

SPECIFIC STANDARD DISCLOSURE

Environment

NO.	MANAGEMENT APPROACH AND INDICATORS	REFERENCES AND NOTES	COMMENTS
<i>Disclosures on management approach</i>			
	Generic disclosures on management approach	<ul style="list-style-type: none"> • Sustainability Report 2016, p. 57 (Environmental management systems), p. 18-23 (Governance), p. 51-59 (Our contribution to climate stabilization and environmental protection) • Our policies (Our environment – in French only) • Policy and declaration of environmental principles • Senior Management organization chart 	
ASPECT: MATERIALS			
<i>Disclosures on management approach</i>			
	Specific disclosures on management approach (Electric Utility Sector Disclosures) Describe the long-term strategy for managing and phasing out high-level and low-level in-service PCBs.	Hydro-Québec manages equipment that contains PCBs in compliance with the PCB Regulations and the company's hazardous waste management plan. Removal of PCB-contaminated equipment complies with the schedule in the Regulations and will be	

NO.	MANAGEMENT APPROACH AND INDICATORS	REFERENCES AND NOTES	COMMENTS
		completed in 2025.	
G4-EN1	Materials used, by weight or volume Report in-use inventory of solid and liquid high-level and low-level PCBs contained in equipment. (sector disclosure).	<ul style="list-style-type: none"> • Environmental impact management (Sustainability) 	Hydro-Québec does not measure the weight or volume of the raw materials used due to the extent of information required.
G4-EN2	Percentage of materials used that are recycled input materials	<ul style="list-style-type: none"> • Environmental impact management (Sustainability) 	Hydro-Québec does not measure the weight or volume of the raw materials used due to the extent of information required.
ASPECT: ENERGY			
G4-EN3	Energy consumption within the organization	<ul style="list-style-type: none"> • Sustainability Report 2016, p. 45 (Meeting energy needs) • Power generation, purchases and exports • Direct energy sources purchased [PDF] 	
G4-EN4	Energy consumption outside of the organization	Electricity purchases: 99% renewables or nuclear energy, 0.53% fossil fuels (110,732 GJ). The lack of data on fossil fuels used by our suppliers means the	

NO.	MANAGEMENT APPROACH AND INDICATORS	REFERENCES AND NOTES	COMMENTS
		<p>following breakdown is an estimate only: coal, 14%; natural gas, 82%; fuel oil, 4.1%.</p> <ul style="list-style-type: none"> • Sustainability Report 2016, p. 45 (Meeting energy needs) • Power generation, purchases and exports • Hydro-Québec's energy supplies and air emissions for 2016 [PDF] 	
G4-EN5	Energy intensity	<ul style="list-style-type: none"> • Power generation, purchases and exports • Energy intensity [PDF] 	
G4-EN6	Reduction of energy consumption	<ul style="list-style-type: none"> • Sustainability Report 2016, p. 15, p.26 (Our main challenges), p. 27 (Action 3 – Continue energy efficiency initiatives), p. 41-44 (Energy efficiency) 	
ASPECT: WATER			
<i>Disclosures on management approach</i>			
Specific disclosures on management approach (Electric Utility Sector Disclosures)		<ul style="list-style-type: none"> • Sustainability Report 2016, p. 58-59, p.61 	
G4-EN8	<p>Total water withdrawal by source</p> <ul style="list-style-type: none"> • Report overall water usage for processing, cooling and consumption in thermal and nuclear power plants, including use of water in ash handling and coal cleaning (Electric Utility Sector Disclosures). 	<ul style="list-style-type: none"> • Sustainability Report 2016, p. 15 (Water withdrawals) • Declaration of water withdrawals 	

NO.	MANAGEMENT APPROACH AND INDICATORS	REFERENCES AND NOTES	COMMENTS
ASPECT: BIODIVERSITY			
<i>Disclosures on management approach</i>			
	Specific disclosures on management approach (Electric Utility Sector Disclosures) Report approaches for pest and vegetation management along transmission and distribution corridors (e.g., use of Integrated Pest Management and Integrated Vegetation Management).	<ul style="list-style-type: none"> • Sustainability Report 2016, p. 29 (Action 8), p. 56, p. 36-38 and 49-50 (Project portfolio) • Vegetation, safety and power lines 	
G4-EN11	Operational sites owned, leased, managed in or adjacent to protected areas and areas of high biodiversity value outside protected areas	Hydro-Québec operates 34,000 km of transmission lines and 115,500 km of distribution lines that cross farmland, forests, residential districts and urban areas. To control vegetation in these line rights-of-way, we have adopted a number of environmental strategies that take into account the type of land involved. To supply its hydroelectric generating fleet, the company also operates 27 large reservoirs, with a total area of 23,000 km ² . As at December 31, 2016, Québec's network of protected areas covered 152,778 km ² , representing 9.16% of the province's total surface area. Hydro-Québec works closely with the government to harmonize the creation of new	

