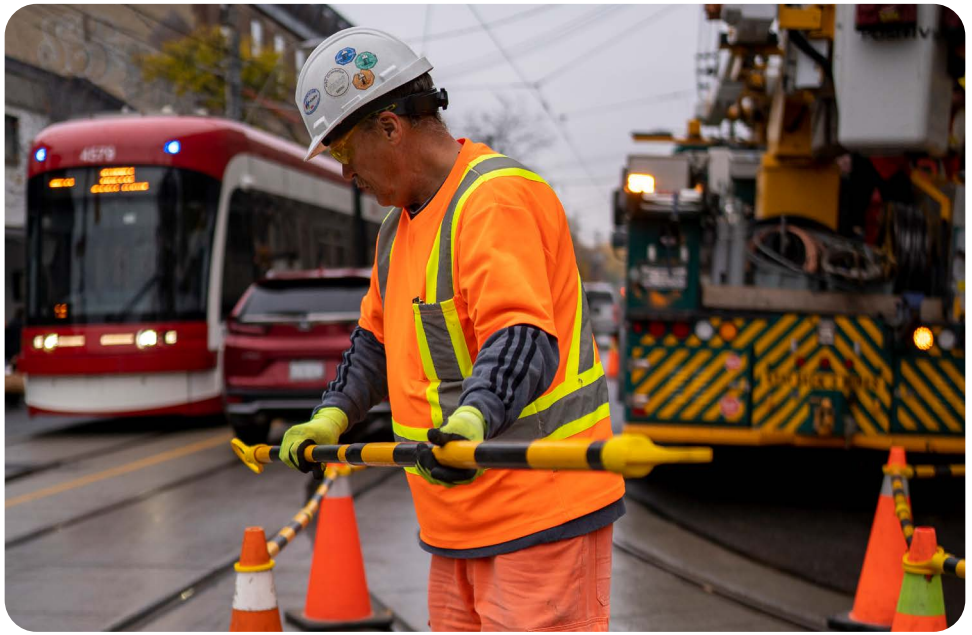
Contractor safety management

Contractor safety management is one of the core principles in Toronto Hydro's OH&S Policy. All contractors must pre-qualify by being evaluated as meeting minimum EHS requirements as defined by Toronto Hydro. All contractors are evaluated on: EHS performance statistics, EHS management programs specific to the work that will be performed, assured compliance, insurance and training.

To ensure compliance with legislation, terms of contract, and Toronto Hydro policies and procedures, inspections and audits are performed regularly for contractors throughout the term of their contract. Contractors are held accountable for safety incidents, regardless of outcome and associated non-conformances that occur while working for Toronto Hydro.

To ensure contractors working for Toronto Hydro have the most up-to-date and relevant information, contractor management software is used to communicate relevant bulletins, updates to Toronto Hydro policies and required procedures and processes. Pre-job and safety meetings are held with contractors to ensure contractors have all the information they need to continue working safely.

In 2023, Toronto Hydro held information sessions for operations leaders with external legal counsel. These sessions aimed to improve conformance to the contractor management program and provide support to leaders in navigating its requirements.



Worker participation, consultation and communication

Joint Health and Safety Committees (JHSC): The Joint Health and Safety Committees have both worker and management representation; together they are committed to improving the health and safety conditions of the workplace. Committee members inspect the workplace at least once a month and meet quarterly at a minimum to discuss issues, share observations from inspections and make recommendations to improve overall health and safety. The names of JHSC members are posted on Toronto Hydro's intranet site and at all the work centres.

Communication about OH&S: Effective communication is a core component of the Toronto Hydro EHSMS. Toronto Hydro ensures timely and relevant information on OH&S is communicated to employees. The following communication channels are used to help ensure that employees have the information they need to continue working safely.

EHS orientation for new hires: An introduction to key components of Toronto Hydro's occupational, health and safety management system is provided as part of each employee's onboarding.

Document release notifications: All new or updated documents (including safety documents) require a release notification. The notification is sent to all affected employees by their leaders.

Safety meetings: Safety meetings are held monthly for operational staff and quarterly for office staff to review recent incidents and findings, discuss procedure/process updates, introduce new tools and capture recent safety trends.

Daily huddles: At the beginning of the day, field crews meet with their managers to review safety/environmental issues, lessons learned from the previous day, tasks for the day, materials/tools required and weather impacts (task related) and to address any questions or concerns.

Communication boards: At all work centres, the communication boards provide employees with information regarding organizational updates, policies and EHS Bulletins. To support reduction in paper consumption initiatives, Toronto Hydro is transitioning to electronic communication boards; as of December 31, 2023, each work centre has one electronic communication board.

Weekly dashboards: All leaders receive weekly dashboards containing key environment and safety metrics.

Plugged In: Toronto Hydro intranet includes all company policies, procedures and programs, EHS bulletins, weekly communications, etc.

Spectrum magazine: This internal magazine publication offers an in-depth exploration of Toronto Hydro employees and covers ongoing initiatives both within the company and in the community, safety advancements, industry insights and more.

THTV: TVs are located throughout work centres to share relevant information with the employees (e.g., safety messaging, upcoming events).

Memos: Internal emails are sent regularly to keep employees updated with information and announcements.

Training: Training is used as a means to communicate important safety information, updates, and organizational policies and procedures to employees.

Health and wellness

Toronto Hydro protects the physical and mental health of its employees in their work environment and promotes employee well-being. The following activities support the identification and reduction or elimination of hazards and minimization of risk:

Biological monitoring: Employees are monitored for exposure to potential hazards in the workplace, including designated substances such as lead and asbestos. This includes blood lead levels, pulmonary function and x-ray surveillance. Pre-placement examinations, routine monitoring and exit medical examinations are conducted, and the results are reviewed by an occupational physician. All testing related to designated substances[14] is conducted in accordance with The Code of Conduct and Whistleblower Procedure ("the Code") for Medical Surveillance for Designated Substances (Ministry of Labour, Immigration, Training and Skills Development).

