

SUSTAINABLE ELECTRICITY INDICATORS

BC HYDRO PERFORMANCE RESULTS 2011, 2012 AND 2013

When comparing BC Hydro's performance against the CEA utility members' overall performance, please keep in mind that the CEA consists of a diverse group of utility members (integrated electric utilities, independent power producers, transmission and distribution companies, and power marketers) operating within different geographic, organizational and regulatory constraints.

CATEGORY	INDICATOR	BC HYDRO			TOTAL FOR CEA UTILITY MEMBERS			BC HYDRO % OF CEA TOTAL		
		2011	2012	2013	2011	2012	2013	2011	2012	2013
Basic Information										
Net generation	Coal (GWh)	- ^a	- ^a	- ^a	43,091	42,957	42,868	- ^a	- ^a	- ^a
	Oil (GWh)	- ^a	- ^a	- ^a	1,459	1,408	1,994	- ^a	- ^a	- ^a
	Diesel (GWh)	55	56	59	250	273	283	22%	20%	21%
	Natural gas (GWh)	246	262	341	16,293	16,769	13,946	2%	2%	2%
	Hydroelectric (GWh)	47,932	51,711	46,362	170,497	170,765	171,648	28%	30%	27%
	Nuclear (GWh)	- ^a	- ^a	- ^a	48,626	49,457	48,815	- ^a	- ^a	- ^a
	Other renewables (GWh)	- ^a	- ^a	- ^a	2,722	3,482	4,585	- ^a	- ^a	- ^a
	Total net generation (GWh)	48,234	52,029	46,761	283,077	285,112	284,139	17%	18%	16%
Transmission and distribution lines	Total length of distribution lines (km)	57,853	58,096	58,306	674,734	690,547	712,916	9%	8%	8%
	Total length of transmission lines (km)	18,311	18,311	18,834	113,838	115,460	117,569	16%	16%	16%
Environment										
Atmospheric emissions	SO ₂ emissions (thousand tonnes)	0.00 ^b	0.00 ^b	0.00 ^b	239.73	248.03	241.52	0%	0%	0%
	NO _x emissions (thousand tonnes)	0.94 ^b	0.90 ^b	0.93 ^b	109.04	107.04	104.68	Less than 1%	Less than 1%	Less than 1%
	Direct CO _{2e} emissions from fossil generation (million tonnes)	0.14 ^c	0.15 ^c	0.19 ^c	54.41	51.97	50.11	Less than 1%	Less than 1%	Less than 1%
	SF ₆ used for maintenance purposes (kilograms)	1,204	1,966 ^d	1,817 ^d	4,717	5,690	6,455	26%	35%	28%
	Mercury emissions (kilograms)	- ^a	- ^a	- ^a	847	740	645	- ^a	- ^a	- ^a
Emission rates	Mass SO ₂ emitted per unit of net fossil generation (tonnes/GWh)	0.00	0.00	0.00	3.96	4.60	4.54	Below average	Below average	Below average
	Mass NO _x emitted per unit of net fossil generation (tonnes/GWh)	3.20	2.99	2.80	1.78	1.75	1.77	Above average	Above average	Above average
	Mass CO _{2e} emitted per unit of net fossil generation (tonnes/GWh)	578.62	584.20	557.58	892.09	850.25	852.27	Below average	Below average	Below average
Spills	Number of priority spills ^e	23	38	31	97	102	129	24%	37%	24%
Environmental Management System (EMS)	Companies with an ISO-consistent EMS	Yes	No ^f	No ^f	87% of members	83% of members	87% of members			
	Companies with an EMS audited by an external/internal auditor within the last three years	Yes	Yes	Yes	80% of members	87% of members	90% of members			
Climate Change Adaptation	Companies with plans in place to adapt to the impacts of climate change	Yes	Yes	Yes	47% of members	50% of members	57% of members			
	Companies that conduct research or analysis to assess its potential vulnerability to climate change and to identify adaptation strategies	Yes	Yes	Yes	50% of members	50% of members	57% of members			
	Companies that identify/publish activities and achievements in reference to adaptation in the company's annual, environment, and/or corporate social responsibility report	No	No	No	43% of members	40% of members	37% of members			
Society										
Health and safety	All injury/illness frequency rate (injuries per 200,000 hours)	1.57	2.53	1.80	1.96 ^g	1.77 ^g	1.73 ^g	Below average	Above average	Above average
	Lost-time injury frequency rate (lost-time injuries per 200,000 hours)	0.85	1.45	0.92	0.76 ^g	0.79 ^g	0.73 ^g	Above average	Above average	Above average
	Lost-time injury severity rate (calendar days lost per 200,000 hours)	38.92	48.94	30.51	14.91 ^g	15.49 ^g	19.50 ^g	Above average	Above average	Above average
Community investment	Total value of company donations/sponsorships/partnerships (\$ millions)	6.096 ^h	7.304 ⁱ	7.343 ^j	24.529	35.768	33.696	25%	20%	22%
Employee wellness	Companies with employee wellness subsidies/investments	Yes	Yes	Yes	100%	100%	100%			
	Companies with support for volunteer initiatives	Yes	Yes	Yes	97%	97%	97%			
Public education	Companies with public education programs	Yes	Yes	Yes	90%	90%	93%			
Stakeholder engagement	Companies with a formal stakeholder engagement policy or documented process	Yes	Yes	Yes	73%	77%	77%			
	Companies with a process for responding to stakeholder concerns	Yes	Yes	Yes	83%	93%	93%			
Aboriginal relations	Companies with an Aboriginal Relations group or senior Aboriginal advisory position	Yes	Yes	Yes	74%	74%	78%			
	Companies with business relationships or partnerships with Aboriginal communities	Yes	Yes	Yes	100%	100%	100%			
	Companies with procedures for training and employment of Aboriginal Peoples	Yes	Yes	Yes	87%	87%	87%			
Economy										
Investment in infrastructure	Total capital expenditure on new/refurbished generation infrastructure (\$ billions)	0.420 ^h	0.422 ⁱ	0.421 ^j	4.455	4.482	5.246	9%	9%	8%
	Total capital expenditure on new/refurbished transmission infrastructure (\$ billions)	0.437 ^h	0.533 ⁱ	0.758 ^j	3.105	4.290	5.704	14%	12%	13%
	Total capital expenditure on new/refurbished distribution infrastructure (\$ billions)	0.429 ^h	0.529 ⁱ	0.567 ^j	2.585	3.332	3.295	17%	16%	17%
Energy conservation	Energy saved through conservation (GWh)	570 ^h	1,102 ⁱ	1,036 ^j	1,167	1,818	Not reported by the CEA	49%	61%	Not reported by the CEA
Service interruptions	System Average Interruption Duration Index (SAIDI) excluding significant weather events (hours)	4.6	4.8	3.9	5.1	4.4	5.9	Below average	Above average	Below average
	System Average Interruption Frequency Index (SAIFI) excluding significant weather events (interruptions per customer)	2.1	1.9	1.5	2.5	2.5	2.5	Below average	Below average	Below average