NO.	MANAGEMENT APPROACH AND INDICATORS	REFERENCES AND NOTES	COMMENTS
		<p>protected areas with energy development in Québec. As at December 2016, the company calculated a total area of 2,241 km² owned, leased or managed in protected areas or identified sensitive areas as well as 1,371,188 km² in adjacent areas (i.e. located less than 500 m from a protected area).</p> <ul style="list-style-type: none"> • Sustainability Report 2016, p. 5, 56 • Hydro-Québec Production (Generating facilities) • Generating stations under construction (maps, project fact sheets or Web sites) • Biodiversity Performance Report – 2016 [PDF] 	
G4-EN12	<p>Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas</p> <ul style="list-style-type: none"> • Report the nature of significant direct and indirect impacts on biodiversity in protected areas and areas of high biodiversity value outside protected areas (sector disclosure). 	<ul style="list-style-type: none"> • Sustainability Report 2016, p. 56, p. 36-38 and 49-50 (Project portfolio), • Environmental impact management (Protecting biodiversity) • Generating stations under construction (maps, project fact sheets or Web sites) • Romaine complex – Environmental impact statement (volumes 3 and 4) 	

NO.	MANAGEMENT APPROACH AND INDICATORS	REFERENCES AND NOTES	COMMENTS
		(in French only)	
G4-EN13	Habitats protected or restored	<ul style="list-style-type: none"> • Sustainability Report 2016, p. 56, p. 36-38 and 49-50 (Project portfolio), p. 78 • Generating stations under construction (maps, project fact sheets or Web sites) • Fondation Hydro-Québec pour l'environnement Annual Report 2016 • Biodiversity Performance Report – 2016 [PDF] 	<p>The surface area and location of protected or restored habitats are detailed in the impact statements and follow-up studies.</p> <p>The standards, methodologies and assumptions used are not mentioned.</p>
G4-EN14	Total number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	<ul style="list-style-type: none"> • Sustainability Report 2016, p. 5 (map of major facilities) p. 56, p. 36-38 and 49-50 (Project portfolio) • Generating stations under construction (maps, project fact sheets or Web sites) • Biodiversity Performance Report – 2016 [PDF] 	
EU13	Biodiversity of offset habitats compared to biodiversity of the affected areas	<ul style="list-style-type: none"> • Sustainability Report 2016, p.58-59 (Mitigation measures and environmental follow-ups) • Biodiversity Performance 	

NO.	MANAGEMENT APPROACH AND INDICATORS	REFERENCES AND NOTES	COMMENTS
		Report – 2016 [PDF]	
ASPECT: EMISSIONS			
G4-EN15	<p>Direct greenhouse gas (GHG) emissions (Scope 1)</p> <ul style="list-style-type: none"> • Report CO₂e per MWh, broken down by regulatory regime, for: <ul style="list-style-type: none"> ○ Net generation from all generating capacity ○ Net generation from thermal facilities ○ Estimated net delivery to end users (Electric Utility Sector Disclosures) 	<p>Emission data was calculated using site-specific data with the emission factors laid out either in Québec regulations or in the Environment Canada National Inventory Report. All GHGs were included in the calculations. Hydro-Québec has no biogenic GHG emissions. The operation control approach of ISO standard 14064-1 was used for calculations. The global warming potential rates used were from the IPCC's AR4.</p> <p>In 2016, Hydro-Québec reported HFC spills for a total of a 270 kg and 16 SF6 spills for a total of 296 kg. Of the SF6 spills, there were two concomitant CF4 spills (28 kg).</p> <ul style="list-style-type: none"> • Sustainability Report 2016, p.15 (Environmental indicators), p. 25 (Our main challenges), p.38 – Action 3, 	

NO.	MANAGEMENT APPROACH AND INDICATORS	REFERENCES AND NOTES	COMMENTS
		<p>p.51 (Reduction in emissions since 1990), p.53, p.55 (GHG emissions from Hydro-Québec operations)</p> <ul style="list-style-type: none"> • Hydro-Québec's energy supplies and air emissions for 2016 [PDF] • Characteristics of electricity generated and purchased by Hydro-Québec – 2015 data [PDF] 	
G4-EN16	<p>Energy indirect greenhouse gas (GHG) emissions (Scope 2)</p> <ul style="list-style-type: none"> • Report CO2e per MWh, broken down by regulatory regime, for: <ul style="list-style-type: none"> ○ Estimated net delivery to end users (Electric Utility Sector Disclosures) 	<p>CO2, CH4 and N2O were included in calculations when the emission factors for our electricity purchases were available. Hydro-Québec has no biogenic GHG emissions. The operation control approach of ISO standard 14064-1 was used for calculations. The global warming potential rates used were from the IPCC's AR4.</p> <ul style="list-style-type: none"> • Sustainability Report 2016, p.51 (Reduction in emissions since 1990), p.55 (GHG emissions from Hydro-Québec operations) • Hydro-Québec's energy supplies and air emissions for 2016 [PDF] • Characteristics of electricity generated and purchased by 	<ul style="list-style-type: none"> •