Respiratory protection: Toronto Hydro employees are trained on respiratory protection, fit-tested for approved respirators, and provided with approved respiratory protection to help prevent occupational exposure to airborne contaminants. Fit-testing and retraining is completed every two years (or earlier if required). In order to determine the presence of respiratory hazards and to assist in the selection of an appropriate respirator, hazard assessments are completed in different work areas. The nature of the hazard is determined following section 6 of the Hazard Assessment of Canadian Standards Association (CSA) Z94.4-18.

[14] A "designated substance" is defined in OHSA as "a biological, chemical or physical agent or combination thereof prescribed as a designated substance to which the exposure of a worker is prohibited, regulated, restricted, limited or controlled".

Ergonomics: Toronto Hydro's Ergonomics program aims to minimize or eliminate exposure to ergonomic risk factors, including those associated with musculoskeletal disorders in various work environments including the field, office and remote work settings. Ergonomic inspections are routinely conducted by leaders in office, field and remote workspaces as part of their monthly inspections to proactively identify and address any hazards or risks. If necessary, formal ergonomic assessments are carried out by qualified safety professionals. All Toronto Hydro employees are required to undergo Ergonomics training every three years. In 2023, six microlessons were developed to enhance retention and use of ergonomic tools, promoting self-directed learning for improved self-governance and reduced risks related to office ergonomics. Field employees receive specialized Field Ergonomics training, focusing on key areas such as posture, force, frequency and vibration. This training emphasizes the importance of maintaining proper posture, minimizing forceful exertion, avoiding excessive repetition and managing exposure to vibration from tools to mitigate the risk of musculoskeletal injuries. Additionally, as part of our management of change procedure, we integrate an assessment of ergonomic risk factors into the selection process for new tools and equipment intended for operational use.

Early and Safe Return to Work (ESRTW) program: Toronto Hydro recognizes early intervention is integral in reducing negative long-term effects of injury/illness on employees. The ESRTW program is a proactive approach to helping injured/ill employees return to suitable and productive work activities in a safe and timely manner. As a measure of continual improvement, a third-party disability management audit was proactively completed last year. All employee health information obtained by the internal Toronto Hydro Health Services team is kept confidential and employee cases are handled in an objective manner in accordance with reporting obligations under Workplace Safety and Insurance Act and Occupational Health and Safety Act (OHSA).

Psychological health and safety: Toronto Hydro continues to look for ways to include elements of both physical and psychological health and safety into OH&S programming. One particular area of focus is adopting elements of the CSA voluntary National Standard for Psychological Health and Safety in the Workplace (CSA-Z1003). Toronto Hydro's goal is to protect employees from harm to their physical and mental health, and promote employees' psychological well-being and resiliency. While there are many factors external to the workplace that can impact psychological health and safety, the emphasis is on those within the control, responsibility or influence of the organization. Toronto Hydro's focus continues to be on expanding knowledge in the workplace and strengthening the 13 workplace psychological factors (Figure 9) by implementing targeted initiatives. In 2023, Toronto Hydro established a training program on the psychological factors.

Figure 9: Psychological health and safety — 13 workplace psychological factors

1. BALANCE
2. ORGANIZATIONAL CULTURE
3. GROWTH AND DEVELOPMENT
4. PSYCHOLOGICAL AND SOCIAL SUPPORT
5. PSYCHOLOGICAL PROTECTION
6. CLEAR LEADERSHIP AND EXPECTATIONS
7. CIVILITY AND RESPECT
8. WORKLOAD MANAGEMENT
9. INVOLVEMENT AND INFLUENCE
10. RECOGNITION AND REWARD
11. ENGAGEMENT
12. PROTECTION AND PHYSICAL SAFETY
13. PSYCHOLOGICAL COMPETENCIES AND DEMANDS

HEALTH AND WELLNESS EXPO

Toronto Hydro believes that improving overall employee wellness is an important part of a successful health and safety program. In June 2023, Toronto Hydro, in collaboration with participating third-party health partners, hosted a Health and Wellness Expo at all Toronto Hydro work centres. Employees were given the opportunity to complete a heart health check, which included biometric screening for blood glucose, cholesterol, blood pressure and body mass index. Nutritional information and advice from experts was also provided, as well as information on benefits for employees, including mental health and general health resources available through the Employee and Family Assistance Program (EFAP) and Virtual Healthcare.

COVID-19 Vaccine and Flu Clinics: In 2023, Toronto Hydro offered COVID-19 Vaccine Booster Clinics and Flu Clinics at all work centres. In total, there were 231 attendees.

EFAP services (24/7 access): The EFAP services offer 24/7 access to various resources, including confidential counselling support by phone, video, in person or online. Additionally, there are online articles, tools and resources available to support health and wellness. The program also provides parenting and family care support, as well as financial and legal advisory services. Lastly, EFAP offers depression and trauma care services to assist employees and their families.

Virtual Care service (24/7 access): Access to primary care providers through mobile and web applications. The service enables employees to get prescriptions, general medical advice, laboratory requisitions and specialist referrals online.

Monthly wellness messaging: Monthly wellness messaging includes communication on heart health, alcohol use and EFAP, avian flu awareness, asthma and allergy management, cancer awareness, lyme disease awareness, West Nile flu awareness and healthy eating.

Training

Toronto Hydro offers a wide range of instructor- and self-led web-based training. Content includes role-specific training, legislative requirements, company-specific policies, the Toronto Hydro apprenticeship program, as well as company-wide and personal development training. Some key training programs include:

- Utility Work Protection Code
- Effective Inspections and Investigations
- Ergonomics
- First Aid
- Bucket/Confined Space Rescue
- Worksite Setup Book 7
- Working at Heights

In 2023, there was a total of **41,881** hours of training and development, averaging **31.6** training hours per employee.

A training risk assessment is completed for each role at Toronto Hydro to determine training requirements. New training opportunities may be identified through audits, hazard risk assessments, legislative change reviews and/or opportunities identified for continual improvement.

