



2018

Carbon Disclosure Project



September 30, 2019

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C0 – Introduction¹

C0.1: Give a general description and introduction to your organization.

This report is limited to Hydro One Limited (referred to as “Hydro One” throughout this report). The scope of the report excludes Hydro One Remote Communities Inc. and Hydro One Telecom Inc. subsidiaries. The information in this report reflects our performance from January 1, 2018 to December 31, 2018. All dollar amounts are in Canadian dollars.

We are Ontario’s largest electricity transmission and distribution provider with almost 1.4 million* valued customers, nearly \$25.7 billion* in assets and 2018 annual revenues of almost \$6.2 billion*.

Our team of approximately 8,600* skilled and dedicated employees proudly build and maintain a safe and reliable electricity system which is essential to supporting strong and successful communities. In 2018, Hydro One invested almost \$1.6 billion* in its 30,000 circuit kilometres of high voltage transmission and 123,000 circuit kilometres of primary distribution networks, and injected approximately \$1.3 billion* into the economy by buying goods and services in Ontario.

We are committed to the communities where we live and work through community investment, sustainability and diversity initiatives. We are one of only six utility companies in Canada to achieve the Sustainable Electricity Company designation from the Canadian Electricity Association. Hydro One has been rated by Corporate Knights as a top utility in Canada for its sustainability initiatives. Hydro One was ranked 23rd overall in its report, *Best 50 Corporate Citizens in Canada*.

For us, sustainability means that we are committed to operating safely, in an environmentally and socially responsible manner, and to partnering with our customers and community stakeholders to build a brighter future for all.

Hydro One incorporates sustainability into all aspects of our business operations because it supports better long-term performance of the company and our commitment to doing business in a way that positively impacts the world around us.

We seek to limit the potential environmental impact of our activities as we simultaneously work to increase the resiliency of our assets to better withstand the impact of climate change and weather extremes.

In 2018, Hydro One transitioned to a new Board of Directors. This independent, highly-qualified Board has strong governance and industry experience. Board-level oversight of the sustainability strategy resides with the Governance Committee of the Board of Directors.

Driving improvements in network reliability last year resulted in a 14.2 per cent improvement in total average power outage duration for our distribution system over 2017. This is attributed to our

* Data points which include both Hydro One Remote Communities Inc. and Hydro One Telecom Inc. will be denoted with a ‘*’ symbol

application of modern technology to the electricity grid, new storm prediction tools that allow for improved restoration response and our state-of-the-art vegetation management program.

This new vegetation process is an example of how Hydro One is increasing productivity, driving costs down and generating efficiencies to improve its service to customers. In 2018, our forestry teams completed approximately 30,000 kilometres of work along power lines, nearly three times the work completed in 2017, with only a marginal increase in cost.

In 2018, we focused on developing the groundwork to build a successful sustainability program. Building on this foundation, we are now embarking on the next phase of our journey – developing a corporate wide sustainability vision and strategy that will guide our purpose, decisions and actions.

We will also aim to continue strengthening our core business in order to deliver greater value for customers, employees, communities and shareholders, focusing on our 2018 strategic pillars: customers first, cost efficiency, operational excellence, investing in our future, and sustainability.

Forward-Looking Information

This report contains forward-looking statements that are based on current expectations, estimates, forecasts and projections about our business and the industry in which we operate, and include beliefs and assumptions made by the management of Hydro One. Words such as “expect” and “will” are intended to identify such forward-looking statements. These statements are not guarantees of future performance and involve assumptions and risks and uncertainties that are difficult to predict. Therefore, actual outcomes and results may differ materially from what is expressed, implied or forecasted in such forward-looking statements. We do not intend, and we disclaim any obligation, to update any forward-looking statements, except as required by law.

C0.2 - State the start and end date of the year for which you are reporting data.

Start Date (DD/MM/YYYY)	End Date (DD/MM/YYYY)	Indicate if you are providing emissions data for past reporting years.
01/01/2018	31/12/2018	NO

C0.3 - Select the countries for which you will be supplying data.

Canada

C0.4 - Select the currency used for all your financial information disclosed throughout your response.

CAD

C0.5 - Select the option that describes the reporting boundary for which climate-related impacts on your business are being reported. Note that this value should align with your consolidation approach to your Scope 1 and Scope 2 greenhouse gas inventory.

- Financial control
- Operational control
- Equity share
- Other, please specify

C-EU0.7 - Which parts of the electric utilities value chain does your organization operate in?

Electric utilities value chain 

- Electricity generation
- Transmission
- Distribution

Other divisions 

- Gas storage, transmission and distribution
- Smart grids / demand response
- Battery storage
- Micro grids
- Coal mining
- Gas extraction and production

C1 – Governance

C1.1 - Is there board-level oversight of climate-related issues within your organization?

YES

C1.1a - Identify the position(s) of the individual(s) on the board with responsibility for climate-related issues.

<i>Position</i>	<i>Please explain</i>
Board/Executive Board	<p>The Board of Directors (Board) of Hydro One has been elected by the shareholders and is responsible for overseeing the business and affairs of the company. Each Board member brings relevant skills and experience in areas that are important to Hydro One’s business.</p> <p>The Health, Safety, Environment and Indigenous Peoples (HSEIP) Committee is composed of a minimum of three (3) Board members. The Directors have been included as members of the HSEIP committee because of their expertise in their field and are therefore able to identify climate-related material risks and opportunities within their line of business. The Board members then have the responsibility to ensure that the identified climate-related risks and opportunities are integrated into daily operations and decision-making on an ongoing basis.</p> <p>At Hydro One the governance and accountability for climate change begins with the HSEIP.</p>
COO (Chief Operating Officer)	<p>The Board discharges its oversight responsibilities both directly and through various committees: Audit Committee, Governance Committee, Human Resources Committee, and HSEIP Committee.</p> <p>While the Board maintains oversight of Hydro One’s operations, the final accountability for Climate Change Adaptation and Mitigation is with Hydro One’s Chief Operating Officer.</p>
Other – Environmental Management Committee	<p>The Vice-President of Health, Safety & Environment is the corporate lead for Climate Change Adaptation and Mitigation programs and is the chair and sponsor of the Environmental Management Committee. The Environmental Management Committee includes Directors from multiple lines of business. The Environmental Management Committee leads programs including multi-year work plans and budgets regarding Climate Change Adaptation and Mitigation and SF6 Management. In 2018, the Committee continues to build on the climate change management plan and policy.</p>

C1.1b - Provide further details on the board's oversight of climate-related issues.

- Scheduled – all meetings
- Scheduled – some meetings
- Sporadic - as important matters arise
- Other, please specify

Clear selection



- Reviewing and guiding strategy
- Reviewing and guiding major plans of action
- Reviewing and guiding risk management policies
- Reviewing and guiding annual budgets
- Reviewing and guiding business plans
- Setting performance objectives
- Monitoring implementation and performance of objectives
- Overseeing major capital expenditures, acquisitions and divestitures
- Monitoring and overseeing progress against goals and targets for addressing climate-related issues
- Other, please specify

Please explain: The HSEIP Committee is composed of a minimum of three members of Hydro One’s Board of Directors. The Board members have the responsibility to integrate climate-related issues into Hydro One’s operations and decision-making on an ongoing basis. The HSEIP committee reviews Hydro One’s strategy regarding climate change, including a review of emerging risks and opportunities and tracking of corporate objectives. Furthermore, the HSEIP provides oversight and monitoring of strategy, action plans, initiatives, and risk management practices.

C1.1c - Why is there no board-level oversight of climate-related issues and what are your plans to change this in the future?

N/A

C1.2 - Provide the highest management-level position(s) or committee(s) with responsibility for climate-related issues.

Name of the position(s) and/or committee(s)	Responsibility	Frequency of reporting to the board on climate-related issues
<input type="text" value="Chief Operating Officer (COO)"/> <input type="button" value="Clear selection"/>	<input type="text" value="Managing climate-related risks and opportunities"/> <input type="button" value="Clear selection"/>	<input type="text" value="Quarterly"/> <input type="button" value="Clear selection"/>
<input type="text" value="Other, please specify"/> <input type="button" value="Clear selection"/> <input type="text" value="Vice President of Health, Safety & En"/> 38 / 250	<input type="text" value="Managing climate-related risks and opportunities"/> <input type="button" value="Clear selection"/>	<input type="text" value="Quarterly"/> <input type="button" value="Clear selection"/>
<input type="text" value="Other committee, please specify"/> <input type="button" value="Clear selection"/> <input type="text" value="Environmental Management Commi"/> 35 / 250	<input type="text" value="Both assessing and managing climate-related risks and opportunities"/> <input type="button" value="Clear selection"/>	<input type="text" value="More frequently than quarterly"/> <input type="button" value="Clear selection"/>
<input type="text" value="Other committee, please specify"/> <input type="button" value="Clear selection"/> <input type="text" value="Change Adaptation Working Group"/> 39 / 250	<input type="text" value="Both assessing and managing climate-related risks and opportunities"/> <input type="button" value="Clear selection"/>	<input type="text" value="More frequently than quarterly"/> <input type="button" value="Clear selection"/>
<input type="text" value="Other committee, please specify"/> <input type="button" value="Clear selection"/> <input type="text" value="Mitigation (GHG) Working Group"/> 31 / 250	<input type="text" value="Other, please specify"/> <input type="button" value="Clear selection"/> <input type="text" value="and implementing reduction initiatives"/> 47 / 250	<input type="text" value="More frequently than quarterly"/> <input type="button" value="Clear selection"/>

C1.2a - Describe where in the organizational structure this/these position(s) and/or committees lie, what their associated responsibilities are, and how climate-related issues are monitored.

The Board of Directors of Hydro One has established climate change oversight through the HSEIP Committee. Governance and accountability for climate change adaptation and mitigation begin with the HSEIP Committee, which provides oversight and monitoring of strategy, action plans, initiatives, and risk management practices. The HSEIP Committee is responsible for assisting the Board in discharging its oversight responsibilities relating to: (a) effective occupational health and safety and environmental policies and practices; and (b) the company’s relationship with Indigenous communities. The HSEIP Committee is composed of a minimum of three members of the Board of Directors. The Directors are included as members of HESIP committee because of their expertise in their specific field and are therefore able to identify climate-related material risks and opportunities within their divisions. The Board members then have the responsibility to ensure that the identified climate-related risks and opportunities are integrated into operations and decision-making on an ongoing basis.

Climate change-related issues are reviewed on a quarterly basis, at which time the HSEIP Board Committee reviews policies and structures in place to actively manage climate change and assess

strategy and policies relative to industry best practices. Hydro One's COO has overall responsibility for climate change at the corporate level, including the following responsibilities:

- assessing and managing climate-related risks and opportunities;
- reviewing on a quarterly basis via executive dashboard or summary; and
- providing his/her signature on annual CDP reporting.

The Vice-President of Health, Safety & Environment is the accountable executive lead for climate change adaptation and mitigation programs, as well as the chair and sponsor of the Environmental Management Committee. The Environmental Management Committee includes Directors from multiple lines of business, implementing recommendations regarding climate change strategy, targets, objectives, initiatives and the development of action plans.

The Environmental Management Committee meets on a quarterly basis to enable collaboration amongst accountable divisions and provide an opportunity for consultation on emerging and ongoing issues related to climate change risk and opportunities. Departments represented on the Committee include: Transmission/Distribution Asset Management, Facilities, Risk, Internal Audit, Stations, Lines, Remotes, Facilities, Corporate Communications, Regulatory Affairs, Environmental Services, Supply Chain, and Engineering Services.

The Environmental Management Committee is accountable for recommending policy and strategic direction and the execution of action plans, including:

- Climate-related policy and strategy;
- Climate change-related strategy in the areas of adaptation and mitigation activities, investment in research, and development and operations;
- Targets and objectives for GHG emission reduction;
- Major plans of action to address climate change-related risks and opportunities in relation to Hydro One's business strategy and financial planning;
- Risk management policies identified over the short, medium, and long term time horizons;
- Monitoring implementation of objectives and targets;
- Public disclosures such as CDP, Sustainability, AIF, CEA, etc.
- Monitor GHG inventory to ensure that reporting is relevant, complete, consistent, transparent and accurate; and
- Stakeholder engagement and collaboration.

