

2019 Carbon Neutral Government Year in Review: Summary

EACH YEAR SINCE 2010, B.C. has achieved carbon neutral operations, maintaining a net impact of zero greenhouse gas (GHG) emissions across public sector organizations (PSOs), including health authorities, school districts, post-secondary institutions, Crown corporations and provincial government.

B.C.'s legislated carbon neutral government accomplishment over the past 10 years is a unique achievement in North America – one that's reducing emissions, saving energy costs, and spurring the development of clean technology and new jobs.

Facts for 2019:

- For the 2019 reporting year¹, B.C.'s 128 PSOs generated 762,168 tonnes of GHG emissions from their operations. (Refer to Tables 2 and 3 below).
- This represents a reduction of 52,579 tonnes compared to the baseline year of 2010, equivalent to taking nearly 18,800 cars off the road for a year.²
- The Carbon Neutral Government program funds emission reductions from offset projects in nearly every region and sector of the province. Our investments in these projects to reduce emissions continue to support clean technologies and economic opportunities across British Columbia.
- For the 2019 reporting year, offsets were sourced from projects involving energy efficiency, GHG destruction, fuel switching and sequestration (refer to Table 3 below).
- B.C.'s emission offset portfolio has resulted in total emissions reductions of approximately 6.8 million tonnes of carbon dioxide equivalent between 2010 and 2019.

The total emissions reported in this summary meet the reporting requirements set by the Carbon Neutral Government Regulation (the Regulation) under the *Climate Change Accountability Act*.

¹ The 2019 reporting year is equivalent to the 2019 calendar year.

² Based on 2.8 tonnes per car per year.

Carbon Neutral Capital Program

The Carbon Neutral Capital Program (CNCPC) funds energy saving activities and technologies for B.C.'s public sector organizations. First introduced in 2012/13 for school districts throughout B.C., the CNCPC was expanded in 2014/15, to include funding for B.C.'s health authorities and post-secondary institutions. As of 2020/21, the CNCPC budget has been more than tripled to \$50 million annually to finance energy efficiency projects that will continue to reduce emissions and save money into the future in the public health, education and post secondary sectors.

To weather normalize building emissions, the average temperature profile for a 30-year period is used to calculate the number of days buildings use energy to heat or cool (based on temperatures above or below 15°C).

Weather Normalization

Buildings have generated approximately 75 percent of B.C.'s total provincial public sector emissions every year since the beginning of the Carbon Neutral Government Program. Year-to-year weather changes affect the heating and cooling requirements in buildings. To enable year-to-year comparison of building-related emissions, figures are adjusted to remove weather effects. This is known as weather normalization. Greater emissions reductions are facilitated through an improved understanding of how buildings perform outside of weather-related impacts.

2019's Weather Impact

Climate change is being felt across B.C. as average temperatures are trending upwards, and extreme weather is becoming more frequent and variable year-over-year. B.C. had a cooler winter and summer in 2019 compared to 2018, increasing heating and reducing cooling demand. **Figure 1** shows that under average weather conditions, emissions would have been greater in 2018 and lower in 2019 than actual emissions.

On this note, it is important to gauge energy use trends in buildings using weather normalized data. Since 2008, B.C.'s public sector has seen energy demand for heating drop slightly due to warmer winters. While energy demands for cooling are still much smaller than for heating, cooling degree days were greater in 2019 than the weather normalized baseline (1981-2010). See **Figure 1** below for an annual trend of weather normalized emissions across the B.C. public sector.