VIRTUAL REALITY (VR) TRAINING

Toronto Hydro unveiled its VR training initiative in July 2022, starting with PMH-9 (Padmounted) switchgear. This effort expanded in 2023, introducing the following additional training programs: SF_6 Switchgear Switching, Network Transformer and Protector Switching, and Station Hazard Awareness virtual tours. Toronto Hydro developed unique virtual station tours using VR. It replicates key stations at Carlaw and the energy storage systems at Bulwer. This innovation allows employees to navigate potential hazards at these locations at their own pace. It enhances their ability to identify and mitigate potential risks before they arrive.

In 2023, Toronto Hydro is taking this further by integrating VR training into its IT network and Learning Management System (LMS). Employees get a user-friendly experience directly through VR headsets. The results get reported on the LMS. This transition augments traditional training, reaffirms safety protocols and provides a more efficient path for skills improvement.

These VR training modules deliver lifelike simulations of equipment, empowering crews to hone their skills safely and effectively. Covering everything from job planning, unloading tools to ensuring worksite cleanliness, each aspect of fieldwork is meticulously recreated, promoting collaboration through multiplayer experiences.

Toronto Hydro's commitment extends beyond safety; the VR training initiative addresses diverse training needs, both soft and hard skills development and fostering a culture of diversity, inclusion and sustainability.

Employee outreach

Sustainable Commute program

In September 2023, Toronto Hydro introduced its Sustainable Commute program, aimed at transforming the way employees commute to work. This initiative is designed to promote healthier and more enjoyable transportation options while gaining insights into how employees commute to work. Recognizing the pivotal role that sustainable workplace commuting plays in reducing GHG emissions, Toronto Hydro has extended its support by offering a range of programs and services to employees at all four of its work centre locations: 14 Carlton Street, 500 Commissioners Street, 715 Milner Avenue, and 71 Rexdale Boulevard. Key initiatives include:

- **Bike storage facilities:** To promote eco-friendly commuting, secure bike storage is provided at all work centres, encouraging employees to consider cycling as a viable and sustainable option for their daily commute
- **EV charging stations:** Charging stations have been installed for EVs at all work centres, enabling employees with electric or hybrid vehicles to conveniently charge their cars while at work, making the transition to cleaner transportation easier (refer to the **Transportation electrification section** for more information)
- **Carpooling:** The program encourages carpooling among employees, promoting shared rides as an effective means of reducing the number of vehicles on the road and minimizing emissions

In addition to these efforts, Toronto Hydro conducted an internal survey to better understand employee commuting habits. The survey gathered insights on how frequently employees travel, the distances covered and preferred modes of transportation. This data is expected to provide valuable insight for shaping and refining the Sustainable Commute program to better serve the needs of Toronto.

Employee roadshow

Beyond training programs, Toronto Hydro hosted a roadshow for employees in 2023. This event provided various departments with a platform to showcase their initiatives and brought attention to sustainability within Toronto Hydro. The roadshow also serves as an educational opportunity, focusing on initiatives like promoting the use of EVs, employee charging stations and encouraging employees to consider their commitments to sustainability.

UNITED WAY CAMPAIGN

The United Way and its partner agencies play a vital role in providing essential services to vulnerable and disadvantaged members of our local communities. Toronto Hydro is delighted to announce that during our 2023 United Way campaign, we successfully raised over **$167,000** for United Way and its partner agencies. Our campaign featured a range of initiatives, including kickoffs at each work centre, a CN Tower climb and an online auction.

Availability and system reliability

Toronto Hydro is committed to delivering excellent customer service, providing a safe and reliable supply of electricity, and delivering long-term value to the city of Toronto. Toronto Hydro is strategically investing to enhance grid strength and resiliency, and ensure the safe, reliable power supply for Torontonians in alignment with the City's infrastructure resiliency objective. Recent extreme weather events, accompanied by growing evidence of the impact of climate change on weather patterns in Toronto, have underscored the need to build a resilient system for the long-term. At the same time, technology and innovation are driving a more dynamic system that's transitioning away from the usual patterns of supply and demand, adding more complexity and urgency to modernizing the grid while preparing for increased electricity demand.

Investing in the grid — capital expenditure plan

Toronto Hydro's 2020–2024 capital plan continues the utility's effort to renew a significant backlog of deteriorated and obsolete assets at risk of failure, and to adapt to the continuously evolving challenge of serving and operating within a dense, mature and growing major city. Efforts to date have resulted in gradual improvements to reliability, the overall age of the system and other performance indicators.

2025–2029 rate application

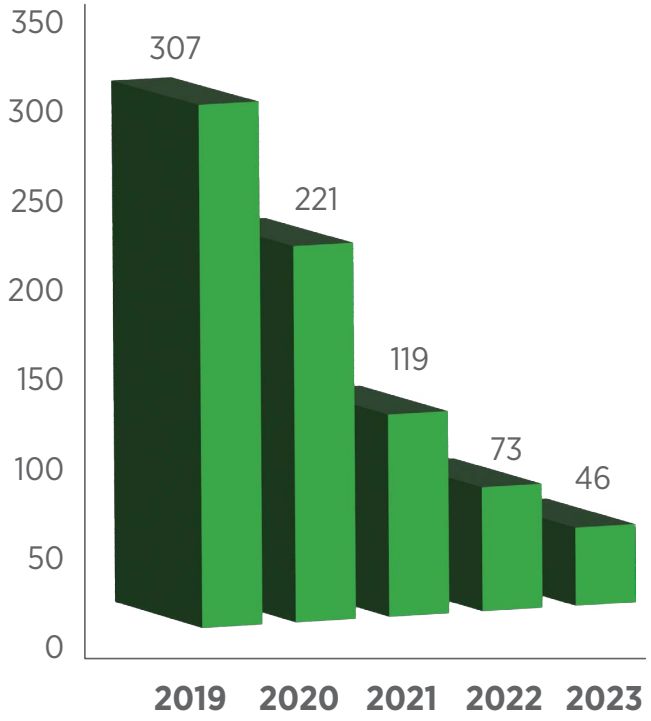
The 2025–2029 rate application was submitted in 2023, and the successful completion and implementation of the project work plan related to the application are expected to yield long-term results for Toronto Hydro and Toronto residents; specifically, funding certainty and flexibility to invest in the modernization and renewal of the distribution system and to prepare for growth and electrification driven by the City's TransformTO. However, there can be no assurance that the OEB will substantially approve the activities, plans and methodologies or the related revenue requirement set out in the application. Further details can be reviewed in the full proposed rate application on Toronto Hydro's website.