C1.3 - Do you provide incentives for the management of climate-related issues, including the attainment of targets?

YES

C1.3a - Provide further details on the incentives provided for the management of climate-related issues.

Who is entitled to benefit from these incentives?	Types of Incentives	Activity incentivized	Comment
Board/Executive Board	Recognition (non-monetary)	Efficiency project	<p>Hydro One is strengthening its oversight and management of climate change issues to be more resilient and adaptable to change, as well as to mitigate climate risks.</p> <p>In 2018, we introduced a new Climate Change Policy and Strategy which outlines our commitment to:</p> <ul style="list-style-type: none"> • increasing the resiliency of our assets to better withstand climate change and weather extremes; • managing our carbon footprint; and • working with our customers to reduce their energy usage and promote a culture of conservation. <p>Our new Policy and Strategy have clearly defined accountabilities and actions to adapt to and mitigate the impacts of climate change. As we refine our approach, we are continuing to integrate climate change into Hydro One’s Enterprise Risk Management (ERM) frameworks, with a goal to better identify, assess and manage climate change risks and to minimize negative outcomes.</p> <p>Climate change impacts for Hydro One include the potential for shifting weather patterns to increase the severity and frequency of extreme weather events and natural disasters.</p> <p>We will continue to address climate change risks through an integrated multi-disciplinary management approach. Our actions include preparing our grid for volatile climatic conditions, working with communities, customers and organizations to collectively reduce our energy consumption, and investing in research and innovation.</p>
Vice-President of Health, Safety & Environment	Monetary reward	Climate change management	<p>The HSEIP Committee goals encompass climate change; however at the senior management level of Hydro One, climate change management is incorporated into the yearly performance goals. The Vice-President of Health, Safety and Environment has the following performance goals which relate to climate change management and adaptation:</p> <ul style="list-style-type: none"> - Support the HSEIP Committee in executing its mandate and preparing briefing notes for the HSEIP Committee and CEO; and - Develop and implement environmental management strategies for four new key areas: Biodiversity, Climate Change, Environmental Risk Management Systems and Resource Management.

Who is entitled to benefit from these incentives?	Types of Incentives	Activity incentivized	Comment
Director of Environmental Services	Monetary reward	Climate change management	<p>The Director of Environmental Services assists the Vice-President of Health, Safety and Environment in the management of climate-related issues. The Director of Environmental Services also has climate-related performance goals that must be met. These include:</p> <ul style="list-style-type: none"> - Support the HSEIP Committee in executing its mandate including provision of quarterly updates and requested information regarding Climate Change; and - Contribute to disclosure reporting and completed environmental programs.

C2 – Risks and Opportunities

C2.1 - Describe what your organization considers to be short-, medium- and long term horizons.

	From (years)	To (years)	Comment
Short-term	1	1	Hydro One has two processes that consider short term (1 year) horizons: Health, Safety, Environment Managed System Annual Risk Assessment and Investment Planning.
Medium-term	1	5	Hydro One has two processes that consider medium (1-5 year) horizons: Enterprise Risk Management and Investment Planning.
Long-term	5	10	Hydro One Investment Planning considers long term (5 – 10 year) horizons.

C2.2 - Select the option that best describes how your organization's processes for identifying, assessing, and managing climate-related issues are integrated into your overall risk management.

- Integrated into multi-disciplinary company-wide risk identification, assessment, and management processes
- A specific climate change risk identification, assessment, and management process
- There are no documented processes for identifying, assessing, and managing climate-related issues

C2.2a - Select the options that best describe your organization's frequency and time horizon for identifying, and assessing climate-related risks.

Frequency of monitoring	How far into the future are risks considered?
<input type="text" value="Annually"/>	<input type="text" value=">6 years"/>
<input type="button" value="Clear selection"/>	<input type="button" value="Clear selection"/>

Comment: Climate change impacts are integrated into Hydro One’s multi-disciplinary, company-wide risk management framework, which is consistent with ISO standard 31000, “Risk Management – Principles and Guidelines”.

C2.2b - Provide further details on your organizations process(es) for identifying and assessing climate-related risks.

Hydro One has three processes for identifying and assessing climate-related risks: (a) Health, Safety and Environment Managed System Annual Risk Assessment; (b) Investment Planning; and (c) Enterprise Risk-Management.

Health, Safety, & Environment Management System (HSEMS): HSEMS is a tool to enhance health, safety and environmental performance through a structured approach that drives continuous improvement. The HSEMS sets out specific roles, responsibilities, accountabilities, authorities and processes to establish, implement, maintain and improve health, safety and environmental management in all aspects of Hydro One's business. The framework that Hydro One has chosen to adopt for its HSEMS is consistent with the requirements of "OHSAS 18001:2007" and "ISO 14001:2015". The annual HSEMS risk assessment evaluates all environmental aspects of Hydro One's operations as well as the impacts that external environmental conditions and legal requirements may have on Hydro One's business to identify environmental risk. This process verifies that risk databases are up to date, new activities are reflected, controls or improvements are identified, and priorities for management action are in place. Senior managers ensure that necessary resources for the risk assessment are provided, including the provision of subject matter experts. The annual HSEMS risk assessment is conducted at both the corporate and business unit level. The risk assessment informs process for continuous improvement, including but not limited to initiatives for improving environmental performance, control documentation, training, and tools.

Investment Planning: Hydro One uses a risk-based investment planning framework, which consists of the following: (a) an integrated investment framework that connects operation risk mitigation to investment planning, measuring safety, reliability and environment; (b) a standardized methodology; (c) a fact-based assessment of probability and severity of risk incidence (calibrated for specific assets and objectives); (d) a collaborative approach which engages all layers of the organization; and (e) an approach which ensures consistency in communications. Additionally, Hydro One has an asset risk index outlining considerations for reviewing risks associated with all transmission and distribution assets. The review is completed annually and requires consideration of environmental factors among other key conditions, such as age and asset performance.

Enterprise Risk Management (ERM): Hydro One uses an enterprise-wide portfolio approach for the management of key business risks. This ERM approach provides uniform processes to identify, measure, treat and report on key risks. It supports the Board corporate governance and the due diligence responsibilities of senior management. It also helps to strengthen our management practices in a manner demonstrable to external stakeholders. Hydro One's ERM program is structured to conform to ISO standard 31000, "Risk Management – Principles and Guidelines," where ISO is the International Organization for Standardization.

In 2018, Hydro One conducted a formal assessment to identify the sustainability issues that matter most to its business, stakeholders and partners. The results are planned to guide our sustainability strategy and our disclosure approach. This assessment included inputs from customers, employees, local communities, Indigenous communities, industry partners, government, our regulators, investors and non-governmental organizations. Through this assessment, climate change and extreme weather events were identified as priority issues and a risk to Hydro One's business.

C2.2c - Which of the following risk types are considered in your organization's climate-related risk assessments?

	Relevance & Inclusion	Please explain
Current Regulation	Relevant, always included	<p>Hydro One is subject to extensive Canadian federal, provincial and municipal environmental regulation. Failure to comply could subject the company to fines or other penalties. Hydro One emits certain greenhouse gases, including sulphur hexafluoride or “SF6”. There are increasing regulatory requirements and costs, along with attendant risks, associated with the release of such greenhouse gases, all of which could impose additional material costs on Hydro One.</p> <p>To assess and manage transition risk and current regulations on Hydro One, the company has established focused groups (e.g. director-level environmental committee, SF6 working group, climate change adaptation working group) and interdisciplinary risk reviews (e.g. enterprise risk management, asset risk index, HSEMS annual risk assessment).</p> <p>In 2018, from January 1 to July 3, Hydro One participated in Ontario’s Cap and Trade program, as established by the Climate Change Mitigation and Low-carbon Economy Act, 2016. The Act outlines a market-based system that puts a price on carbon, caps the amount of GHGs businesses can emit, and provides incentives and mechanisms to reduce overall emissions. On May 15, 2018, Hydro One submitted a bid for 19,000 allowances. The allowance was to be used for Hydro One’s 11,000 allowances remaining in 2017 and 8,000 allowances for Q1 and Q2 emissions in 2018. The province revoked the Cap and Trade program in July 2018 and subsequently introduced the Cap and Trade Cancellation Act, 2018, which repealed the Climate Change Mitigation and Low-carbon Economy Act. In June 2018, the federal government introduced a federal carbon pricing system. Hydro One does not believe that the federal program applies to the company.</p> <p>This transition risk is identified as a legislative requirement through the HSEMS annual risk assessment and the asset risk index, and was managed by the Director, Environmental Services in collaboration with other relevant lines of business.</p>

	Relevance & Inclusion	Please explain
<p>Emerging Regulation</p>	<p>Relevant, always included</p>	<p>Hydro One is subject to extensive Canadian federal, provincial and municipal environmental regulation. Failure to comply could subject the company to fines or other penalties. There is the risk that new legislation, regulations, requirements or policies will be introduced in the future.</p> <p>Hydro One emits certain greenhouse gases, including sulphur hexafluoride or “SF6”. There are increasing regulatory requirements and costs, along with attendant risks, associated with the release of such greenhouse gases, all of which could impose additional material costs on Hydro One.</p> <p>To assess and manage transition risk and emerging regulations on Hydro One, the company has established focused groups (e.g. director-level environmental committee, SF6 working group, climate change adaptation working group) and interdisciplinary risk reviews (e.g. enterprise risk management, asset risk index, HSEMS annual risk assessment).</p> <p>To manage this risk, as a part of the HSEMS, the Director, Environmental Services is accountable to monitor emerging environmental regulations. Emerging regulations are reviewed and assessed to determine Hydro One business impacts. Emerging regulations that may have a business impact are reviewed by various lines of business to determine impacts and mitigation strategies. If a business impact is identified during this process, Hydro One may elect to submit comments through the Environmental Registry of Ontario on proposed regulatory changes. The Environmental Registry of Ontario was created under Ontario's Environmental Bill of Rights, 1993, and ensures that the public can participate in decisions being made on environmental issues. All comment submissions are reviewed by the line of business and by Hydro One’s Corporate Affairs department.</p> <p>In August 2018, HSEMS identified two major emerging regulations that were reviewed and assessed for business impacts:</p> <ul style="list-style-type: none"> • Bill 4 – An Act respecting the preparation of a climate change plan, providing for the wind down of the cap and trade program and repealing the Climate Change Mitigation and Low-carbon Economy Act, 2016 • Bill C-74 – Greenhouse Gas Pollution Pricing Act <p>Both emerging regulations were reviewed and assessed by relevant lines of business and are expected to have no material impacts at this time. It was noted that the future impact of emerging regulations related specifically to greenhouse gas emissions was unclear; however, Hydro One will continue to monitor emerging regulations as part of its process.</p> <p>Note: Further regulatory changes did not identify Hydro One as a participant in either the federal or provincial carbon pricing schemes.</p>

	Relevance & Inclusion	Please explain
<p>Technology</p>	<p>Relevant, sometimes included</p>	<p>Hydro One emits certain greenhouse gases, including sulphur hexafluoride or “SF6”. There are increasing regulatory requirements and costs, along with attendant risks, associated with the release of such greenhouse gases, all of which could impose additional material costs on Hydro One.</p> <p>To assess and manage transition risk associated with technological improvements or innovations that support the transition to a lower-carbon, energy-efficient economic system, the company has established focused groups (e.g. director-level environmental committee, SF6 working group, climate change adaptation working group) and interdisciplinary risk reviews (e.g. enterprise risk management, asset risk index, HSEMS annual risk assessment).</p> <p>To manage this risk, a director-level environmental committee representing various lines of business was established to review and assess procedures and processes around climate change adaptation, resiliency and mitigation. A key component of this committee was the development of an SF6 working group to ensure proper quantification and verification of our SF6 emissions, and to assess the viability of new SF6 technology. In 2018, Hydro One undertook an initiative to investigate the practicality of using mixed gas at its transmission stations. This initiative involves using less than full SF6 gas in gas insulated breakers. If successful, this practice has the potential to reduce our potential SF6 releases. The initiative is still ongoing.</p>