NO.	MANAGEMENT APPROACH AND INDICATORS	REFERENCES AND NOTES	COMMENTS
		Hydro-Québec – 2015 data [PDF]	
G4-EN17	<p>OTHER INDIRECT GREENHOUSE GAS EMISSIONS (SCOPE 3)</p> <p>a. Report gross other indirect (Scope 3) GHG emissions in metric tons of CO2 equivalent, excluding indirect emissions from the generation of purchased or acquired electricity, heating, cooling, and steam consumed by the organization (these indirect emissions are reported in Indicator G4-EN16). Exclude any GHG trades, such as purchases, sales, or transfers of offsets or allowances.</p> <p>b. Report gases included in the calculation, if possible.</p> <p>c. Report biogenic CO2 emissions in metric tonnes of CO2 equivalent separately from gross other indirect (Scope 3) GHG emissions.</p> <p>d. Report other indirect (Scope 3) emissions categories and activities included in the calculation.</p> <p>e. Report the chosen base year, the rationale for choosing the base year, emissions in the base year, and the context for any significant changes in emissions that triggered recalculations of base year emissions.</p> <p>f. Report standards, methodologies, and assumptions used.</p> <p>g. Report the source of the emission factors used and the global warming potential (GWP) rates used or a reference to the GWP source, if available.</p>	<p>CO2, CH4 and N2O were taken into account for our main level-3 indirect GHG emissions. Hydro-Québec has no biogenic GHG emissions. The operation control approach of ISO standard 14064-1 was used for calculations. The global warming potential rates used were from the IPCC's AR4.</p> <ul style="list-style-type: none"> • Sustainability Report 2016, p.51 (Reduction in emissions since 1990), p.55 (GHG emissions from Hydro-Québec operations) 	
G4-EN18	Greenhouse gas (GHG) emissions intensity	<p>GHG emissions intensity (levels 1 and 2) was 0.0016 t CO2 eq./MWh. The chosen denominator was net electricity generated and purchased (main grid and off-grid systems).</p> <ul style="list-style-type: none"> • Sustainability Report 2016, p.39, p. 53. 	

NO.	MANAGEMENT APPROACH AND INDICATORS	REFERENCES AND NOTES	COMMENTS
G4-EN19	Reduction of greenhouse gas (GHG) emissions	<ul style="list-style-type: none"> • Sustainability Report 2016, p.15, p.25, p.28, p.51, p.53, p.55 	
G4-EN20	Emissions of ozone-depleting substances (ODS)	<p>Hydro-Québec does not measure ODS emissions resulting from normal operations. However, with the gradual replacement, at the end of its service life, of equipment that contains CFCs and HCFCs, the quantity of ODS emissions goes down every year. 24 HCFC spills were reported in 2016 for a total of 197 kg. There were no CFC or halon spills. Hydro-Québec does not manufacture, import or export ODS.</p>	
G4-EN21	<p>NO_x, SO_x, and other significant air emissions</p> <ul style="list-style-type: none"> • Report emissions broken down by regulatory regime, for: <ul style="list-style-type: none"> ○ Total net energy generated ○ Net generation from all generating facilities (Electric Utility Sector Disclosures) 	<p>Data from 2016 on the main air contaminant emissions from Hydro-Québec's thermal generating stations has been made public in the National Pollutant Release Inventory on the Environment Canada Web</p>	