^a BC Hydro does not operate any coal-fired generating stations and hence, does not have any measurable mercury emissions. BC Hydro also does not operate any oil-fired, nuclear or renewable generating stations (other than hydroelectric generating stations).

^b Emissions are reported for facilities that exceed the federal National Pollutant Release Inventory threshold for individual substances (20 tonnes for SO₂ and NO_x).

^c Emissions are reported for facilities for which emission reports were submitted to Environment Canada (Burrard and Fort Nelson generating stations).

^d While BC Hydro's SF₆ emissions in 2012 and 2013 were higher than in 2011, they were each more than 20 per cent lower than in 2010. The long-term trend for BC Hydro's SF₆ emissions is decreasing.

^e Priority spills are defined as a petroleum spill that is over 500 litres, contains over one gram of polychlorinated biphenyls (PCBs), and any volume of petroleum-based or PCB-contaminated substance that enters a water body.

^f BC Hydro designed Environmental Management Systems (EMSs) at the business group level in 1998 and implemented the processes over several years afterwards. BC Hydro's three thermal generation plants and its Oil Management Department are ISO 14001-registered with an external registrar. In 2012, it was deemed that BC Hydro does not have a fully implemented, consistent EMS across the entire organization. BC Hydro has initiated a plan to review, identify, and implement improvements in its management systems, including integration of safety and environmental systems, where deemed appropriate and effective, into a singular Integrated Safety, Health and Environment Management System.

^g These figures also include Hydro Québec's safety performance related to generation, transmission and distribution operations.

^h BC Hydro's figure represents fiscal year 2011 (April 1, 2010 to March 31, 2011).

ⁱ BC Hydro's figure represents fiscal year 2012 (April 1, 2011 to March 31, 2012).

^j BC Hydro's figure represents fiscal year 2013 (April 1, 2012 to March 31, 2013).

^k These figures also include data from the City of Red Deer, Enersource Hydro Mississauga, Hydro Québec, Newmarket-Tay Power Distribution Ltd., Northland Utilities, Oshawa PUC Networks, PowerStream Inc., St. Thomas Energy, Veridian Connections, Waterloo North Hydro, Yukon Electrical Co. Ltd., and London Hydro.