	Relevance & Inclusion	Please explain
Legal	Relevant, always included	<p>Hydro One’s facilities are exposed to the effects of severe weather conditions, natural disasters, man-made events including but not limited to cyber and physical terrorist type attacks, events which originate from third-party connected systems, or any other potentially catastrophic events. Climate change may have the effect of shifting weather patterns and increasing the severity and frequency of extreme weather events and natural disasters, which could impact Hydro One’s business. The company’s facilities may not withstand occurrences of these types in all circumstances. Hydro One could also be subject to claims for damages from events which may be proximately connected with the company’s assets (for example, forest fires), claims for damages caused by its failure to transmit or distribute electricity or costs related to ensuring its continued ability to transmit or distribute electricity.</p> <p>To assess and manage legal risks associated with climate adaptation, mitigation and resiliency, the company has established focused groups (e.g. director-level environmental committee, SF6 working group, climate change adaptation working group) and interdisciplinary risk reviews (e.g. enterprise risk management, asset risk index, HSEMS annual risk assessment).</p> <p>To manage the risk of forest fires, the company is actively participating with the Canadian Electricity Association (CEA) to develop a Wildfire Best Practices Guide, which is expected to serve as a comprehensive reference including utility mitigation plans; provincial acts; best practices; lessons learned from California; and relevant contact details.</p>
Market	Relevant, always included	Hydro One does always include market risk in its assessment.
Reputation	Relevant, always included	<p>Reputation risk is the risk of a negative impact to Hydro One’s business, operations or financial condition that could result from a deterioration of its reputation. Hydro One’s reputation could be negatively impacted by changes in public opinion, attitudes towards the company’s privatization, failure to deliver on customer promises and other external forces. Adverse reputational events or political actions could have negative impacts on Hydro One’s business and prospects including, but not limited to, delays or denial of requisite approvals, such as denial of requested rates, and accommodations for Hydro One’s planned projects, escalated costs, legal or regulatory action, and damage to stakeholder relationships.</p>

	Relevance & Inclusion	Please explain
<p>Acute Physical</p>	<p>Relevant, always included</p>	<p>Hydro One’s facilities are exposed to the effects of severe weather conditions, natural disasters, man-made events including but not limited to cyber and physical terrorist type attacks, events which originate from third-party connected systems, or any other potentially catastrophic events. Climate change may have the effect of shifting weather patterns and increasing the severity and frequency of extreme weather events and natural disasters, which could impact Hydro One’s business. The company’s facilities may not withstand occurrences of these types in all circumstances. Hydro One could also be subject to claims for damages from events which may be proximately connected with the company’s assets (for example, forest fires), claims for damages caused by its failure to transmit or distribute electricity or costs related to ensuring its continued ability to transmit or distribute electricity.</p> <p>To assess and try to manage acute physical risks (e.g. risks that are event-driven, including increased severity of extreme weather events), the company has established focused groups (e.g. director-level environmental committee SF6 working group, climate change adaptation working group) and interdisciplinary risk reviews (e.g. enterprise risk management, asset risk index, HSEMS annual risk assessment).</p> <p>Hydro One has been investigating the potential acute physical risks of climate change to its system and has identified a number of potential risks, including but not limited to, flooding from storm events, heat waves, changes in precipitation patterns and wildfire danger. In 2018, Hydro One continued to work with the Canadian Electricity Association working group to review industry best practices. Additionally, Hydro One continued to build/assess existing stations for ice loading, wind and location of stations (as it relates to flood prone) and continues to build to Canadian Standards Association engineering standards.</p>

	Relevance & Inclusion	Please explain
<p>Chronic Physical</p>	<p>Relevant, always included</p>	<p>Hydro One’s facilities are exposed to the effects of severe weather conditions, natural disasters, man-made events including but not limited to cyber and physical terrorist type attacks, events which originate from third-party connected systems, or any other potentially catastrophic events. Climate change may have the effect of shifting weather patterns and increasing the severity and frequency of extreme weather events and natural disasters, which could impact Hydro One’s business. The company’s facilities may not withstand occurrences of these types in all circumstances. Hydro One could also be subject to claims for damages from events which may be proximately connected with the company’s assets (for example, forest fires), claims for damages caused by its failure to transmit or distribute electricity or costs related to ensuring its continued ability to transmit or distribute electricity.</p> <p>The company continually incurs sustainment and development capital expenditures and monitors the condition of its assets to manage the risk of equipment failures, and to determine the need for and timing of major refurbishments, and replacements of its transmission and distribution infrastructure.</p> <p>To assess and try to manage chronic risks (e.g. longer-term shifts in climate patterns such as sustained higher temperatures), the company has established focused groups (e.g. director-level environmental committee, SF6 working group, climate change adaptation working group) and interdisciplinary risk reviews (e.g. enterprise risk management, asset risk index, HSEMS annual risk assessment).</p> <p>Hydro One’s investment planning process has been enhanced to better align with the principles of ISO 31000 (Risk Management), identifying priority risks that can be mitigated through investment and other control strategies. Climate change and extreme natural events are priority risks that are identified as part of this process with a risk description (e.g. risk associated with severe weather) mitigation strategies (e.g. continuing to monitor, evaluate and update design standards for improving asset resiliency and participation in the North American Transmission Forum and EPRI Resiliency Summit), planned expenditures and identified investments (e.g. optimal cycle protocol for vegetation management).</p>

	Relevance & Inclusion	Please explain
Upstream	Relevant, sometimes included	<p>Hydro One is required to procure electricity on behalf of competitive retailers and certain local distribution companies for resale to their customers. The resulting concentrations of credit risk are mitigated through the use of various security arrangements, including letters of credit, which are incorporated into the company's service agreements with these retailers in accordance with the Ontario Energy Board's Retail Settlement Code.</p> <p>To assess and try to manage upstream risks, the company has established focused groups (e.g. director-level environmental committee, SF6 working group, climate change adaptation working group) and interdisciplinary risk reviews (e.g. enterprise risk management, asset risk index, HSEMS annual risk assessment).</p> <p>In 2018, Hydro One continued to partner/participate in climate change adaptation with industry peers such as the Canadian Electricity Association and North America Energy Reliability Council to assess upstream impacts of climate-related risk on electricity supply.</p>
Downstream	Relevant, always included	<p>Hydro One continually incurs sustainment and development capital expenditures and monitors the condition of its assets to manage the risk of equipment failures, and to determine the need for and timing of major refurbishments, and replacements of its transmission and distribution infrastructure. The connection of large numbers of generation facilities to the distribution network has resulted in greater than expected usage of some of the company's equipment. This increases maintenance requirements and may accelerate the aging of the company's assets.</p> <p>To assess and try to manage downstream risks, Hydro One has established focused groups (e.g. director-level environmental committee, SF6 working group, climate change adaptation working group) and interdisciplinary risk reviews (e.g. enterprise risk management, asset risk index, HSEMS annual risk assessment).</p> <p>In 2018, Hydro One continued to partner/participate in climate change adaptation with industry peers such as the Canadian Electricity Association and North America Energy Reliability Council to assess downstream impacts of climate-related risk on supply of electricity.</p>

C2.2d - Describe your process(es) for managing climate-related risks and opportunities.

To manage climate-related risks and opportunities identified and assessed through our risk identification processes (discussed in question 2.2b), Hydro One has established focused groups (e.g. director-level environmental committee SF6 working group, climate change adaptation working group) and interdisciplinary risk reviews (e.g. enterprise risk management, investment planning, HSEMS annual risk assessment). Risks identified through our risk management process are assessed and prioritized, depending on the probability and magnitude of a risk; identified risks are escalated through our ERM program to the senior leadership team.

Hydro One also runs an annual HSEMS risk assessment. Based on the results, continuous improvement initiatives are developed, implemented and monitored for effectiveness as part of the HSEMS framework. Initiatives are developed at both the corporate and business unit level with executive sponsorship by the Vice-President, Health, Safety & Environment, with specific accountabilities delegated to individual lines of business. In 2018, the impacts of climate change were identified as a risk to Hydro One's operations – primarily from a system adaptation and resiliency perspective. In addition, Hydro One conducted an environmental risk workshop in 2018 with all lines of business to identify Hydro One's top risks based on frequency and severity of impact. This assessment and other factors, including audit findings and regulatory changes, guide our approach to our environmental management programs. These programs include multi-year work plans and budgets. We currently have targeted plans to address our top environmental risks, one of which is the climate change management plan.

The following provides a summary of Hydro One's initiatives as part of the climate change management plan in 2018:

- More clearly define accountabilities related to climate change adaptation, mitigation and resiliency, create policy and strategy that identifies key actions to adapt to/mitigate the impacts of climate change;
- Enhance disclosure reporting relating to climate change with a goal of continuous improvement; and
- Strengthen methodologies for gathering baseline data and measuring emissions to create benchmarks/identify emerging risks.

C2.3 - Have you identified any inherent climate-related risks with the potential to have a substantive financial or strategic impact on your business?

YES

C2.3a - Provide details of risks identified with the potential to have a substantive financial or strategic impact on your business.

	Risk 1	Risk 2	Risk 3
Where in the value chain does the risk driver occur?	Direct Operations	Direct Operations	Direct Operations
Risk Type	Transitional Risk	Transitional Risk	Physical Risk
Primary climate-related risk driver	Policy and Legal: Other	Policy and legal: Other	Acute: Increased severity of extreme weather events such as cyclones and floods
Type of financial impact driver	Other: Increased costs of compliance with laws and regulations	Other: Exposure to claims relating to effects of severe weather conditions and other catastrophic events.	Other, please specify Increased operating and capital costs
Company specific description	<p>The company is subject to extensive Canadian federal, provincial and municipal environmental regulation. Failure to comply could subject the company to fines or other penalties. Hydro One emits certain greenhouse gases, including sulphur hexafluoride or “SF6”. There are increasing regulatory requirements and costs, along with attendant risks, associated with the release of such greenhouse gases, all of which could impose additional material costs on Hydro One.</p> <p>In 2018, from January 1 to July 3, Hydro One participated in Ontario’s Cap and Trade program, as established by the Climate Change Mitigation and Low-carbon Economy Act, 2016. The Act outlines a market-based system that puts a price on carbon, caps the amount of GHGs businesses can emit, and provides incentives and mechanisms to reduce overall emissions. On May 15, 2018, Hydro One submitted a bid for 19,000 allowances. The allowance was to be used for Hydro One’s 11,000 allowances remaining in 2017 and 8,000 allowances for 2018 Q1 and Q2 emissions. In July 2018, the province revoked the Cap and Trade program and subsequently introduced the Cap and Trade Cancellation Act, 2018, which repealed the Climate Change Mitigation and Low-carbon Economy Act. Additionally, in June 2018 the federal government introduced a federal carbon pricing system. Hydro One does not believe that the federal program applies to the company.</p>	<p>The company’s facilities are exposed to the effects of severe weather conditions, natural disasters, man-made events, including but not limited to, cyber and physical terrorist type attacks, events which originate from third-party connected systems, or any other potentially catastrophic events. Climate change may have the effect of shifting weather patterns and increasing the severity and frequency of extreme weather events and natural disasters, which could impact Hydro One’s business. The company’s facilities may not withstand occurrences of these types in all circumstances.</p> <p>The company could also be subject to claims for damages from events which may be proximately connected with the company’s assets (for example, forest fires), claims for damages caused by its failure to transmit or distribute electricity or costs related to ensuring its continued ability to transmit or distribute electricity.</p>	<p>The company’s facilities are exposed to the effects of severe weather conditions, natural disasters, man-made events, including but not limited to, cyber and physical terrorist type attacks, events which originate from third-party connected systems, or any other potentially catastrophic events. Climate change may have the effect of shifting weather patterns and increasing the severity and frequency of extreme weather events and natural disasters, which could impact Hydro One’s business. The company’s facilities may not withstand occurrences of these types in all circumstances.</p> <p>In 2018, Hydro One experienced five Force Majeure incidents related to severe weather, which we declare when electricity service to 10% or more of our distribution customers has been interrupted by an event.</p>