Preventative and predictive maintenance and repairs

Inspections

Toronto Hydro's preventative and predictive maintenance programs perform critical work to sustain the integrity of its systems. Inspections are conducted routinely on an inspection cycle determined by comprehensive asset condition assessments. The information collected through these inspections serves as the basis for Toronto Hydro's strategic plan, outlining the removal and placement of transformers. In 2023, the inspection program continued to prove effective by identifying poor conditions and facilitating timely replacements, preventing potential catastrophic oil spill events. The success of this program is evident in the significant decrease in the number of spills over the past five years, as illustrated in Figure 10, underscoring our commitment to maintaining a resilient and reliable infrastructure.

Figure 10: Oil spills



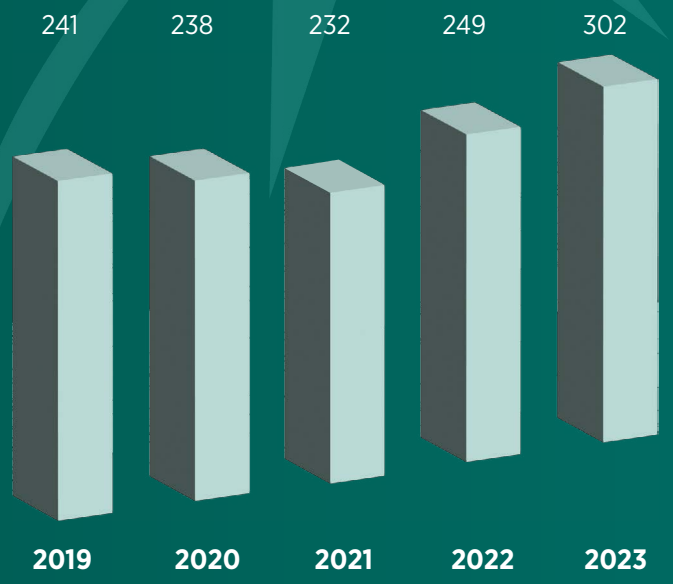
Vegetation management

The preventative and predictive management program also includes effective vegetation management for mitigating tree-related interferences. Toronto Hydro's vegetation management program employs arboriculture techniques, carefully designed to provide proper care for trees. In 2023, a pilot program was initiated using satellite imagery to enhance vegetation management efforts. This technology helps create models and identify areas with vegetative encroachment, allowing Toronto Hydro to target and address potential issues. The pilot program was restricted to North York and Etobicoke, with plans to expand in the future. In the same year, Toronto Hydro pruned approximately 73,300 trees adjacent to distribution lines in a manner that minimizes injury to the trees but helps improve system reliability. Tree trimming is conducted in accordance with the City's Urban Forestry Tree Pruning Guidelines. These vegetation management practices are essential in safeguarding the distribution system against adverse weather conditions, as they involve removing vulnerable sections of the tree canopy that may break during high winds or accumulation of ice and snow.

EXPRESS EQUIPMENT REUSE PROGRAM

The global supply chain disruption created an unprecedented situation in supplying major equipment (mainly distribution transformers) to Toronto Hydro. Toronto Hydro established an equipment reuse program, which assesses major equipment (e.g., transformers, switches, network protectors) returned from service, identified through inspections or in-construction projects, for repair and reintroduction into the system. In 2023, 302 units underwent successful repairs and were seamlessly reintroduced within the system, as illustrated in Figure 11. The Express Equipment Reuse program allows for a faster repair time in comparison to the original process at a lower cost, and addresses environmental concerns by minimizing the wasteful disposal of equipment that has yet to reach the end of its operational life. This ensures timely restoration of service and supports waste reduction as illustrated.

Figure 11: Total units reused



Disaster preparedness

Toronto experiences a wide range of significant climate hazards. Human-caused climate change is expected to increase the number of longer-lasting heat waves and storms, as well as more extreme cold, wind, ice and rain. The City's First Resilience Strategy[15] calls for the City and the critical infrastructure owners operating within Toronto to adapt in the face of these chronic stresses and the acute shocks they bring.[16] In addition to enhancing the physical resiliency of the grid to withstand extreme weather events, Toronto Hydro continues to develop its Disaster Preparedness Management program to improve disaster/emergency response outcomes, including climate-related emergencies. Toronto Hydro integrates Ontario's Incident Management System emergency response methodology into its Emergency Response Organization (ERO) framework. All employees at Toronto Hydro are assigned emergency roles and trained in these functions. The ERO framework is revised and adjusted to reflect the realignment of resources and findings from events and tests as they occur.

Toronto Hydro is a member of the City's Emergency Management Program Committee and Emergency Management Working Group. As a member of these groups, Toronto Hydro actively participates in planning and preparing for community-wide response to emergencies impacting the city of Toronto. The groups encompass departments, agencies and corporations who play a role in major emergency response within the city.

In 2023, there were no major weather events within the city of Toronto that required emergency response from Toronto Hydro.

Toronto Hydro is committed to the restoration of power and is a founding member of the Ontario Mutual Assistance Group (OnMAG). In April 2023, Toronto Hydro's crews supported Hydro One in the restoration of power to rural customers in the Township of North Dundas, Ontario, located between Kemptville and Winchester. The severe effects of this ice storm left tens of thousands of residents without power. Restoration efforts included transformer replacements, re-stringing of downed wires and tree limb removal.

[15] Page 91 of **toronto.ca/ext/digital_comm/pdfs/resilience-office/toronto-resilience-strategy.pdf.**
[16] **toronto.ca/wp-content/uploads/2019/05/97c7-Toronto-Resilience-Strategy-One-Page-Brief.pdf.**

Assistance programs

Toronto Hydro offers several assistance programs for customers who are facing financial difficulties and may have trouble paying their energy bills. Some of these programs include:

1. **Emergency Energy Fund (EEF):** Low-income Toronto residents may qualify for help from the City of Toronto with energy-related emergencies to reconnect, prevent disconnection or to assist in the payment of energy arrears for hydro services. Eligible customers must have received a disconnection notice, or have already been disconnected, or have energy arrears and do not have enough money to pay them.