**Figure 1. Building Emissions (t CO₂e) Across the Public Sector
2010-2019**

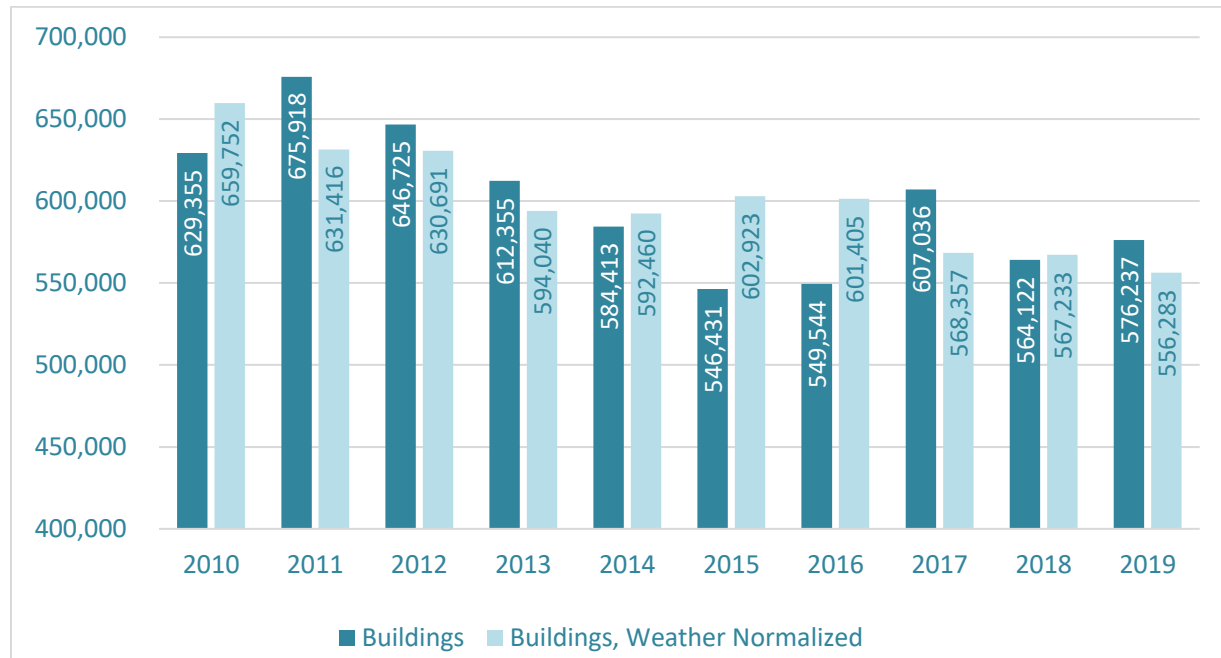


Table 1 below reports the B.C. public sector’s total 2019 emissions by source. For more information on how the B.C. public sector measures emissions, please refer to the [2018 B.C. Best Practices Methodology for Quantifying Greenhouse Gas Emissions](#).

Table 1. 2019 Public Sector Emissions by GHG and by Source			
	Bio-CO₂e Emissions	Fossil CO₂e Emissions	Total Emissions (tonnes CO₂e)
Scope 1			
Buildings (Direct Fuel Combustion)	22,507	494,234	516,741
Fleet (Mobile Energy Use)	8,559	154,677	163,236
Fugitive Emissions		45	45
Scope 2			
Buildings (Purchased Energy)		59,496	59,496
Scope 3			
Paper		16,330	16,330
Travel	62	6,258	6,320
Total	31,128	731,040	762,168

- (1) **Table 1** reports Scope 1, 2, and 3 emissions in accordance with international protocols.
 - a. Scope 1 emissions represent those produced from the combustion of fossil fuels (e.g., natural gas for heating, gasoline for vehicle fuels) and fugitive emissions (e.g., hydrofluorocarbons from air conditioning equipment).
 - b. Scope 2 emissions represent those produced by third parties in the production of energy purchased by B.C.'s PSOs (e.g., electricity).
 - c. Scope 3 emissions represent those produced by third parties in the production of goods and services purchased by B.C.'s PSOs (e.g., office paper, business travel³).
- (2) International protocols call for the separate reporting of Bio-CO₂ emissions produced from the combustion of biogenic fuels (e.g., wood waste for heating, renewable vehicle fuels).

³ Only core government is required to measure, report and offset emissions from business travel.

Table 2. 2019 Emissions by Public Sector Organization (t CO₂e)