	Risk 1	Risk 2	Risk 3
Time Horizon	Long-term	Long-term	Long-term
Likelihood	Unlikely	Unlikely	Very Likely
Magnitude of Impact	Medium-low	Unknown	Medium
Potential Financial Impact			
Explanation of Financial Impact	<p>From January 1 to July 3, 2018, there was a direct correlation between the carbon pricing and our direct operational costs. As carbon prices increase, our cost to comply also increases; however, if the carbon pricing decreases and we manage our GHG emissions accordingly, the negative impact to our business will decrease.</p> <p>However, with the cancellation of the cap and trade program, there is no financial impact as the new provincial regulations prohibit all trading of emission allowances.</p>	The financial impact cannot be specifically quantified at this time.	Hydro One budgets for storm response, this budget includes but is not limited to: manpower cost, restoring infrastructure, revenue loss from outages, etc. As more extreme weather events occur, the potential financial impact can increase, depending on the severity of the weather events.
Management Method	<p>This risk is managed by integrating climate change considerations into decision-making, organizational structure and communications and aligning climate change management programs to corporate priorities including health, safety, reliability, performance and customer satisfaction. The company assesses this risk through established focused groups (e.g. director-level environmental committee SF6 working group, climate change adaptation working group) and interdisciplinary risk reviews (e.g. enterprise risk management, asset risk index, HSEMS annual risk assessment). This transition risk is identified as a legislative requirement through the HSEMS annual risk assessment and the asset risk index and was managed by the Director, Environmental Services in collaboration with other relevant lines of business.</p>	<p>This risk is managed by integrating climate change considerations into decision-making, organizational structure and communications and aligning climate change management programs to corporate priorities including health, safety, reliability, performance and customer satisfaction. The company assesses this risk through established focused groups (e.g. director-level environmental committee SF6 working group, climate change adaptation working group) and interdisciplinary risk reviews (e.g. enterprise risk management, asset risk index, HSEMS annual risk assessment). To manage the risk of forest fires, the company is actively participating with the Canadian Electricity Association (CEA) to develop a Wildfire Best Practices Guide, which will serve as a comprehensive reference including utility mitigation plans, provincial acts, best practices, lessons learned from California and relevant contact details.</p>	<p>This risk is managed by integrating climate change considerations into decision-making, organizational structure and communications and aligning climate change management programs to corporate priorities including health, safety, reliability, performance and customer satisfaction. The company assesses this risk through established focused groups (e.g. director-level environmental committee SF6 working group, climate change adaptation working group) and interdisciplinary risk reviews (e.g. enterprise risk management, asset risk index, HSEMS annual risk assessment).</p> <p>Driving improvements in network reliability last year resulted in a 14.2% improvement in total average power outage duration for our distribution system over 2017. This is attributed to our application of modern technology to the grid, new storm prediction tools that allow for improved restoration response and our state-of-the-art vegetation management program. In fact, this new vegetation process is an example of how the company is increasing productivity, driving down costs and generating efficiencies to improve our service to customers. In 2018, our</p>

	Risk 1	Risk 2	Risk 3
			forestry teams completed approximately 30,000 kilometres of work along power lines, nearly three times the work they did in 2017, with only a marginal increase in cost. While we saw results drop for transmission reliability due mainly to highly abnormal weather, the quick, effective and innovative responses deployed by our crews to these events were laudable. For example, after our Merivale transmission station was destroyed by a tornado in late September 2018, a temporary solution was implemented within 48 hours to return service to customers and the facility was rebuilt in just 12 weeks.
Cost of Management²			
Comment		Hydro One is continuously monitoring and assessing potential legal risks.	The company's business model takes extreme weather into consideration during investment planning.

C2.4 - Have you identified any climate-related opportunities with the potential to have a substantive financial or strategic impact on your business?

YES

C2.4a - Provide details of opportunities identified with the potential to have a substantive financial or strategic impact on your business.

	Opportunity 1	Opportunity 2	Opportunity 3
Where in the value chain does the opportunity occur	Direct Operations	Direct Operations	Customer
Opportunity type	Resource efficiency	Resource efficiency	Energy source
Primary climate-related risk driver	Use of more efficient production and distribution processes	Use of more efficient production and distribution processes	Use of lower-emission sources of energy
Type of financial impact driver	Reduced operating costs	Reduced operating costs	Reputational benefits resulting in increased demand for goods/services

² According to CDP guidance document, "Cost of management" is a quantitative figure for the cost of your risk management actions

	Opportunity 1	Opportunity 2	Opportunity 3
Company specific description	<p>Hydro One’s facilities are exposed to the effects of severe weather conditions, natural disasters, man-made events, including but not limited to, cyber and physical terrorist type attacks, events which originate from third-party connected systems, or any other potentially catastrophic events. Climate change may have the effect of shifting weather patterns and increasing the severity and frequency of extreme weather events and natural disasters, which could impact Hydro One’s business. The company’s facilities may not withstand occurrences of these types in all circumstances.</p> <p>Hydro One has a storm protocol that allows crews to be staged when severe weather is approaching, which helps to reduce costs and outage times due to storm restoration. Not only has this improved the company’s operations, it has also led to Hydro One being recognized as a leader in North America in storm recovery.</p>	<p>In October 2018, Hydro One continued to develop its state-of-the-art vegetation management program. The Optimal Cycle Program (OCP) involves a shorter tree clearing and trimming cycle where crews focus on defects along Hydro One’s vast distribution line every three years rather than full right-of-way management every eight to ten years. This new vegetation process is an example of how the company is increasing productivity, driving costs down and generating efficiencies to improve our service to customers. In 2018, our forestry teams completed approximately 30,000 kilometres of work along power lines, nearly three times the work completed in 2017, with only a marginal increase in cost.</p>	<p>Hydro One offered significant financial incentives to encourage businesses and industries of all types to better manage their electricity use:</p> <ul style="list-style-type: none"> - energy audits - lighting upgrades - equipment retrofits - chilled water system upgrades - process and systems upgrades - energy managers - major renovations and new construction.
Time Horizon	Long-term	Long-term	short-term
Likelihood	Very Likely	Very Likely	Very Likely
Magnitude of Impact	Medium-low	Medium-low	Low
Potential Financial Impact³			

³ According to CDP guidance document, “Potential Financial Impact” is quantitative estimate of the financial impacts of the opportunities.

	Opportunity 1	Opportunity 2	Opportunity 3
<p>Explanation of Financial Impact</p>	<p>Hydro One’s budget for storms includes but is not limited to: manpower cost, restoring infrastructure, revenue loss from outages, etc.</p> <p>As more extreme weather events occur, the potential financial impact can increase depending on the severity of the weather event.</p>	<p>The vegetation management program is aimed at transitioning Hydro One’s rights-of-way (ROW) to a stable and sustainably managed system. Informed by historical data and benchmarking, this strategy focuses on improving risk profiles in public safety, reliability and program costs. Specifically, the long-term direction seeks to deliver the following ROW benefits:</p> <ul style="list-style-type: none"> • Power line assets free from interference from vegetation; • Safe and accessible power line assets; • A vegetation community that is compatible with the power line assets that compliments the local environment; and • Low and sustainable life-cycle maintenance costs. <p>As Hydro One makes progress on achieving this long-term vegetation management direction, adjustments informed by continuous improvement activities will be made to improve the effectiveness of vegetation management investments.</p>	<p>To date, Hydro One has achieved energy savings of 1,012 GWh, representing 83% of its 6 year total target (1,221 GWh reduction during 2015-2020). The mid-term target (to end of 2017) of 611 GWh was exceeded with energy savings of 987 GWh (IESO verified report June 2018).</p>

	Opportunity 1	Opportunity 2	Opportunity 3
Strategy to realize opportunity	Hydro One has in place a powerful new outage mapping system on its external website for customers and media. This state-of-the-art mapping technology provides a clearer picture of the status of Hydro One's power system. With the click of a mouse and zoom-in and zoom-out capability, people can now pinpoint with a greater degree of accuracy the location of an outage; the number of customers affected; and the current estimated time of power restoration.	Hydro One conducted a comprehensive trend analysis of its vegetation management program to show year-over-year comparisons in unit costs and a best practices study similar to one it conducted in 2009. These findings led Hydro One to initiate a review of the vegetation management program to improve its efficiency and impact.	Participation is through the GreenON Fund, which is monitored through the IESO and benefits Hydro One in the end. The cost to realize this opportunity includes internal labour, marketing, third-party delivery, overhead cost and IESO delivery.
Cost to realize opportunity⁴			

⁴ According to CDP guidance document, "Cost to realize opportunity" is the cost to realize opportunity

	Opportunity 1	Opportunity 2	Opportunity 3
<p>Comment</p>	<p>In 2018, Hydro One continued to develop new storm prediction tools that allow for improved restoration response. While transmission reliability results dropped, it was due mainly to highly abnormal weather. Timely, effective and innovative responses deployed by crews to these events were laudable. For example, after Merivale Transmission Station was severely impacted by a tornado in late September, 2018, a temporary solution was implemented within 48 hours to return service to customers and the facility was rebuilt in just 12 weeks.</p>	<p>Hydro One has developed a new vegetation management strategy that maintains corridors on a three-year cycle, focusing on defects rather than completely clearing vegetation in a corridor. This defect-based approach will address vegetation that poses a public safety or reliability threat because it is either (a) growing into or will grow into energized equipment within the three-year maintenance cycle, and/or (b) dead/dying vegetation that will likely cause system interruption and/or equipment damage within the maintenance cycle.</p>	<p>Hydro One participated in multiple province-wide programs that provide conservation programs for homes and business to help them manage their electricity usage. These programs included, but were not limited to new construction, home assistance, heating and cooling, small business lighting, retrofits, audit funding, process and system upgrades, existing building commissioning, business refrigeration incentive, and smart thermostats. Hydro One also participated in Deal Days which occurred twice a year (once in the spring and once in the fall) and was a month-long promotion where customers could stock up and save on LEDs, power bars, dimmer switches and more energy-efficient products in participating stores without a coupon. Not only did they save when making purchases but they also saved money and reduced their electricity usage year round by using Energy Star certified products.</p>

C2.5 – Describe where and how the identified risks and opportunities have impacted your business.