2. **Ontario Electricity Support Program (OESP):** The OESP is an OEB program that lowers electricity bills for lower-income households. It provides a monthly credit to eligible customers based on household income and household size. The OESP credits are applied directly to eligible customers' bills.

3. **Low-income Energy Assistance Program (LEAP):** LEAP is a grant program to assist eligible low-income customers with their bill payments and electricity costs.

4. **Equal Payment Plan (EPP):** This program helps customers by spreading their energy costs evenly over the course of a year. The customer's annual electricity costs are spread evenly so they pay the same amount each month. Toronto Hydro estimates how much electricity they will use for the upcoming year and divide that amount into equal monthly payments. Once a year, their account is reconciled. Any overpayment or underpayment is applied to their next bill. If Toronto Hydro's annual reconciliation shows that they owe an amount exceeding their average monthly bill, Toronto Hydro will recover the balance over the following year's equal monthly payments.

5. **Arrears Payment Agreement (APA):** The OEB-prescribed APA is available to any residential or general service < 50 kW customer who is unable to pay their outstanding electricity charges if the eligibility criteria is met. Terms of the APA are based on the customer's rate class and arrears balance in comparison with the customer's monthly average bill.

6. **Temporary Disconnection:** Eligible low-income customers qualify for one free temporary disconnection per rolling year (a period of 12 consecutive months). Residential customers are deemed eligible low-income customers if they applied for and received approval for LEAP or OESP. Any additional isolations requested within this 12-month period will be charged to customers at the regular rates.

7. **Energy Affordability Program (EAP):** EAP provides free home energy-efficient upgrades. Qualifying customers could receive LED light bulbs, power bars, insulation and more. These upgrades improve home comfort and help lower customer's electricity bills.

For more information on assistance programs available to Toronto Hydro customers, please visit **torontohydro.com/help**.

GOVERNANCE

Governance Structure

Ethics and Integrity

Risk Management

Toronto Hydro Corporation's Board of Directors ("the Board") and management team are committed to a high standard of governance. The corporate structure is designed to foster transparent, informed and effective decision-making, with consistent monitoring of compliance and performance. This structure ensures accountability at all levels, as well as oversight and alignment with Toronto Hydro's long-term strategy.

Governance structure

Toronto Hydro's leadership team believes strong corporate governance is essential for delivering customer value, operating efficiently, creating shareholder value and maintaining investor confidence. The Code of Conduct and Whistleblower Procedure, Disclosure Policy and active board committees helps Toronto Hydro ensure sound governance for all operations and business activities. The Board of Directors of the Corporation ("the Board") has put in place a system of corporate governance that addresses the requirements of applicable provincial legislation and Canadian securities rules, and strives to meet best practices for regulated utilities. As part of the ongoing commitment to corporate governance, the Board operates in accordance with a written mandate, and the Board committees operate in accordance with written charters, which are all reviewed and approved by the Board.

The Board, executive team and senior leadership team oversee Toronto Hydro's position on climate-related risks and integrate the risks and opportunities into strategic planning. The following table details the roles of the different governance bodies and environment-related topics reviewed in 2023.

Table 5: Governance in environment-related topics

Governance body	Role in environmental governance	Environment-related topics discussed in 2023
Board of Directors	• Oversees the identification of the principle risks of the business and implementation of appropriate systems to manage these risks • Maintains a general understanding of the risk profile, the categories and the types of risks, including environmental sustainability-related risks • Reviews the risk philosophy on an annual basis • Reviews government policy response and advocacy • Reviews compliance activities and performance • Approves corporate metrics — including building emission reductions and fleet electrification and regularly monitors progress towards achievement	• Transportation electrification: fleet electrification, EV charging • Building emission reduction • Environmental sustainability-related risks and opportunities • Climate change-related government policy • Toronto Hydro's Climate Action Plan **Related reports reviewed:** • Annual Information Form • 2022 Environmental Performance Report • 2022 ESG Report • Corporate Scorecard
Human Resources and Environment Committee	• Responsible for the oversight of environmental-related matters • Provides the Board with updates on Toronto Hydro's ESG performance	• Transportation electrification: fleet electrification, EV charging • Building emission reduction **Related reports reviewed:** • Annual Information Form • 2022 Environmental Performance Report • 2022 ESG Report • Corporate Scorecard
Executive Team	• Ensures systems are in place to identify, manage and monitor risks and trends • Assesses the appropriateness and consistent application of systems to manage environmental sustainability-related risks • Brings risks forward to the executive team for discussion and action • Directs corporate compliance program • Ensures resources necessary to achieve objectives and goals are provided • Reports on progress on corporate metrics (building emissions reduction and fleet electrification) • Executive officers are eligible for performance-based incentive compensation when the company achieves its corporate performance objectives. Performance objectives are established and serve to encourage success and continual improvement in both the executive officers' performance and Toronto Hydro's overall results	• Transportation electrification: fleet electrification, EV charging • Building emissions reduction • Environmental sustainability-related risks and opportunities • Future energy scenarios **Related reports reviewed:** • Annual Information Form • 2022 Environmental Performance Report • 2022 ESG Report • Corporate Scorecard • Toronto Hydro's Climate Action Status Report • Corporate Compliance Report

Governance body	Role in environmental governance	Environment-related topics discussed in 2023
Senior Leadership	• Managing and reporting on enterprise risks, including environmental sustainability-related risks • Work with the executive team to oversee the risk profile and performance against the defined risk philosophy • Understands changes in risk status and trends, identifies potential opportunities • Determines responses and action plans that are implemented by the organization • Ensure effective, efficient, complete and transparent risk reporting to executive team • Undertakes corporate compliance program	• Enterprise risks and the embedded environmental sustainability-related risks (refer to **Table 2 Climate-related risks and opportunities**) • Risk management

Additionally, Toronto Hydro has established the following cross-functional groups to manage material topics:

Table 6: Committees with role in environment-related topics

Group	Purpose	Frequency of meetings
ESG Advisory Committee	• To inform ESG strategy with input from appropriate departments, the committee reviews ESG strategy, progress towards targets, integration of ESG in rate application, investor inquiries relating to ESG, environmental sustainability-related risks and reports.	• Quarterly
Net Zero 2040 Planning Committee	• To manage building emissions and review progress towards reducing emissions as per targets to align with net-zero target	• Bi-weekly
SF_6 Elimination Team	• To develop and manage an aligned approach to the management of SF_6 to eliminate emissions and achieve Toronto Hydro's Net Zero 2040 commitment	• Quarterly
EV Working Group	• To discuss EV-related initiatives and ensure progress towards electrification initiatives, discuss how initiatives impact one another and share industry knowledge as market continues to change	• Quarterly

Ethics and integrity

As a reputable utility organization, delivering electricity distribution and energy services to the city of Toronto, Toronto Hydro always strives to be a responsible business enterprise and corporate citizen, with strong commitments to our stakeholders. The strategic pillars include:

People: Ensure a healthy and safe environment; enhance diversity, equity and inclusion; optimize processes and invest in employee capabilities; and engage employees through purposeful work.

Financial: Meet the financial objectives of our shareholder and continue to increase shareholder value.

Operations: Improve reliability through an optimal and sustainable system and build a grid that supports a modern city.

Customer: Provide added value and efficient services through various channels, provide proactive and data-driven response to all customer segments, use technology and analytics to meet customer information needs, and make it easy for customers to interact and transact with Toronto Hydro.

Environment: Advance as a sustainable electricity company, reduce our environmental footprint, and enable our customers to be part of the shift to a sustainable economy.

The Code was originally implemented in 2003 and is reviewed, revised and approved by the Board every three years. As of the end of 2023, the training frequency for the Code is under review. The Code sets out the basic principles on how Toronto Hydro and Toronto Hydro's employees should conduct business activities to reach our business goals and fulfill commitments to our stakeholders. It establishes principles to govern conduct across a broad scope of areas that pose ethical and legal concerns, and the appropriate channels for obtaining guidance and reporting violations.

All Toronto Hydro employees, officers and directors are expected to exercise honesty and integrity in all duties, and live up to the commitments listed in the Code.

The Code provides for the appointment of an Ethics Officer and establishes a direct hotline to the Ethics Officer by which perceived violations of the principles set out in the Code may be reported, anonymously or otherwise. Where the complaint involves the conduct of a Toronto Hydro director or officer, the Ethics Officer is required to report it to the Chair of the Human Resources and Environment Committee of the Board or, where such conduct relates to questionable auditing or accounting matters, to the Chair of the Audit Committee of the Board, who oversees the investigation of that complaint. In addition to the provisions of the Code, the Ethics Officer reports quarterly to the Human Resources and Environment Committee of the Board on the nature of complaints received and the Director, Internal Audit and Compliance reports quarterly to the Audit Committee on matters related to audit and accounting. A copy of the Code is available on Toronto Hydro's website: **torontohydro.com/about-us/governance**.

Toronto Hydro requires all employees, officers and directors to complete the training with respect to the Code and sign an attestation in accordance with the Code upon commencement of employment and regularly thereafter. Contractors are also required to attest to the review of all applicable Toronto Hydro policies.

All Toronto Hydro employees, officers and directors must adhere to and actively support the principles and standards described in the Code and adhere to the standards set out in applicable policies, guidelines and legislation. Management is responsible for ensuring that no retaliatory action will be taken against anyone who in good faith made a report of an ethical or legal concern or violation; lawfully provided information or assistance in an investigation regarding any conduct that may involve a violation of securities laws or fraud; filed, testified, participated in or otherwise assisted in a proceeding relating to a potential violation of applicable securities laws or fraud; provided a law enforcement officer with truthful information regarding the commission or possible commission of an offence; or provided assistance to the Ethics Officer, the Board of Directors, management or any other person in the investigation of a report.

Toronto Hydro complies as is necessary with any and all applicable legislative whistleblower protections, including but not limited to those under securities legislation.

TO OUR EMPLOYEES

We are committed to workplace health and safety, and treating all employees with dignity and respect.

- Share responsibility for creating a safe and healthy work environment and preventing unsafe conditions and injuries. We are expected to come to work fit for duty, work safely and identify, report and, where appropriate, correct safety hazards
- Foster a work environment where employees have opportunities for professional development, are treated with dignity and respect, and are recognized for their contributions to Toronto Hydro and its customers. We do not tolerate discrimination or any form of harassment, including sexual harassment or violence. We do not tolerate any form of compulsory labour or child labour

Toronto Hydro's commitment to eliminating discriminatory practices, thereby promoting equal opportunities, supports SDG 10 – Reduced Inequalities.

TO OUR CUSTOMERS AND OTHER BUSINESS PARTNERS

We are committed to being fair and honest.

- Treat our business partners courteously, respectfully, and in a professional and helpful manner
- Commit only to what we honestly believe we can deliver
- Honour the commitments we make
- Protect any information shared with us on a confidential basis by a business partner
- Do not release customer information to any third party without proper authorization from the customer or Toronto Hydro management
- Do not attempt to improperly influence the decisions of existing or potential business partners or attempt to secure preferential treatment for Toronto Hydro by offering gifts, entertainment, or benefits which we ourselves would not be able to accept
- Do not use our position at Toronto Hydro to obtain personal favours or special consideration for ourselves, our family members, close personal friends or associates
- Select our suppliers objectively, based on fairness and the long-term best interests of Toronto Hydro
- Conduct business only with reputable persons whose conduct aligns with the Code

TO THE COMMUNITIES WHERE WE OPERATE

We are committed to protecting the environment and enhancing quality of life.