Public Sector Organization	Emissions	Offsettable Emissions	Bio-CO ₂ e Emissions	Public Sector Organization	Emissions	Offsettable Emissions	Bio-CO ₂ e Emissions
BC PUBLIC SECTOR TOTAL	762,168	651,542	31,128	Health Authority Total	225,365	223,886	1,216
Provincial Government Total	63,038	62,301	737	BC Emergency Health Services	16,024	15,560	464
Crown Corporations Total	157,007	91,344	6,047	Fraser Health Authority	37,604	37,564	39
BC Infrastructure Benefits	19	19	0	Interior Health Authority	44,825	44,598	55
BC Assessment Authority	395	390	5	Louis Brier Home & Hospital	543	543	0
BC Council for International Education	5	5	0	Menno Hospital	533	533	0
BC Games Society	1	1	0	Mount St. Mary Hospital	440	440	0
BC Housing Management Commission	23,809	23,793	17	Nisga'a Valley Health Authority	115	115	0
BC Hydro	33,833	33,036	798	Northern Health Authority	22,327	22,294	33
BC Liquor Distribution Branch	4,937	4,418	19	Providence Health Care	11,385	11,380	6
BC Lottery Corporation	923	920	3	Provincial Health Services Authority	17,984	17,977	7
BC Pavilion Corporation	4,929	4,875	53	St. Joseph's General Hospital	911	911	0
BC Transit	65,558	1,317	5,128	St. Michael's Centre	357	357	0
British Columbia Securities Commission	316	316	0	Vancouver Coastal Health Authority	41,188	41,127	61
Columbia Basin Trust	197	197	0	Vancouver Island Health Authority	31,128	30,486	551
Columbia Power Corporation	23	23	0	School Districts Total	174,328	153,413	1,317
Community Living British Columbia	385	382	3	School District 05 - Southeast Kootenay	2,892	2,475	19
Destination BC	51	51	0	School District 06 - Rocky Mountain	2,073	1,510	24
First People's Heritage, Language & Culture Council	1	1	0	School District 08 - Kootenay Lake	3,093	2,233	42
Forest Enhancement Society of British Columbia	16	16	0	School District 10 - Arrow Lakes (Nakusp)	349	222	5
Forestry Innovation Investment	168	168	0	School District 19 - Revelstoke	288	209	3
Industry Training Authority	57	57	0	School District 20 - Kootenay-Columbia	1,851	1,508	14
Innovate BC	2	2	0	School District 22 - Vernon	2,621	1,922	97
Insurance Corporation of BC	20,609	20,598	12	School District 23 - Central Okanagan (Kelowna)	6,391	5,157	36
Knowledge Network Corporation	100	100	0	School District 27 - Cariboo-Chilcotin	3,744	2,360	67
Legal Services Society	104	102	0	School District 28 - Quesnel	1,878	1,263	26
Oil and Gas Commission	423	414	9	School District 33 - Chilliwack	4,036	3,106	42
Partnerships BC	17	17	0	School District 34 - Abbotsford	4,293	3,336	55
Real Estate Council of BC	49	49	0	School District 35 - Langley	5,846	5,494	24
Real Estate Foundation	1	1	0	School District 36 - Surrey	17,367	17,080	41
Royal BC Museum	75	74	0	School District 37 - Delta	2,732	2,726	6
Transportation Investment Corporation	4	4	0	School District 38 - Richmond	5,978	5,754	18

Public Sector Organization	Emissions	Offsettable Emissions	Bio-CO ₂ e Emissions	Public Sector Organization	Emissions	Offsettable Emissions	Bio-CO ₂ e Emissions
School Districts (Continued)				School Districts (Continued)			
School District 39 - Vancouver	15,172	15,151	21	School District 81 - Fort Nelson	665	658	1
School District 40 - New Westminster	1,950	1,945	3	School District 82 - Coast Mountain	2,288	2,273	6
School District 41 - Burnaby	5,522	5,514	7	School District 83 - North Okanagan Shuswap	3,407	3,210	47
School District 42 - Maple Ridge	3,486	3,479	6	School District 84 - Vancouver Island West	140	108	5
School District 43 - Coquitlam	7,485	7,474	11	School District 85 - Vancouver Island North	735	590	8
School District 44 - North Vancouver	4,021	3,963	6	School District 87 - Stikine	376	375	1
School District 45 - West Vancouver	1,705	1,703	2	School District 91 - Nechako Lakes	3,456	2,454	41
School District 46 - Sunshine Coast	717	713	4	School District 92 - Nisga'a	76	48	2
School District 47 - Powell River	1,045	813	12	School District 93 - Conseil Francophone	1,305	1,281	0
School District 48 - Sea to Sky	1,970	1,551	65	Universities & Colleges Total	142,430	120,598	21,811
School District 49 - Central Coast	372	301	14	British Columbia Institute of Technology	7,716	7,714	2
School District 50 - Haida Gwaii	590	531	6	Camosun College	1,973	1,972	1
School District 51 - Boundary	920	687	11	Capilano University	1,458	1,457	2
School District 52 - Prince Rupert	665	649	2	Coast Mount College	1,082	1,075	4
School District 53 - Okanagan Similkameen	837	665	9	College of New Caledonia	2,303	2,301	2
School District 54 - Bulkley Valley	1,222	1,204	17	College of the Rockies	948	931	1
School District 57 - Prince George	5,699	5,686	12	Douglas College	1,565	1,565	0
School District 58 - Nicola-Similkameen	1,099	846	11	Emily Carr University of Art and Design	132	132	0
School District 59 - Peace River South (Dawson Creek)	3,423	2,423	45	Justice Institute of BC	630	627	3
School District 60 - Peace River North (Fort St. John)	3,794	2,561	43	Kwantlen Polytechnic University	2,574	2,573	1
School District 61 - Greater Victoria	4,864	4,856	9	Langara College	1,491	1,491	0
School District 62 - Sooke	2,453	1,696	41	Nicola Valley Institute of Technology	406	405	1
School District 63 - Saanich	1,929	1,566	19	North Island College	2,064	2,060	4
School District 64 - Gulf Islands	348	187	7	Northern Lights College	952	952	0
School District 67 - Okanagan Skaha (Penticton)	1,839	1,712	11	Okanagan College	1,256	1,254	2
School District 68 - Nanaimo-Ladysmith	3,794	3,225	44	Royal Roads University	994	992	2
School District 69 - Qualicum	1,815	1,318	18	Selkirk College	1,233	1,231	2
School District 70 - Alberni	958	874	12	Simon Fraser University	14,987	14,974	13
School District 71 - Comox Valley	2,007	2,002	6	Thompson Rivers University	3,936	3,928	8
School District 72 - Campbell River	2,400	1,978	46	University of British Columbia	72,142	52,067	20,076
School District 73 - Kamloops / Thompson	6,167	4,502	81	University of Northern British Columbia	5,957	4,295	1,661
School District 74 - Gold Trail	1,056	616	20	University of The Fraser Valley	2,227	2,225	2
School District 75 - Mission	1,917	1,528	18	University of Victoria	10,265	10,249	16
School District 78 - Fraser - Cascade	982	758	11	Vancouver Community College	1,532	1,532	0
School District 79 - Cowichan Valley	2,227	1,384	33	Vancouver Island University	2,609	2,598	8