	Impact	Description
Products and services	Impacted	<p>Hydro One’s facilities are exposed to the effects of severe weather conditions, natural disasters, man-made events including but not limited to cyber and physical terrorist type attacks, events which originate from third-party connected systems, or any other potentially catastrophic events. Climate change may have the effect of shifting weather patterns and increasing the severity and frequency of extreme weather events and natural disasters, which could impact Hydro One’s business.</p> <p>Driving improvements in network reliability last year resulted in a 14.2% improvement in total average power outage duration for our distribution system over 2017. This is attributed to the application of modern technology to the grid, new storm prediction tools that allow for improved restoration response and our state-of-the-art vegetation management program. In fact, this new vegetation process is an example of how the company is increasing productivity, driving costs down and generating efficiencies to improve our service to customers. In 2018, forestry teams completed approximately 30,000 kilometres of work along power lines, nearly three times the work completed in 2017, with only a marginal increase in cost.</p>
Supply Chain and/or value chain	Impacted for some suppliers, facilities or product lines	<p>From a value chain perspective, there is no significant impact to our risks/opportunities as we do not generate electricity and we are not able to set the price our customers pay. However, from a distribution and transmission standpoint, electricity has become a modern day necessity in the lives of our customers. Therefore, Hydro One needs to ensure that its customers receive safe, reliable and affordable electricity.</p>
Adaptation and mitigation activities	Impacted	<p>From an engineering design perspective, Hydro One ensures that its design standards are in alignment with Canadian Standards Association (CSA) standards and in many cases goes beyond the minimum requirements. Since CSA standards are applied nationwide, they must be adapted to the different regions in Ontario and the corresponding weather/climate conditions. To ensure equipment is not over- or under-designed, different load criteria is used for northern and southern Ontario. Any changes made to loading standards would be applicable to new lines (i.e. new structures).</p> <p>There is an ongoing trend to use metalclad/MVGIS in station refurbishment projects when deemed appropriate to move critical supply stations indoors. The primary driver is to address site challenges such as limitations on space, outage availability or reacting to legacy equipment, however this also has the additional benefit of bringing a portion of transmission stations indoors to shield it from extreme weather events. It also provides flexibility during transformer replacement.</p>

<p>Investment in R&D</p>	<p>Impacted for some suppliers, facilities or product lines</p>	<p>A standard practice in the electrical utility industry is the use of sulfur hexafluoride (SF6) as an electrical insulator in equipment that transmits and distributes electricity. However, SF6 is a known potent greenhouse gas and there is a need to curb the impact it has on climate change. At Hydro One, we are continuously assessing the feasibility of new technology to manage SF6 releases. These include but are not limited to full replacement of SF6 and reduction of our SF6 losses. At the moment, our major suppliers are actively working on environmentally friendly mediums. Initial results are also promising, however no one has any readily available product with at least five years of successful service experience and also meets Hydro One’s requirements and/or is also commercially available.</p> <p>Hydro One has been assessing the impact of extreme cold weather on reliability, specifically the impact of extreme cold temperatures on large transmission station equipment such as breakers. There have been incidents where extreme cold has deteriorated the SF6 inside the breaker and the equipment failed to operate. In early 2019, Hydro One explored an initiative of using mixed gas instead of the 100% SF6 gas. This mixed gas has properties which allow it to withstand temperatures of -50 degrees Celsius. Rabbit Lake Transmission Station is being considered as a pilot site to assess the effectiveness of this new mixed gas in SF6 breakers in colder regions of the province. Before it can be implemented on a larger scale, new processes must be created to address issues with storage, leaking tanks and retrofilling. This initiative involves multiple lines of business including Planning, Engineering, and Maintenance Technical Services.</p>
<p>Operations</p>	<p>Impacted</p>	<p>To manage long-term climate change impact on infrastructure, Hydro One has identified its long and short-term strategies between transmission and distribution with a focus on resiliency and emergency preparedness. For 2018, long term strategies for transmission reliability included asset renewal, upgrading system access and assessing transmission worst performing delivery points. The short term strategies included improving corrective maintenance, assessing new technologies and analytics, and work execution optimization. The availability of mobile transformer stations greatly reduces restoration time during supply loss events (e.g. the tornado that caused outages at Merivale Transformer Station). These stations require less on-site construction and commissioning and can be targeted for energization within a week. These stations have the ability in emergency situations to restore supply and ensure larger customers and local distribution companies are able to be energized during an extreme weather event at a transmission station.</p> <p>Long-term strategies for distribution reliability in 2018 included improvement to optimal cycle protocol (vegetation management cycle) and targeting worst performing feeders. The short-term strategies included continued upgrades to proactive storm preparation and response.</p>

C2.6 - Describe where and how the identified risks and opportunities have factored into your financial planning process.

	Relevance	Description
Revenues	Impacted	<p>Hydro One’s ability to recover the actual costs of providing service and earn the allowed ROE depends on the company achieving its forecasts established and approved in the rate-setting process. Actual costs could exceed the approved forecasts if, for example, the company incurs operations, maintenance, administration, capital and financing costs above those included in the company’s approved revenue requirement. The inability to obtain acceptable rate decisions or to recover any significant difference between forecast and actual expenses could materially adversely affect the company’s financial condition and results of operations.</p> <p>Further, the OEB approves Hydro One’s transmission and distribution rates based on projected electricity load and consumption levels, among other factors. If actual load or consumption materially falls below projected levels, the company’s revenue and net income for either, or both, of these businesses could be materially adversely affected. Also, the company’s current revenue requirements for these businesses are based on cost and other assumptions that may not materialize. There is no assurance that the OEB would allow rate increases sufficient to offset unfavourable financial impacts from unanticipated changes in electricity demand or in the company’s costs.</p> <p>Hydro One is subject to risk of revenue loss from other factors, such as economic trends and weather conditions that influence the demand for electricity. Based on these trends and weather conditions, the company’s overall operating results may fluctuate substantially on a seasonal and year-to-year basis. For instance, a cooler than normal summer or warmer than normal winter can be expected to reduce demand for electricity below that forecast by the company, causing a decrease in the company’s revenues from the same period of the previous year. The company’s load could also be negatively affected by successful Conservation Demand Management programs whose results exceed forecasted expectations.</p>

	Relevance	Description
Operating costs	Impacted	<p>Hydro One’s facilities are exposed to the effects of severe weather conditions, natural disasters, man-made events including but not limited to cyber and physical terrorist type attacks, events which originate from third-party connected systems, or any other potentially catastrophic events. Climate change may have the effect of shifting weather patterns and increasing the severity and frequency of extreme weather events and natural disasters, which could impact Hydro One’s business. The company’s facilities may not withstand occurrences of these types in all circumstances. The company could also be subject to claims for damages from events which may be proximately connected with the company’s assets (for example, forest fires), claims for damages caused by its failure to transmit or distribute electricity or costs related to ensuring its continued ability to transmit or distribute electricity. Hydro One does not have insurance for damage to its transmission and distribution wires, poles and towers located outside its transmission and distribution stations resulting from these or other events. Where insurance is available for the company’s other assets and for damage claims, such insurance coverage may have deductibles, limits and/or exclusions that may still expose the company to material losses. Losses from lost revenues and repair costs could be substantial, especially for many of the company’s facilities that are located in remote areas.</p>
Capital expenditures / capital allocation	Impacted for some suppliers, facilities or product lines	<p>In order to be recoverable, capital expenditures require the approval of the OEB, either through the approval of capital expenditure plans, rate base or revenue requirements for the purposes of setting transmission and distribution rates, which include the impact of capital expenditures on rate base or cost of service. There can be no assurance that all capital expenditures incurred by Hydro One will be approved by the OEB. Capital cost overruns may not be recoverable in transmission or distribution rates. The company could incur unexpected capital expenditures in maintaining or improving its assets, particularly given that new technology may be required to support renewable generation and unforeseen technical issues may be identified through implementation of projects. There is risk that the OEB may not allow full recovery of such expenditures in the future. To the extent possible, Hydro One aims to mitigate this risk by ensuring prudent expenditures, seeking from the regulator clear policy direction on cost responsibility, and pre-approval of the need for capital expenditures.</p> <p>Capital expenditures and allocation will affect financial planning by the need to potentially increase resources to address extreme weather occurrence, assess the vulnerability of equipment and to allocate capital to upgrade aging infrastructure to ensure reliability.</p>
Acquisitions and divestments	We have not identified any risks or opportunities	As per our risk management processes of HSEMS, investment planning, and enterprise risk management, we have not identified any impacts to acquisitions and divestments as a result of climate change adaptation, mitigation or resiliency.
Access to capital	We have not identified any risks or opportunities	As per our risk management processes of HSEMS, investment planning, and enterprise risk management, we have not identified any impacts to access to capital as a result of climate change adaptation, mitigation or resiliency.

	Relevance	Description
Assets	Impacted	Hydro One’s facilities are exposed to the effects of severe weather conditions, natural disasters, man-made events including but not limited to cyber and physical terrorist type attacks, events which originate from third-party connected systems, or any other potentially catastrophic events. Climate change may have the effect of shifting weather patterns and increasing the severity and frequency of extreme weather events and natural disasters, which could impact Hydro One’s business. The company’s facilities may not withstand occurrences of these types in all circumstances. The company could also be subject to claims for damages from events which may be proximately connected with the company’s assets (for example, forest fires), claims for damages caused by its failure to transmit or distribute electricity or costs related to ensuring its continued ability to transmit or distribute electricity. The company does not have insurance for damage to its transmission and distribution wires, poles and towers located outside its transmission and distribution stations resulting from these or other events. Where insurance is available for the company’s other assets and for damage claims, such insurance coverage may have deductibles, limits and/or exclusions that may still expose the company to material losses. Losses from lost revenues and repair costs could be substantial, especially for many of the company’s facilities that are located in remote areas.
Liabilities	Impacted	Hydro One’s facilities are exposed to the effects of severe weather conditions, natural disasters, man-made events including but not limited to cyber and physical terrorist type attacks, events which originate from third-party connected systems, or any other potentially catastrophic events. Climate change may have the effect of shifting weather patterns and increasing the severity and frequency of extreme weather events and natural disasters, which could impact Hydro One’s business. The company’s facilities may not withstand occurrences of these types in all circumstances. The company could also be subject to claims for damages from events which may be proximately connected with the company’s assets (for example, forest fires), claims for damages caused by its failure to transmit or distribute electricity or costs related to ensuring its continued ability to transmit or distribute electricity. The company does not have insurance for damage to its transmission and distribution wires, poles and towers located outside its transmission and distribution stations resulting from these or other events. Where insurance is available for the company’s other assets and for damage claims, such insurance coverage may have deductibles, limits and/or exclusions that may still expose the company to material losses. Losses from lost revenues and repair costs could be substantial, especially for many of the company’s facilities that are located in remote areas.

C3 – Business Strategy

C3.1 - Are climate-related issues integrated into your business strategy?

YES

C3.1a - Does your organization use climate-related scenario analysis to inform your business strategy?

No, but we anticipate doing so in the next two years.

C-EU3.1b - Indicate whether your organization has developed a low-carbon transition plan to support the long-term business strategy.

No, we do not have a low carbon transition plan.

C3.1c - Explain how climate-related issues are integrated into your business objectives and strategy.

Hydro One aims to continue strengthening its core business in order to deliver greater value for customers, employees, communities and shareholders. Hydro One business objectives include putting customers first, achieving cost efficiency and operational excellence, investing in our future and operating sustainability. To assess and manage climate-related issues and the potential impact on business objectives and strategy, Hydro One has established focused working groups (e.g. director-level environmental committee, SF6 working group, climate change adaptation working group) and interdisciplinary risk reviews (e.g. enterprise risk management, asset risk index, Health, Safety, Environmental Managed System annual risk assessment).

Customers First: exceeding our customer's needs and expectations is at the core of everything we do. We are focused on improving our customers experience through fast, flexible and convenient service. Hydro One's facilities are exposed to the effects of severe weather conditions and natural disasters. Climate change may have the effect of shifting weather patterns and increasing the severity and frequency of extreme weather events and natural disasters, which could impact Hydro One's business.

To manage the acute risk of severe weather conditions on customers, in 2018, Hydro One continued to build on its powerful new outage mapping system on its external website for customers and media. This state-of-the-art mapping technology provides a clearer picture of the status of Hydro One's power system. With the click of a mouse and zoom-in and zoom-out capability, people can now pinpoint with a greater degree of accuracy the location of an outage, the number of customers affected and the current estimated time of power restoration.

Operational Excellence: a continuous drive to improve our transmission and distribution networks means we are constantly raising performance standards.

The company's facilities are exposed to the effects of severe weather conditions and natural disasters. Climate change may have the effect of shifting weather patterns and increasing the severity and frequency of extreme weather events and natural disasters, which could impact Hydro One's business.