- Understand the environmental impact of our activities and treat it as an integral factor in all of our decisions
- Conduct our operations in a manner that protects the safety of the community
- Recycle materials and strive to conserve resources to the extent possible, consistent with sound business operations
- Report any environmental mishaps immediately
- Open about and accountable for our environmental performance
- Strive to find business partners who conduct their business in an environmentally responsible manner
- Support health, education and environmental initiatives
- Support and work with voluntary and charitable organizations that respond to community needs
- Get involved in and work with the community to assist in solving community problems
- Encourage our employees to contribute to their communities through involvement with community services and charitable and professional organizations
- Employees must consider whether their activities could pose a conflict of interest or adversely affect their performance of duties for Toronto Hydro, and should only use Toronto Hydro time or resources for such activities with the prior approval of management
- Encourage, support and seek partnerships with organizations that need our help, whether they be schools or social service organizations
- Involve local communities in decision-making for issues that affect them

Policy commitments are publicly available on Toronto Hydro's website: **torontohydro.com/about-us/governance**.

Toronto Hydro also has policies and has implemented standards and practices that serve to protect the natural environment, aligned with the precautionary principle (i.e., where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation). For example, where the environmental impact of a release of oil is unknown, Toronto Hydro's spill response and reporting procedures require employees to act in abundance of caution when establishing and implementing a plan to remediate the release.

Risk management

Identifying and assessing risks

Toronto Hydro's ERM framework leverages industry best practices and international guidelines tailored to meet Toronto Hydro's circumstances, and focuses on identifying emerging trends in risks and related opportunities particular to Toronto Hydro through a comprehensive evaluation of Toronto Hydro's business and the industry generally. Toronto Hydro views ERM as a management activity undertaken to add value and improve overall operations and has made it an important part of its decision-making processes. The ERM framework helps enable the attainment of its strategic goals and objectives through a systematic, disciplined approach towards identifying, evaluating, treating, monitoring and reporting risks, including climate-related risks.

The ERM framework is operationalized by a consistent and disciplined methodology that clearly defines the risk management process and which incorporates judgment of subject matter experts within Toronto Hydro, risk quantification, risk trends and risk interdependencies. The risk criteria used to assess each enterprise risk relates to reputational, stakeholder management, financial, distribution system, information system, compliance, occupational health and safety, and public safety impacts.

Managing climate-related risks

Climate-related risks are consolidated into Toronto Hydro's enterprise risks. Toronto Hydro has assigned a designated responsible member of senior management for each enterprise risk to ensure that such risks are being monitored and managed. Additionally, Toronto Hydro's risk governance structure includes internal coordination efforts to align outreach to key external stakeholders, both from a strategic and consistency perspective, to help reduce risks and identify opportunities for engagement.

Internal ERM professionals meet regularly with the designated responsible persons to gather and review risk indicators and trends, and identify potential emerging facts that could impact Toronto Hydro, augment other risks or curtail opportunities. Such risk management processes and tools help Toronto Hydro prioritize its mitigation efforts, strengthen its planning efforts and identify areas for improvement.

The management of climate-related risks is also embedded within Toronto Hydro's **Environmental Policy**. Specifically, Toronto Hydro is committed to mitigation of the potential adverse effects of climate change and other environmental conditions on the organization, and action to eliminate or reduce (as far as practicable) any potentially adverse environmental impacts through the implementation of policies, programs and procedures.

Toronto Hydro manages its environmental aspects in conformance with ISO 14001:2015 and conducts annual third-party audits to maintain certification. Toronto Hydro actively participates in industry engagement efforts in order to discuss and share best practices, identify and mitigate risks (including climate-related risks) and realize potential opportunities in regulatory, climate change and energy policy development. Through these types of engagements, Toronto Hydro monitors proposed regulatory, climate change and energy policy changes that may support or impede its business.

Toronto Hydro has implemented various initiatives aimed at improving the system's resiliency to increasingly frequent extreme weather events caused by climate change. These initiatives include updating major equipment specifications, revising planning guidelines, reviewing load forecast impacts, revising design practices and enhancing maintenance programs.

As the municipal electricity distribution company serving the largest city in Canada, Toronto Hydro continues to invest in the renewal of existing aging infrastructure and in the development of new infrastructure to address safety, reliability, hardening of the distribution system against the effects of climate change, and customer service requirements now and in the future. Toronto Hydro is also focused on enhancing the intelligence, automation and interactivity of Toronto Hydro's electricity distribution grid to support the reliability of its core infrastructure grid operations, prepare for increased electricity demand from net-zero GHG emission policies, promote greater value and deliver solutions for its customers.

GRI index

GRI STANDARD	GRI DISCLOSURE	PAGE #	ADDITIONAL INFORMATION
GRI 2 — GENERAL DISCLOSURES	2-1 Organizational details	6	
	2-2 Entities included in the organization's sustainability reporting	6	
	2-3 Reporting period, frequency and contact point	3	Report publication date: April 22, 2024. Please send any questions about this report to **sustainability@torontohydro.com**
	2-4 Restatements of information		In the 2022 ESG Report, Toronto Hydro's GHG emissions were reported as 22,347 metric tonnes of CO_2e. However, in the 'ESG Metrics' Appendix of the same report, GHG emissions were reported as 22,101 metric tonnes of CO_2e. This discrepancy of 246 metric tonnes of CO_2e (equivalent to 1.1%) was due to additional SF_6 emissions data for 2022 reported after the end of year. The additional SF_6 data was incorporated into the ESG Report but inadvertently was omitted from the ESG Metrics summary. The correct emissions for 2022, as presented on page 15 of Toronto Hydro's 2022 ESG Report, are 22,347 metric tonnes of CO_2e. This discrepancy was identified on September 15, 2023.
	2-6 Activities, value chain and other business relationships	6	
	2-7 Employees	7	
	2-9 Governance structure and composition	38	
	2-10 Nomination and selection of the highest governance body	38	
	2-11 Chair of the highest governance body		**torontohydro.com/about-us/leadership**
	2-12 Role of the highest governance body in overseeing the management of impacts	38	
	2-13 Delegation of responsibility for managing impacts	38-39	
	2-14 Role of the highest governance body in sustainability reporting	38	
	2-15 Conflicts of interest	41	2023 Annual Information Form Annex B
	2-16 Communication of critical concerns	40	
	2-19 Remuneration policies	38, 47	
	2-20 Process to determine remuneration	38, 47	2023 Annual Information Form page 64-66
	2-22 Statement on sustainable development strategy	2	
	2-23 Policy commitments	40	
	2-24 Embedding policy commitments	40	
	2-25 Processes to remediate negative impacts	40	
	2-26 Mechanisms for seeking advice and raising concerns	40	
	2-28 Membership associations	7	