- Due to rounding, numbers presented in **Table 2** for each organization may not add up precisely to the totals reported.
- B.C.'s Crown Corporations, schools, universities, colleges and health facilities purchase offsets from the Ministry of Environment & Climate Change Strategy at \$25 per tonne of CO₂e to become carbon neutral.
- Emissions from public transit and school buses are offset exempt.
- Bio-CO₂e emissions are produced from the combustion of biogenic fuels (e.g. wood waste for heating, renewable vehicle fuels), and are also offset exempt.

Table 3. Portfolio of Offset Projects for the 2019 Carbon Neutral Government Commitment

Project	Sector	Project Type	Price / Tonne	Tonnes CO ₂ e	\$ Value
Low Emissions Facility ARC Resources, Dawson Creek	Oil and Gas	Fuel Switching	\$8.00	30,000	\$240,000.00
Electrification of Gas Production Plant (Noel) Blue Source, Dawson Creek	Oil and Gas	Fuel Switching	\$8.50	8,000	\$68,000.00
Electrification of Gas Processing Plant (Septimus) Blue Source, Taylor	Oil and Gas	Fuel Switching	\$8.50	63,314	\$538,169.00
Engine Fuel Gas Management (REMVue) Blue Source, Northeastern BC	Oil and Gas	Energy Efficiency	\$11.00	1,000	\$11,000.00
Natural Gas to Biomass Fuel Switch Canfor B.C. Sawmills – Elko, Prince George, Fort St. John, Chetwynd, Mackenzie	Forest – Industry	Fuel Switching	\$8.50	49,500	\$420,750.00
Cheakamus Community Forest Cheakamus Community Forest Society, Whistler	Forestry – Land Use	Sequestration	\$14.00	15,424	\$215,936.00
Forest Conservation/Improved Forest Management Great Bear Rainforest, Haida Gwaii	Forestry – Land Use	Sequestration	\$12.00	292,848	\$3,514,176.00
Forest Conservation/Improved Forest Management Great Bear Rainforest, North and Central Mid-Coast	Forestry – Land Use	Sequestration	\$12.00	74,383	\$892,596.00
Forest Conservation/Improved Forest Management Great Bear Rainforest, South Central Coast	Forestry – Land Use	Sequestration	\$9.00	95,400	\$858,600.00
Clean Tech Biomass Gasification Kruger Products, New Westminster	Forest – Industry	Fuel Switching	\$15.00	3,572	\$53,580.00
Landfill Gas Collection Columbia Shuswap Regional District, Salmon Arm	Waste – Landfill	GHG Destruction	\$13.00	4,864	\$63,232.00
Switching to Biomass/Installing Energy Curtains Sun Select Delta, Delta	Agriculture	Fuel Switching	\$11.00	1,000	\$11,000.00
Bus Fuel Efficiency Project Translink, Metro Vancouver	Transportation	Energy Efficiency	\$13.00	1,000	\$13,000.00
GRAND TOTAL*				640,305	\$6,900,039.00

*On March 31, 2020, due to COVID-19 impacts on PSO capacity, the Director directed PSOs to use their 2018 GHG emissions as a temporary placeholder to meet the legislated CNG reporting and carbon neutrality requirements for the 2019 reporting year. As a result, 640,305 offsets were retired in June 2020, based on these placeholder emissions. A retroactive adjustment will be made in the 2020 reporting cycle to address the difference between the placeholder emissions reported and the actual 2019 offsettable emissions in Table 2.