To manage the acute and chronic risk of severe weather on operational excellence, Hydro One is driving improvements in network reliability which resulted in a 14.2% improvement in total average power outage duration for our distribution system over 2017. This is attributed to our application of modern technology to the grid, new storm prediction tools that allow for improved restoration response and our state-of-the-art vegetation management program. In fact, this new vegetation process is an example of how the company is increasing productivity, driving down costs and generating efficiencies to improve our service to customers. In 2018, our forestry teams completed approximately 30,000 kilometres of work along power lines, nearly three times the work completed in 2017, with only a marginal increase in cost. While we saw results drop for transmission reliability due mainly to highly abnormal weather, the quick, effective and innovative responses deployed by our crews to these events was laudable. For example, after our Merivale Transmission Station was severely impacted by a tornado in late September, a temporary solution was implemented within 48 hours to return service to customers and the facility was rebuilt in just 12 weeks.

Sustainability: Hydro One understands that improving its performance depends on incorporating sustainability into all aspects of the business.

Hydro One emits certain greenhouse gases, including sulphur hexafluoride or "SF6". There are increasing regulatory requirements and costs, along with attendant risks, associated with the release of such greenhouse gases, all of which could impose additional material costs on Hydro One.

To manage the transitional risk of emitting SF6, in 2018, Hydro One undertook an initiative to investigate the practicality of using mixed gas at our transmission stations. This initiative involves using less than full SF6 gas in gas insulated breakers. If successful, this practice has the potential to reduce potential SF6 releases. The initiative is still ongoing.

(C3.1d) Provide details of your organization's use of climate-related scenario analysis.

N/A

(C3.1e) Disclose details of your organization's low-carbon transition plan.

N/A

(C3.1f) Why are climate-related issues not integrated into your business objectives and strategy?

N/A

C3.1g - Why does your organization not use climate-related scenario analysis to inform your business strategy?

Currently, Hydro One does not use a climate-related scenario analysis method. However, given the importance of forward-looking assessment of climate-related risk, Hydro One is part of the Canadian Electricity Association's (CEA) Sustainable Electricity Program Advisory Panel. The panel's focus is to identify the need for active climate change adaptation management planning across the utility sector. The panel has taken the lead on the development of a template to provide consistency and guidance for member companies as they develop these plans. The purpose of this guidance document is to support the creation of practical, useful climate change adaptation management plans and to ensure a consistent approach across the sector. It outlines a strategic, risk-based framework that can be readily incorporated into existing enterprise risk management (ERM) processes. In the absence of ERM processes, it supports the creation of an adaptation-management process.

The proposed adaptation and planning process is a cyclical and iterative process and requires stakeholder engagement throughout. An understanding of future extreme weather projections is critical for the design and maintenance of infrastructure and for effective emergency response. This document considers key aspects of adaptation planning, including:

- The adaptation process;
- Model selection (including consideration of resolution, time frames, and uncertainty);
- Management of adaptation challenges;
- Examples of observed and projected impacts;
- Process considerations;
- Risk assessment; and
- Adaptation planning cycles.

In 2018, Hydro One began to prepare a climate change adaptation management plan. Furthermore, as part of Hydro One's continuous improvement, we will be looking into the feasibility of using scenario analysis and other forward-looking planning tools in the future.

C4 – Targets and Performances

C4.1 - Did you have an emissions target that was active in the reporting year?

- Absolute target
- Intensity target
- Both absolute and intensity targets
- No target

C4.1a) Provide details of your absolute emissions target(s) and progress made against those targets.

N/A

C4.1b) Provide details of your emissions intensity target(s) and progress made against those target(s).

N/A

C4.1c – Explain why you do not have emissions target and forecast how your emissions will change over the next five years.

Primary reason	Five-year forecast	Please explain
We are planning to introduce a target in the next two years.	Over the next five years, Hydro One will be setting multi-year targets that capture what many business units are already doing. We will begin to assess and quantify these targets and review the effectiveness of initiatives used to achieve the targets.	In 2018, efforts focused on establishing a GHG inventory base year. Some activities included the formation of working groups, improving data collection and reporting systems and establishing GHG governance and accountability. Working groups continued in 2019 to determine potential targets and forecasts based on work programs - considering GHG reduction initiatives and opportunities. It is anticipated that targets and related forecasts will be on a five year time horizon as this aligns with regulated investment planning cycles.

(C4.2) Provide details of other key climate-related targets not already reported in question C4.1/a/b.

Hydro One manages its environmental programs through its combined Health, Safety and Environmental Management System (HSEMS). This system provides a framework to meet compliance obligations and set performance targets and initiatives to manage environmental risks. The company’s HSEMS aligns with industry-leading management and standards, including the ISO 14001:2015 International Standard.

To complement our HSEMS, the company also has an Environmental Policy that was recently updated to

better align with Hydro One’s purpose-driven core values.

Finally, Hydro One’s approach is guided by internal risk analysis, audit findings, regulatory changes and input from its Environment Committee. The company currently has four targeted plans to address top environmental business risks, of which climate change is targeted.

- Climate Change Management Plan - Climate change adaptation and mitigation; SF6 management. In 2018, Hydro One completed the following:
 - More clearly defined accountabilities for climate change, created policy and strategy that identified key actions to adapt/mitigate climate change;
 - Enhanced disclosure reporting of climate change with a goal of continuous improvement; and
 - Strengthened methodologies for gathering baseline data and measuring emissions to create benchmarks/identify emerging risks.

C4.3 - Did you have emissions reduction initiatives that were active within the reporting year? Note that this can include those in the planning and/or implementation phases.

YES

C4.3a - Identify the total number of projects at each stage of development, and for those in implementation stages, the estimated CO2e savings.

	Number of Projects	Total estimated annual CO2e savings in metric tonnes CO2e (only for rows marked *)
Under investigation	15	
To be implemented	3	
Implementation commenced	2	
Implemented	2	
Not to be implemented	1	

C4.3b - Please provide details on the initiatives implemented in the reporting year in the table below.

Activity Type	Restructure SF6 Procedures
<i>Estimated Annual CO2e savings</i> <i>(metric tons CO2e)</i>	N/A
Scope	Scope 1
Voluntary/Mandatory	Voluntary
Annual monetary savings	29,740
Investment required	0
Payback period	1-3 years
Estimated lifetime of the initiative	1-2 years
Comment	Restructure SF6 procedures to improve understanding and consistency in following SF6 gas management procedures.

Activity Type	SF6 Maintenance Program
<i>Estimated Annual CO2e savings</i> <i>(metric tons CO2e)</i>	6,063
Scope	Scope 1
Voluntary/Mandatory	Voluntary
Annual monetary savings	4,128
Investment required	0
Payback period	1-3 years
Estimated lifetime of the initiative	3-5 years
Comment	SF6 Repeat Leakers and High Leakers Repair program - Reduce top-up emissions by enhancing corrective maintenance for equipment with repeat leaks or a high leak rate.

Activity Type	Energy efficiency: Building services - Lighting
<i>Estimated Annual CO2e savings</i> <i>(metric tons CO2e)</i>	31
Scope	Scope 2
Voluntary/Mandatory	Voluntary
Annual monetary savings	N/A
Investment required	0
Payback period	N/A
Estimated lifetime of the initiative	1-2 years
Comment	A lighting retrofit is a simple way to make a building's lighting more energy efficient. Over time, these energy savings may be significant enough to not only pay for the equipment, but also to produce a return on investment. In 2018, we continued to make lighting retrofits and maintenance at our facilities.

C4.3c - What methods do you use to drive investment in emission reduction activities?

Method	Comment
Employee Engagement	Anti-idling campaigns. In 2018, Hydro One completed its education program to its fleet employee regarding reducing idling. Idling engines waste fuel, with a large diesel engine wasting up to one gallon of fuel for each hour it is left idling. Idling also reduces the engine life and the time between maintenance as well as contributing to air pollution.
Employee Engagement	Earth Day was celebrated on April 22, 2018, with the theme of protecting our planet. In 2018, Hydro One released a postcard celebrating Earth Day to all employees.
Employee Engagement	In 2018, Hydro One prepared an educational package titled “Human Change not Climate Change”. The intent was to change/influence human behaviour as it relates to an individual’s carbon footprint and ways to reduce it.

(C4.3d) Why did you not have any emissions reduction initiatives active during the reporting year?

N/A

(C4.4) Does not apply to Hydro One

N/A

C4.5 - Do you classify any of your existing goods and/or services as low-carbon products or do they enable a third party to avoid GHG emissions?

No

C5 – Emissions Methodology

C5.1 - Provide your base year and base year emissions (Scopes 1 & 2)

Scope	Base Year Start (DD/MM/YYYY)	Base Year End (DD/MM/YYYY)	Base year emissions (metric tonnes CO ₂ e) ⁵	Comment
Scope 1	01/01/2018	31/12/2018	119,455	Scope 1 emissions include all direct GHG emissions. Direct emissions occur from sources that Hydro One owns or controls. For the 2018 reporting period, Hydro One reported on fuel usage and SF6 releases.
Scope 2 (location based)	01/01/2018	31/12/2018	98,631	Scope 2 emissions include indirect electricity GHG emissions. Scope 2 accounts for GHG emissions from electricity purchased by Hydro One and from line losses that occur during the transmission and distribution of electricity over the grid.
Scope 2 (market based)				

C5.2a - Select the name of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.

- Environment Canada, sulphur hexafluoride (SF6) Emissions Estimation and Reporting Protocol for Electric Utilities
- IPCC Guidelines for National Greenhouse Gas Inventories, 2014
- ISO 14064-1
- The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition)
- Canada's National Inventory Report 1990-2017
- Greenhouse Gas Emissions: Quantification, Reporting and Verification Regulation (O.Reg.390/18)

⁵ Emissions reporting period is from January 1, 2018 to December 31, 2018 and only includes emissions from Hydro One Networks Inc.

C5.2a - Provide details of the standard, protocol, or methodology you have used to collect activity data and calculate Scope 1 and Scope 2 emissions.

Hydro One follows the operational control approach for its GHG emissions reporting and has developed an internal standard document (SP 1612 Green Gas Management), which outlines Hydro One's approach and accountability framework for the management, use of greenhouse gas (GHG), quantification, tracking, and reporting of GHG emissions.

In accordance with *The GHG Protocol: A Corporate Accounting and Reporting Standard* and ISO 14061-1:2006 Specification with Guidance at the Organization Level, Hydro One ensures that all GHG accounting and reporting will be based on the following principles: relevance, completeness, consistency, transparency and accuracy. In addition, SP 1612 details how certain reports are calculated for Hydro One's mandatory reporting (Ontario Regulation 390/18) and voluntary GHG reporting (e.g. Carbon Disclosure Project, Sustainability Report, etc.).

Environmental Services collects data from the lines of business using agreed formats which are found in Appendix C of SP 1612. Environmental Services may ask for further information regarding particular data sets or clarification on how data was collected to support data quantification and verification process.

The following procedure subsections describe the procedure for calculating GHG emissions associated with the GHG sources. The emission factors (EF) and global warming potentials (GWP) used for each source depend on the type of reporting that the information is required for.

Scope 1: Mobile Combustion from Fleet Services. Fleet data is pulled from their telematics program and their card program to collect all fleet data from each individual piece of equipment.

Scope 1: Stationary Combustion sources include consumption from the use of natural gas, propane and heating fuel oil. Station combustion sources data is provided by our Facilities Services.

Scope 1: SF6 emissions calculations following the direct measurement methodology are captured through station paper logs, SAP, decommissioned equipment reports, and through email.

Scope 2: Facilities Services also tracks all of the electricity consumed at our various facilities through excel. The spreadsheet is then sent to the quantifier (Environmental Services) to calculate the total emissions from electricity use.

Scope 2: Environmental Services retrieves the transmission and distributions line losses from Regulatory Affairs. Line losses include losses associated with electricity transmission and distribution, plus system losses associated with non-metered facilities such as distribution stations. GHG emissions from distribution losses are calculated based on total units distributed to customers.

C6 – Emissions Data

C6.1 - What were your organization's gross global Scope 1 emissions in metric tonnes CO2e?