GRI index

GRI STANDARD	GRI DISCLOSURE	PAGE #	ADDITIONAL INFORMATION
GRI 2 — GENERAL DISCLOSURES	2-29 Approach to stakeholder engagement	3	
	2-30 Collective bargaining agreements	7	
GRI 3 — MATERIAL TOPICS DISCLOSURES	3-1 Process to determine material topics	3	
	3-2 List of material topics	3	
GRI 201 — ECONOMIC PERFORMANCE TOPICS DISCLOSURES	201-2 – Financial implications and other risks and opportunities due to climate change	9-13	
GRI 305 — EMISSIONS	305-1 – Direct (Scope 1) GHG emissions	18-19, 46	
	305-2 – Energy indirect (Scope 2) GHG emissions	18-19, 46	
	305-3 – Other indirect (Scope 3) GHG emissions	18	
	305-5 – Reduction of GHG emissions	19,46	
GRI 403 — OCCUPATIONAL HEALTH AND SAFETY	403-1 Occupational health and safety management system	25	
	403-2 Hazard identification, risk assessment and incident investigation	26-28	
	403-3 Occupational health services	29-31	
	403-4 Worker participation, consultation and communication on occupational health and safety	29	
	403-5 Worker training on occupational health and safety	31	
	403-6 Promotion of worker health	29-31	
	403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	29-31	
	403-8 Workers covered by an occupational health and safety management system	25	
GRI 405 — DIVERSITY AND EQUAL OPPORTUNITY	405-1 Diversity of governance bodies and employees	7, 47	

TCFD index

GRI STANDARD	GRI DISCLOSURE	PAGE
GOVERNANCE Disclose the organization's governance around climate-related risks and opportunities.	a) Describe the Board's oversight of climate-related risks and opportunities.	38
	b) Describe management's role in assessing and managing climate-related risks and opportunities.	38-39
STRATEGY Disclose the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy and financial planning where such information is material.	a) Describe the climate-related risks and opportunities the organization has identified over the short-, medium- and long-term.	9-13
	b) Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy and financial planning.	9-13
	c) Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	13-15
RISK MANAGEMENT Disclose how the organization identifies, assesses and manages climate-related risks.	a) Describe the organization's processes for identifying and assessing climate-related risks.	42
	b) Describe the organization's processes for managing climate-related risks.	42
	c) Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organization's overall risk management.	42
METRIC AND TARGETS Disclose the metrics and targets used to assess and manage relevant climate-related risks and opportunities where such information is material.	a) Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	19, 46-47
	b) Disclose Scope 1, Scope 2, and if appropriate, Scope 3 greenhouse gas (GHG) emissions, and the related risks.	19, 46-47
	c) Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	18-19

Appendix A — ESG metrics summary

ABOUT US	
COMPANY NAME	Toronto Hydro Corporation
COUNTRY	Canada
GICS INDUSTRY	Electric Utilities

FINANCIAL

Additional information relating to THC, including financial information provided in the Annual Information Form, Consolidated Financial Statements and Management's Discussion and Analysis is available on the SEDAR website at **sedarplus.ca**.

ENVIRONMENTAL	2023	2022	2021
Energy use (GJ)	93,130	102,913	103,799
Renewable energy use (GJ)	16,365	16,726	19,598
GHG emissions (metric tonnes CO_2) – Scope 1	4,953	6,303	5,747
GHG emissions (metric tonnes CO_2) – Scope 2	17,729	16,044	18,494
VOC emissions (metric tonnes)	0.09	0.11	0.10
NOX emissions (metric tonnes)	2.35	2.65	2.53
SOX emissions (metric tonnes)	0.10	0.10	0.10
Total particulate matter emissions (metric tonnes)	0.05	0.05	0.05
Water use (m^3)	10,956	18,648	15,657
Waste generated (metric tonnes)	3,122	3,463	3,655
Waste recycled (metric tonnes)	2,855	3,202	3,343
Significant spills[17]	0	4 (approx. 1,461 litres total)	6 (approx. 975 litres total)

[17] Toronto Hydro is required to report significant spills to land (petroleum-based spills ≥ 500 L) and water (petroleum-based spills ≥ 100 L) annually to Electricity Canada (formerly the Canadian Electricity Association).

SOCIAL	2023	2022	2021
HEALTH AND SAFETY			
Lost time injury frequency rate (200,000 hrs)	0.00	0.16	0.24
Total recordable injury frequency rate (200,000 hrs)	0.30	0.47	0.56
Days away, restricted or transferred rate (200,000 hrs)	8.21	13.33	23.80
Fatalities	0	0	0

Appendix A — ESG metrics summary

SOCIAL	2023	2022	2021
EMPLOYEE TURNOVER			
Employee turnover, includes voluntary turnover of full-time, permanent employees (%)	7.17	9.68	5.78
Under 30 (%)	1.93	2.94	2.22
30 to 50 (%)	5.00	6.22	3.40
Over 50 (%)	0.24	0.50	0.16
Male (%)	5.72	6.06	3.80
Female (%)	1.45	3.62	1.98
NEW HIRES			
Under 30 (#)	90	115	87
30 to 50 (#)	105	81	54
Over 50 (#)	4	6	2
Male (#)	117	129	102
Female (#)	81	72	41
Undeclared (#)	1	1	-
PAY EQUITY			
CEO to employee pay ratio[18]	8.3 to 1	8.4 to 1	8.2 to 1
LEADERSHIP DIVERSITY			
Women board of directors (%)	55.0	40.0	30.8
Women in executive management (%)	40.0	66.7	33.3

[18] Includes salaries and benefits for full-time employees as well as term contract employees from Toronto Hydro's 2023 Financial Report and CEO compensation from Toronto Hydro's 2023 Annual Information Form.

TORONTO HYDRO® Corporation