NO.	MANAGEMENT APPROACH AND INDICATORS	REFERENCES AND NOTES	COMMENTS
		<p>site. The methodologies and emission factors are included in our declaration to Environment Canada.</p> <ul style="list-style-type: none"> • Sustainability Report 2016, p. 15 (Environmental performance indicators), p.53 (SO₂, NO_x graphs), p.55, p. 26. • Characteristics of electricity generated and purchased by Hydro-Québec – 2015 data [PDF] 	
ASPECT: EFFLUENTS AND WASTE			
<i>Disclosures on management approach</i>			
	<p>Specific disclosures on management approach (Electric Utility Sector Disclosures) Describe the management strategy and storage methods for different types of radioactive nuclear waste.</p>	<ul style="list-style-type: none"> • Radioactive solid waste management facility 	
G4-EN23	<p>Total weight of waste by type and disposal method</p> <ul style="list-style-type: none"> • Include PCB waste. • Quantify nuclear waste using IAEA definitions and protocols. • Report mass and activity of spent nuclear fuel sent for processing and reprocessing per year. In addition, report radioactive waste produced per net MWh nuclear generation per year. • Report (in terms of mass and activity) low/ intermediate level waste and high level waste separately, based on IAEA radioactive waste classification. 	<p>The company runs recovery and recycling services for different categories of residual materials through its administrative and service centres (ASCs). The following materials are collected for recycling at all ASCs: paper; package cardboard; glass, plastic and metal food containers; ferrous and non-ferrous metals; and electronic products. Some materials, such as power-line</p>	<p>Hydro-Québec does not measure the weight of all treated residual materials.</p>

NO.	MANAGEMENT APPROACH AND INDICATORS	REFERENCES AND NOTES	COMMENTS
		<p>hardware, wooden pallets and computer hardware, are reconditioned for reuse. The recovery and recycling of wood waste, industrial plastic, porcelain and other dry materials are partially offered at our ASCs, depending on the availability of local services.</p> <ul style="list-style-type: none"> • Environmental impact management (Sustainability) • Radioactive solid waste management facility • Gentilly-2 facilities – Documents 	
G4-EN24	Total number and volume of significant spills	<ul style="list-style-type: none"> • Sustainability Report 2016, p. 15 (Environmental performance indicators), p. 57 • Environmental impact management (Water and soil) 	

NO.	MANAGEMENT APPROACH AND INDICATORS	REFERENCES AND NOTES	COMMENTS
G4-EN25	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention ² Annex I, II, III, and VIII, and percentage of transported waste shipped internationally	Residual hazardous materials (RHMs) produced by Hydro-Québec are sent to authorized transfer centres in Québec. Any transfer centres that export a portion of these materials do so as RHM export sites. Main RHMs processed outside Québec by our suppliers: PBCs (shipped by Sanexen Environmental Services to Ontario and Alberta) and SF6 gas (shipped by GE Energy Connections to Hudson Technology in Tennessee, U.S.).	Information on the weight of RHMs is not available.
G4-EN26	Identity, size, protected status and biodiversity value of water bodies and related habitats significantly affected by the organization's discharges of water and runoff	Hydropower generation does not require the withdrawal of water and there is consequently no discharge, either.	
ASPECT: PRODUCTS AND SERVICES			
G4-EN27	Extent of impact mitigation of environmental impacts of products and services	<ul style="list-style-type: none"> • Sustainability Report 2016, p. 27-29 (Sustainable development action plan), p. 57-59 (Environmental management and sustainability) • Romaine complex – Environmental impact 	

NO.	MANAGEMENT APPROACH AND INDICATORS	REFERENCES AND NOTES	COMMENTS
		statement (volumes 3 and 4) (in French only)	
ASPECT: COMPLIANCE			
G4-EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	<ul style="list-style-type: none"> On January 26, 2016, Hydro-Québec pleaded guilty to the charge of spilling a hazardous material into the environment and was fined \$375,000 plus costs. On December 9, 2016, Hydro-Québec pleaded guilty to contravening the <i>Regulation respecting hazardous materials</i>, which prohibit the emission, discharge, deposit or release of these materials, following a spill of insulating mineral oil estimated at 1,600 litres. The fine and fees totalled \$62,800. 	
ASPECT: TRANSPORT			
G4-EN30	Significant environmental impacts of transporting products and other goods used for the organization's operations and transporting members of the workforce	<ul style="list-style-type: none"> Sustainability Report 2016, p. 28 (Action 7), p. 55 (GHG emissions from Hydro-Québec operations) 	

NO.	MANAGEMENT APPROACH AND INDICATORS	REFERENCES AND NOTES	COMMENTS
ASPECT: OVERALL			
G4-EN31	Total environmental protection expenditures and investments by type	Hydro-Québec takes part in Statistics Canada's biennial Survey of Environmental Protection Expenditures (SEPE).	Information reported to Statistics Canada is confidential.
ASPECT: SUPPLIER ENVIRONMENTAL ASSESSMENT			
G4-EN32	Percentage of new suppliers that were screened using environmental criteria	Data not available	Data not available due to the extent of information required.
G4-EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken	Data not available	Data not available due to the extent of information required.
ASPECT: ENVIRONMENTAL GRIEVANCE MECHANISMS			
G4-EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms	Data not available	Data not available due to the extent of information required.