Gross global Scope 1 emissions (metric tons CO2e)	Comment
119,455	<p>Scope 1, or Direct Emissions, refers to emissions from operations by the reporting organization. In Hydro One’s case, we generate direct emissions by operating vehicles during the normal course of business, and from sulphur hexafluoride (SF6) release from our equipment. SF6 gas is used as an insulating medium in high voltage circuit breakers and gas-insulated switchgear.</p> <p>In 2018 Hydro One continued to make improvements to its SF6 data collection, storage program and tracking system. These improvement measures allow for more accurate tracking of SF6 potential releases within Hydro One, and contribute to establishing baseline data for potential future objectives and targets.</p>

C6.2 - Describe your organization's approach to reporting Scope 2 emissions.

Scope 2, Location based	Scope 2, Market based	Comment
We are reporting a Scope 2, location based figure.	n/a	<p>Scope 2 emissions include indirect electricity GHG Emissions. Scope 2 accounts for GHG emissions from electricity purchased by Hydro One and from line losses that occur during the transmission and distribution of electricity over the grid.</p> <p>Hydro One’s Facilities Department tracks all of the electricity consumed by facilities.</p> <p>Line losses include losses associated with electricity transmission and distribution, plus system losses associated with non-metered facilities such as distribution stations.</p>

C6.3 - What were your organization's gross global Scope 2 emissions in metric tons CO2e?

Scope 2, Location based	Scope 2, Market based	Comment
98,631	n/a	In 2018, line losses accounted for 99.2% of Scope 2 emissions.

C6.4 - Are there any sources (e.g. facilities, specific GHGs, activities, geographies, etc.) of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure?

Yes

C6.4a - Provide details of the sources of Scope 1 and Scope 2 emissions that are within your selected reporting boundary which are not included in your disclosure

Source	Relevance of Scope 1 emissions from this source	Relevance of location-based Scope 2 emissions from this source	Relevance of market-based Scope 2 emissions from this source (if applicable)	Explain why the source is excluded
Equipment Fuel Consumption	Emissions are relevant but not yet calculated	No emissions from this source	No emissions from this source	Small equipment (e.g. chainsaws, portable fuel containers) may be filled when staff are fueling large vehicles, which would be captured as part of fleet emissions. Small equipment fuel usage is not captured for emissions reporting.
Electricity	No emissions from this source	Emissions are relevant but not yet calculated	No emissions from this source	The majority of the electricity consumption was included in Scope 2 emissions. However, not all data was available, but best efforts were made to capture a representative sample for the 2018 reporting period. In 2018, Hydro One Facilities Department continued to work on reviewing data collection procedures.

C6.5 - Account for your organization's Scope 3 emissions, disclosing and explaining any exclusions.

Sources of Scope 3 emissions	Evaluation Status	Metric ton CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Purchased goods and services	Relevant, not yet calculated				Reporting of paper purchases was previously reported, but it was determined immaterial when compared to financial spend on other purchased goods and services. Efforts in 2019 will be to identify top-tier suppliers of purchased goods and services, and to develop a plan to determine related Scope 3 GHG emissions.
Capital Goods	Relevant, not yet calculated				Efforts in 2019 will include identifying top-tier suppliers of capital goods and a plan to determine related Scope 3 GHG emissions.
Fuel and Energy Related Activities (not included in Scope 1 or 2)	Relevant, not yet calculated				Efforts in 2019 will include identifying top-tier suppliers of capital goods and a plan to determine related Scope 3 GHG emissions.
Upstream Transportation and Distribution	Relevant, not yet calculated				Hydro One is in the process of reviewing its procedure to determine a strategy and action plan to access Scope 3 emissions.
Waste Generated in Operations	Relevant, not yet calculated				Efforts in 2019 will include a plan and methodology to determine waste-related Scope 3 GHG emissions.
Business Travel	Relevant, calculated	1.020	Activity data (short, medium and long haul flights, distance, and number of nights) is collected and multiplied against relevant emissions factors and global warming potential. Protocols used include the GHG Protocol Corporate Standard and in the absence of Ontario specific protocols, the BC Best Practices Methodology for Quantifying Greenhouse Gas Emissions was used.	100%	Hydro One's established process to acquire activity data for air travel (short, medium, long-haul flight kms), business use of personal vehicles (km) and overnight accommodations (number of nights).
Employee Commuting	Relevant, not yet calculated				Employee commuting is currently not included as a Scope 3 emissions inventory. This will be revisited as the GHG program matures.
Upstream Leased Assets	Not relevant, explanation provided				Upstream leased assets are not included in the Scope 3 emissions inventory. This will be revisited as the GHG program matures.
Downstream Transportation and Distribution	Not relevant, explanation provided				Downstream transportation and distribution are not included in the Scope 3 emission inventory. This will be revisited as the GHG program matures.
Processing of Sold Products	Not relevant, explanation provided				Hydro One does not generate/create any product. Hydro One transmits and distributes electricity.

Sources of Scope 3 emissions	Evaluation Status	Metric ton CO2e	Emissions calculation methodology	Percentage of emissions calculated using data obtained from suppliers or value chain partners	Explanation
Use of Sold Products	Not relevant, explanation provided				Hydro One currently does not generate products.
End of Life Treatment of Sold Products	Not relevant, explanation provided				Hydro One currently does not generate products.
Downstream Leased Assets	Not relevant, explanation provided				Downstream leased assets are not included in Scope 3 emissions inventory. This will be revisited as the GHG program matures
Franchises	Not relevant, explanation provided				Hydro One does not have any franchises.
Investments	Not relevant, explanation provided				Not applicable
Other (upstream)	Not relevant, explanation provided				Not applicable
Other (downstream)	Not relevant, explanation provided				Not Applicable

C6.7 - Are carbon dioxide emissions from biologically sequestered carbon relevant to your organization?

No

C6.10 - Describe your gross global combined Scope 1 and 2 emissions for the reporting year in metric tons CO2e per unit currency total revenue and provide any additional intensity metrics that are appropriate to your business operations.

Intensity Figure	N/A
Metric numerator	N/A
Metric denominator	Unit total revenue
Metric denominator: Unit total	N/A
Scope 2 figure used	Location-based
% change from previous year	N/A
Direction of change	N/A

Reason for change	N/A
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C7 – Emissions Breakdown

C7.1 - Does your organization have greenhouse gas emissions other than carbon dioxide?

Yes

C7.1a - Break down your total gross global Scope 1 emissions by greenhouse gas type and provide the source of each used greenhouse warming potential (GWP).

Greenhouse Gas	Scope 1 emissions (metric tons of selected GHG, in CO2e)	GWP Reference
CO2	63,306	IPCC Fifth Assessment Report, 2014 (AR5)
CH4	218	IPCC Fifth Assessment Report, 2014 (AR5)
N2O	664	IPCC Fifth Assessment Report, 2014 (AR5)
SF6	55,189	IPCC Fifth Assessment Report, 2014 (AR5)
R-22	78	IPCC Fifth Assessment Report, 2014 (AR5)

C-EU-7.1b - Break down your total gross global Scope 1 emissions from electric utilities value chain activities by greenhouse gas type.

Emissions Sources	Gross Scope 1 carbon dioxide emissions (metric tons CO2)	Gross Scope 1 methane emissions (metric tons CH4)	Gross Scope 1 SF6 emissions (metric tons SF6)	Gross Scope 1 emissions (metric tons CO2e)	Comment
Fugitives	0	0	2,349	55,189	SF6 gas is used as an insulating medium in high voltage circuit breakers and gas-insulated switchgear. Refrigerants (R-22) are used in some of the equipment. Releases are minimal but have been captured.
Combustion (Electric utilities)	0	0	0	0	This is captured under Scope 2 emissions. Scope 2 emissions include indirect electricity GHG Emissions. Scope 2 accounts for GHG emissions from the generation of electricity purchased by Hydro One. Hydro One reports on electricity purchases and its line losses.
Combustion (Gas Utilities)	5,104	0.10	0	5,132	Hydro One is Ontario's largest electricity transmission and distribution provider. Hydro One has a number of offices, service centres, and garages that use natural gas heating. Emissions from the use of natural gas heating have been quantified here.

Emissions Sources	Gross Scope 1 carbon dioxide emissions (metric tons CO ₂)	Gross Scope 1 methane emissions (metric tons CH ₄)	Gross Scope 1 SF ₆ emissions (metric tons SF ₆)	Gross Scope 1 emissions (metric tons CO ₂ e)	Comment
Combustion (Other)	57,865	8	0	58,709	Hydro One generates direct emissions by operating vehicles during the normal course of business.
Emissions not elsewhere classified	0	0	0	0	Emissions have been captured above.

C7.2 - Break down your total gross global Scope 1 emissions by country/region.

Country	Scope 1 emissions
Canada	119,455

C7.3 - Indicate which gross global 1 emissions breakdowns you are able to provide.

By Activity

C7.3b - Break down your total gross Scope 1 emissions by business facility.

Facility	Scope 1 emissions (metric tons CO ₂ e)
Fleet	58,709
Equipment (SF ₆)	55,189
Equipment (R-22)	78
Facilities	5,480

C-EU-7.4 - Break down your organization’s total gross global Scope 1 emissions by sector production activity in metric tons CO2e.

	Gross Scope 1 emissions, metric tons CO2e	Comments
Electric utility generation activities	0	Hydro One does not have any electric utility generation activities. Hydro One transmits and distributes electricity.

C7.5 - Break down your total gross global Scope 2 emissions by country/region.

Country	Scope 2, location-based (metric tons CO2e)	Scope 2, market-based (metric tons CO2e)	Purchased and consumed electricity, heat, steam or cooling (MWh)	Purchased and consumed low-carbon electricity, heat, steam or cooling accounted in market-based approach (MWh)
Canada	98,631	0	45,316	5,576,282

Comment:

Hydro One is Ontario’s largest electricity transmission and distribution provider. Scope 2, or Indirect Energy Emissions, refers to emissions from the consumption of purchased electricity, heat or steam by an organization. Examples include buying electricity to heat and cool buildings, and line losses (when electricity is delivered over a power line, a small amount of power is normally consumed or lost as heat). Scope 2 Emissions are not directly controlled by Hydro One, and are subject to the generation mix and dispatch, the flow of electricity through the Ontario grid from generation sources to load customers and other jurisdictions, and the demand profiles for electricity. For Hydro One, we report on electricity purchases and our transmission and distribution line losses.

C7.6 - Indicate which gross global Scope 2 emissions breakdowns you are able to provide.

By Activity

C7.6B - Break down your total gross global Scope 2 emissions by business facility.

Activity	Scope 2 location-based emissions (metric tons CO2e)	Scope 2 market-based emissions (metric tons CO2e)
Electricity Consumed	795	0
Transmission Line Losses	59,957	0
Distribution Line Losses	37,879	0

C7.9 - How do your gross global emissions (Scope 1 and 2 combined) for the reporting year compare to those of the previous reporting year?

Decreased

C7.9a - Identify the reasons for any change in your gross global emissions (Scope 1 and 2 combined) and for each of them specify how your emissions compare to the previous year.

	Change in emissions (metric tons CO2e)	Direction of change	Emission value (percentage)	Please explain calculation
Other emissions reduction activities				
Change in physical operating conditions	123,928	Decrease	-36%	The amount of fuel used remained relatively constant; however a combination of revision to emission factor and GWP lead to a decrease in tCO2e.

C7.9b - Are your emissions performance calculations in C7.9 and C7.9a based on a location-based Scope 2 emissions figure or a market-based Scope 2 emissions figure?

- Location-based
- Market-based
- Don't know

C8 – Energy

C8.1 - What percentage of your total operational spend in the reporting year was on energy?

More than 0% but less than or equal to 5%.

C8.2 - Select which energy-related activities your organization has undertaken.

	Indicate whether your organization undertakes this energy-related activity
Consumption of fuel (excluding feedstocks)	Yes
Consumption of purchased or acquired electricity	Yes
Consumption of purchased or acquired heat	Yes
Consumption of purchased or acquired steam	No
Consumption of purchased or acquired cooling	Yes
Generation of electricity, heat, steam, or cooling	No

C8.2a – Report your organization’s energy consumption totals (excluding feedstocks) in MWh.

	Heating value	MWh from renewable sources	MWh from non-renewable courses	Total MWh
Consumption of fuel (excluding feedstock)				
Consumption of purchases or acquired electricity				
Consumption of purchased or acquired heat				
Consumption of purchased or acquired cooling				
Total energy consumption				

C8.2b – Select the applications of your organization’s consumption of fuel.

	Indicate whether your organization undertakes this fuel application
Consumption of fuel for the generation of electricity	No
Consumption of fuel for the generation of steam	No
Consumption of fuel for the generation of cooling	No
Consumption of fuel for co-generation or tri-generation	No

C8.2c – State how much fuel in MWh your organization has consumed (excluding feedstocks) by fuel type.

Fuels (excluding feedstocks)		
Heating value		
Total fuel MWh consumed by the organization		

C8.2f – Provide details on the electricity, heat, steam and/or cooling amounts that were accounted for at a low-carbon emission factor in the market-based Scope 2 figure reported in C6.3.

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C-EU8.4 - Does your electric utility organization have a global transmission and distribution business?

Yes

C-EU8.4a - Disclose the following information about your global transmission and distribution business.

Country/Region	Canada	Canada
Voltage level	Transmission (high voltage)	Distribution (low voltage)
Annual load (GWh)		
Scope 2 emissions (basis)	Location-based	Location-based
Scope 2 emissions (metric tons CO₂e)	59,957	37,879
Annual energy losses (% of annual load)	2.7%	1.7%
Length of network (km)	30,000	123,000
Number of connections		
Area covers (km²)	807,000	807,000
Comment	Hydro One covers 75% of the geographic area of Ontario.	Hydro One covers 75% of the geographic area of Ontario.

C9 – Additional metrics

C9.1 - Provide any additional climate-related metrics relevant to your business.

Description	Land use
Metric value	
Metric numerator	
Metric denominator (intensity metric only)	
% change from previous year	
Please explain	
Comment	<p>In 2018, Hydro One continued to upgrade some of its buildings to be more energy efficient, and pilot programs were started to see if implementation across the company would be ideal. Some of these initiatives include:</p> <ul style="list-style-type: none"> • Upgrade of lighting and building sensors to LED fixtures; and • Thermostats set to an optimal temperature of 21 C and upgrade to smart thermostats. <p>Hydro One will continue to investigate and test these initiatives throughout 2019 and to set defined metrics going forward.</p>

C-EU9.6 - Disclose your investments in low-carbon research and development (R&D), equipment, products, and services.

Investment start date	01/01/2017	06/01/2017
Investment end date		
Investment area	R&D	Equipment
Technology area	Other - GHG Reduction Initiative	Other – Electrification of Fleet
Investment maturity	Applied research and development	Pilot demonstration
Investment figure		
Low-carbon investment percentage		
Please explain	Hydro One is currently working with its major suppliers on environmentally friendly alternatives to SF6. The initial results are promising; however, there is not a readily available product with at least five years of successful service experience that also meets Hydro One requirements and/or is also commercially available. All developed products are in a pilot stage with a maximum of three years in-service experience.	In the summer of 2017, Hydro One put a hybrid bucket truck into service, starting a conversation regarding the electrification of our fleet. Due to the robust nature of our business and being a province-wide company, using electric vehicles may not be the best choice currently. Hydro One will continue to review and monitor the electric vehicle market and will consider switching our fleet when there is an option available that will meet the demands of our current business.

C10 – Verification

C10.1 - Indicate the verification/assurance status that applies to your reported emissions.

	Verification/assurance status
Scope 1	Third-party verification or assurance process in place
Scope 2 (location-based or market-based)	Third-party verification or assurance process in place
Scope 3	No emissions data provided

C10.2 - Do you verify any climate-related information reported in your CDP disclosure other than the emissions figures reported in C6.1, C6.3, and C6.5?

No, we are waiting for more mature verification standards and/or processes.

C11 – Carbon Pricing

C11.1 - Are any of your operations or activities regulated by a carbon pricing system (i.e. ETS, Cap & Trade or Carbon Tax)?

No

C11.2 - Has your organization originated or purchased any project-based carbon credits within the reporting period?

No

C11.3 - Does your organization use an internal price on carbon?

No, but we do not anticipate doing so in the next two years.

C12 – Engagement

C12.1 - Do you engage with your value chain on climate-related issues?

- Yes, our suppliers
- Yes, our customers
- Yes, other partners in the value chain
- No, we do not engage

C12.1b - Give details of your climate-related engagement strategy with your customers.

Type of engagement	Collaboration & innovation
Details of engagement	Other – please provide information in column 5
Size of engagement	
% Scope 3 emissions as reported in C6.5	
Please explain the rationale for selecting this group of customers and scope of engagement.	Hydro One participated in multiple province-wide initiatives that provide conservation programs for home and business to help them manage their electricity usage. These programs included but were not limited to new construction, home assistance, heating and cooling, small business lighting, retrofits, audit funding, process and system upgrades, existing building commissioning, business refrigeration incentive, and smart thermostats. Hydro One also participated in Deal Days twice a year (once in the spring and once in the fall). Deal Days were a month long promotion when customers could stock up and save on LEDs, power bars, dimmer switches and more Energy Star certified products, without a coupon, in participating stores. Customers saved not only when making a purchase but also by reducing their electricity usage year-round.
Impact of engagement, including measures of success	To date, Hydro One has achieved energy savings of 1,012 GWh, representing 83% of its six year total target (1,221 GWh reduction during 2015-2020). The mid-term target (to end of 2017) of 611 GWh was exceeded with energy savings of 987 GWh (IESO verified report June 2018).

C12.1c - Give details of your climate-related engagement strategy with other partners in the value chain.

Hydro One educates its employees about doing their part to help reduce climate change through multiple initiatives and programs. The Greener Choices program is Hydro One's internal environmental sustainability program that embeds the principles of energy efficiency, climate change, environmental impact reduction, and employee awareness into our operations and through each line of business. Hydro One takes part in National Sweater Day, Earth Hour and Earth Week, and Waste Reduction Week

throughout the year. Hydro One is always encouraging its employees to make greener choices whether at work or at home.

In 2018, Hydro One used its telematics reporting to approach employees to have them look at changing their driving habits. The information in the Telematics report indicates hard braking and power take off of the vehicle, as well as the amount of idle time and the speed at which the vehicle travels. Hydro One expects further decreases in emissions from its fleet by changing the driving behavior of its employees.

Hydro One also provides mandatory training to those employees who are involved with SF6 activities. One course discusses how to properly report SF6 emissions (which is broken up into two sections: (1) general/environmental information and (2) employee reporting), and the other discusses how to use the SF6 gas maintenance carts. There are also other internal documents related to SF6 that are periodically reviewed by crews and their supervisors. By ensuring that our employees have full knowledge and training on our highest emission factors, we can make sure they are doing their part to reduce the emissions from this gas.

There have also been communications with Ontario Power Generation Inc. (OPG) and the Canadian Standards Association (CSA) regarding proposed updates to the Canadian Electrical Code (CEC) to address climate change impacts.

C12.3 - Do you engage in activities that could either directly or indirectly influence public policy on climate-related issues through any of the following?

- Direct engagement with policy makers
- Trade associations
- Funding research organizations
- Other
- No

C12.3a - On what issues have you been engaging directly with policy makers?

Focus of Legislation	Corporate position	Details of engagement	Proposed legislative solution
Adaptation or resilience	Support	Hydro One engaged with the Canadian Standards Association (CSA) to participate in the proposed updates to the Canadian Electrical Code (CEC) to address climate change impacts.	Hydro One supports the CSA in its review of the CEC as the climate change impacts directly affects the reliability of Hydro One's daily operations.
Regulation	Support	Hydro One engaged with the provincial government through the Environmental Registry. The Environmental Registry contains "public notices" about environmental matters being proposed by all government ministries covered by the Environmental Bill of Rights. The public notices may contain information about proposed new laws, regulations, policies and programs, or about proposals to change or eliminate existing ones. The Environmental Registry allows participation in decisions that affect the environment.	Hydro One provided comments and feedback regarding the: <ul style="list-style-type: none"> - Cancellation of the Cap and Trade program. - November 29, 2018 Made in Ontario Environment Plan.

C12.3b - Are you on the board of any trade associations or do you provide funding beyond membership?

YES

C12.3c - Enter the details of those trade associations that are likely to take a position on climate change legislation.

Trade Association	Canadian Electrical Association (CEA)	Independent Electricity System Operator (IESO)
Is your position on climate change consistent with theirs?	Consistent	Consistent
Please explain the trade association's position.	<p>The CEA has taken a strong stand on climate change, realizing that GHG emissions are expected to rise and that the long-term climate change trend is clear. They believe that all Canadians have a role to play in preparing for climate change and that plans for adaptive measures must happen now, as the cost of inaction will surpass the cost of adaptation.</p> <p>The CEA sees the need for proactive climate change risk management as a business imperative for Canadian electricity companies. This has led to the creation of the CEA's Climate Change Adaptation Guide. This guide provides consistency and guidance for their member companies as they develop climate adaptation plans. It outlines a strategic, risk-based framework that can be readily incorporated into existing enterprise risk management (ERM) processes. In the absence of ERM processes, the CEA supports the creation of an adaptation-management process.</p>	<p>The IESO is in charge of balancing the supply and demand for electricity and is responsible to direct its flow across Ontario's high-voltage transmission lines to ensure it is available to consumers when and where they need it. The IESO coordinates province-wide conservation efforts compliant with Ontario's Conservation First Framework to reduce electricity consumption by 7.4 terawatt-hours (TWh) by the end 2020. The IESO also oversees the Climate Change Action Plan for Ontario and ensures that electricity companies are doing their part to meet reduction targets.</p>
How have you, are you attempting to influence the position?	Hydro One has been influencing this position through being a member of this organization and by following the requirements set out by the CEA.	Hydro One has been influencing this position through being a member of this organization and by following the requirements set out by the Long Term Energy Plan and the Conservation First Framework.

C12.3f - What processes do you have in place to ensure that all of your direct and indirect activities that influence policy are consistent with your overall climate change strategy?

Hydro One currently does not have any processes in place other than ensuring regulations set out by the provincial and federal governments are being followed. Further activities will be developed as our Climate Change Strategy and Action Plans take a more finalized path.

C12.4 - Have you published information about your organization’s response to climate change and GHG emissions performance for this reporting year in places other than in your CDP response? If so, please attach the publication(s).

Publication	Status	Attach the Document	Content Elements
In voluntary sustainability report	Underway – previous year attached	Corporate Social Responsibility Report	Risks & Opportunities Emissions figures
In other regulatory filings	Complete	Annual Report	Governance Strategy

C14 – Signoff

C-FI - Use this field to provide any additional information or context that you feel is relevant to your organization's response. Please note that this field is optional and is not scored.

Forward-Looking Information

This report contains forward-looking statements that are based on current expectations, estimates, forecasts and projections about our business and the industry in which we operate, and include beliefs and assumptions made by the management of our company. Words such as “expect” and “will” are intended to identify such forward-looking statements. These statements are not guarantees of future performance and involve assumptions and risks and uncertainties that are difficult to predict. Therefore, actual outcomes and results may differ materially from what is expressed, implied or forecasted in such forward-looking statements. We do not intend, and we disclaim any obligation, to update any forward-looking statements, except as required by law.

C14.1 - Provide details for the person that has signed off (approved) your CDP climate change response.

Job Title	Corresponding job category
Chief Operating Officer (COO)	Chief Operating Officer (COO)

Comment: