

# 2017 Carbon Neutral Year 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 commitment is a significant *first* in North America—one that's reducing emissions, saving energy costs, and spurring the development of clean technology and new jobs.

## Facts for 2017:

- For the 2017 reporting year, British Columbia's 128 public sector organizations generated 785,583 tonnes of greenhouse gas emissions from their operations. (Refer to Tables 1 and 2 below.)
- This represents a reduction of 27,580 tonnes compared to the baseline year of 2010, a reduction equivalent to taking nearly 10,000 cars off the road for a year.<sup>1</sup>
- To achieve carbon neutrality, government purchases offsets that include emission reductions from project investments in nearly every region and sector of the province.
- For the 2017 reporting year, offsets were sourced from projects involving energy efficiency, fuel switching, sequestration and greenhouse gas destruction. (Refer to Table 3 below.)
- B.C.'s emission offset portfolio has resulted in total emissions reductions of approximately 5.6 million tonnes of carbon dioxide equivalent between 2010 and 2017, equivalent to the emissions from 2 million cars in one year.
- In 2017, seven B.C. public sector organizations were recognized by Canada's 100 Greenest Employers: BC Housing Management Commission, BC Hydro, Kwantlen Polytechnic University, Provincial Health Services Authority, School District No.36 (Surrey), University of British Columbia, and University of Northern British Columbia.

The total emissions reported in this summary meet the reporting requirements set by the Carbon Neutral Government Regulation of the Greenhouse Gas Reduction Targets Act.

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<sup>1</sup> The provincial government changed the way it calculates the car equivalent for government's greenhouse gas emissions. Previously, the factor used was 4.7 tonnes per car per year, from the U.S. Environmental Protection Agency. The Province now calculates the equivalent using 2.8 tonnes per car per year, which better reflects B.C.-based data.

Table 1 below reports the B.C. public sector's emissions by greenhouse gas and by source as well as the total offsets purchased and retired to become carbon neutral for the 2017 reporting year. Under the regulation, some reported emissions in the total do not require the purchase of offsets in order to reach carbon neutrality. This includes emissions from buses (e.g. school buses and BC Transit buses), which represented 82,004 tonnes of total emissions in 2017.

For more information on how the B.C. public sector measures emissions, please refer to the [2017 B.C. Best Practices Methodology for Quantifying Greenhouse Gas Emissions](#).

TABLE 1		Emissions by Greenhouse Gas (1) (tonnes CO <sub>2</sub> e)					Total (tonnes CO <sub>2</sub> e)	
		CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	HFCs	BioCO <sub>2</sub> (3)	Emissions	Offsets
Emissions Sources	<b>SCOPE 1</b>							
	Buildings	530,836	328	3,607	120	26,212	<b>561,103</b>	<b>534,891</b>
	Fleet	152,698	1,022	4,650	-	5,665	<b>164,035</b>	<b>76,366</b>
	<b>SCOPE 2</b>							
	Buildings	37,560	3	35	-		<b>37,598</b>	<b>37,598</b>
	<b>SCOPE 3</b>							
	Paper	17,432	-	-	-		<b>17,432</b>	<b>17,432</b>
	Travel	5,415	-	-	-		<b>5,415</b>	<b>5,415</b>
<b>TOTAL</b>	<b>743,940</b>	<b>1,353</b>	<b>8,293</b>	<b>120</b>	<b>31,877</b>	<b>785,583</b>	<b>671,702</b>	

- (1) Public sector emissions of methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), and hydrofluorocarbons (HFCs) are expressed in terms of their CO<sub>2</sub>e (carbon dioxide equivalent), a standard unit of measure for quantifying the global warming impact of the different greenhouse gases.
- (2) Table 2 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 public sector organizations (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 public sector organizations (e.g., office paper, business travel).
- (3) International protocols call for the separate reporting of Bio-CO<sub>2</sub> emissions produced from the combustion of bio-genic fuels (e.g., wood waste for heating, renewable vehicle fuels).

## 2017 Emissions and Offsets by Public Sector Organization

<b>TABLE 2</b>	<i>Emissions</i>	<i>Offsets</i>	<i>Bio-CO2 Emissions</i>
<b>BC PUBLIC SECTOR TOTAL</b>	<b>785,583</b>	<b>671,702</b>	<b>31,877</b>
<b>Provincial Government Total</b>	<b>64,161</b>	<b>63,388</b>	<b>773</b>
<b>Crown Corporations Total</b>	<b>157,751</b>	<b>93,839</b>	<b>2,846</b>
BC Assessment Authority	411	406	5
BC Council for International Education	6	6	-
BC Games Society	1	1	-
BC Housing Management Commission	24,065	24,053	13
BC Hydro	31,099	30,359	740
BC Innovation Council	2	2	-
BC Liquor Distribution Branch	3,715	3,696	19
BC Lottery Corporation	965	962	3
BC Pavilion Corporation	3,937	3,936	1
BC Transit	64,323	1,219	2,039
British Columbia Securities Commission	257	257	0
Columbia Basin Trust	96	96	-
Columbia Power Corporation	49	49	0
Community Living British Columbia	537	534	3
Destination BC	76	76	-
First People's Heritage, Language & Culture Council	2	2	-
Forest Enhancement Society of British Columbia	7	7	0
Forestry Innovation Investment	170	170	-
Industry Training Authority	63	63	-
Insurance Corporation of BC	27,247	27,232	15
Knowledge Network Corporation	105	105	-
Legal Services Society	64	64	-
Oil and Gas Commission	413	404	9
Partnerships BC	6	6	-
Real Estate Council of BC	41	41	-
Real Estate Foundation	1	1	-
Royal BC Museum	86	85	0
Transportation Investment Corporation	6	6	-
<b>Health Authority Total</b>	<b>231,013</b>	<b>229,534</b>	<b>1,479</b>
BC Emergency Health Services	16,467	15,998	469
Fraser Health Authority	40,547	40,525	22
Interior Health Authority	42,013	41,957	56
Louis Brier Home & Hospital	722	722	0

<b>Public Sector Organization</b>	<i>Emissions</i>	<i>Offsets</i>	<i>Bio-CO2 Emissions</i>
Menno Hospital	643	643	1
Mount St. Mary Hospital	472	472	0
Nisga'a Valley Health Authority	264	260	4
Northern Health Authority	22,577	22,550	28
Providence Health Care	11,074	11,069	5
Provincial Health Services Authority	18,558	18,549	9
St. Joseph's General Hospital	1,173	1,171	1
St. Michael's Centre	483	483	-
Vancouver Coastal Health Authority	44,160	44,141	19
Vancouver Island Health Authority	31,860	30,996	864
<b>School Districts Total</b>	<b>184,334</b>	<b>161,900</b>	<b>1,536</b>
School District 05 - Southeast Kootenay	2,888	2,333	24
School District 06 - Rocky Mountain	2,124	1,576	24
School District 08 - Kootenay Lake	2,822	1,838	40
School District 10 - Arrow Lakes (Nakusp)	372	256	5
School District 19 - Revelstoke	285	205	3
School District 20 - Kootenay-Columbia	1,854	1,468	16
School District 22 - Vernon	2,864	2,327	25
School District 23 - Central Okanagan (Kelowna)	6,233	4,916	43
School District 27 - Cariboo-Chilcotin	3,954	2,517	70
School District 28 - Quesnel School	1,670	1,008	73
School District 33 - Chilliwack	3,977	3,112	43
School District 34 - Abbotsford	4,519	3,508	57
School District 35 - Langley	7,072	6,522	31
School District 36 - Surrey	18,209	17,970	41
School District 37 - Delta	3,004	2,951	12
School District 38 - Richmond	5,792	5,531	18
School District 39 - Vancouver	17,211	17,187	24
School District 40 - New Westminster	1,920	1,917	3
School District 41 - Burnaby	5,747	5,739	8
School District 42 - Maple Ridge	3,702	3,696	6
School District 43 - Coquitlam	8,343	8,336	7
School District 44 - North Vancouver	4,270	4,197	6
School District 45 - West Vancouver	1,522	1,520	2
School District 46 - Sunshine Coast	688	685	3
School District 47 - Powell River	1,134	906	11

Public Sector Organization	Emissions	Offsets	Bio-CO2 Emissions
School District 48 - Sea to Sky	1,719	1,295	217
School District 49 - Central Coast	400	336	15
School District 50 - Haida Gwaii	600	594	6
School District 51 - Boundary	971	721	11
School District 52 - Prince Rupert	830	827	3
School District 53 - Okanagan Similkameen	990	755	11
School District 54 - Bulkley Valley	1,253	862	18
School District 57 - Prince George	5,520	5,508	13
School District 58 - Nicola-Similkameen	1,192	929	12
School District 59 - Peace River South (Dawson Creek)	3,530	2,516	46
School District 60 - Peace River North (Fort St. John)	4,319	3,113	52
School District 61 - Greater Victoria	5,306	5,290	16
School District 62 - Sooke	2,681	1,960	38
School District 63 - Saanich	1,999	1,597	20
School District 64 - Gulf Islands	368	208	8
School District 67 - Okanagan Skaha (Penticton)	1,881	1,780	9
School District 68 - Nanaimo-Ladysmith	3,709	3,205	39
School District 69 - Qualicum	2,000	1,502	18
School District 70 - Alberni	1,111	987	11
School District 71 - Comox Valley	2,281	2,275	6
School District 72 - Campbell River	2,819	2,440	18
School District 73 - Kamloops / Thompson	6,285	4,670	78
School District 74 - Gold Trail	1,173	704	21
School District 75 - Mission	2,051	1,689	18
School District 78 - Fraser - Cascade	1,118	893	11
School District 79 - Cowichan Valley	2,323	1,715	119
School District 81 - Fort Nelson	469	462	1
School District 82 - Coast Mountain	3,178	3,165	4
School District 83 - North Okanagan-Shuswap	3,412	2,275	45
School District 84 - Vancouver Island West	207	181	6
School District 85 - Vancouver Island North	803	652	8
School District 87 - Stikine	367	366	1
School District 91 - Nechako Lakes	3,563	2,516	44
School District 92 - Nisga'a	120	79	3

Public Sector Organization	Emissions	Offsets	Bio-CO2 Emissions
School District 93 - Conseil Francophone	1,613	1,612	0
<b>Universities &amp; Colleges Total</b>	<b>148,324</b>	<b>123,042</b>	<b>25,242</b>
British Columbia Institute of Technology	8,915	8,910	5
Camosun College	2,058	2,058	0
Capilano University	1,469	1,468	2
College of New Caledonia	2,364	2,363	2
College of the Rockies	776	755	1
Douglas College	1,665	1,664	0
Emily Carr University of Art and Design	809	809	-
Justice Institute of BC	710	707	3
Kwantlen Polytechnic University	2,600	2,599	1
Langara College	1,587	1,587	0
Nicola Valley Institute of Technology	337	335	1
North Island College	1,101	1,101	0
Northern Lights College	1,229	1,225	4
Northwest Community College	1,288	1,283	5
Okanagan College	1,380	1,379	2
Royal Roads University	1,016	1,014	2
Selkirk College	1,195	1,194	1
Simon Fraser University	15,426	15,418	8
Thompson Rivers University	3,485	3,234	252
University of British Columbia	70,037	51,938	18,099
University of Northern British Columbia	8,646	1,821	6,824
University of The Fraser Valley	2,702	2,701	1
University of Victoria	12,712	12,694	18
Vancouver Community College	1,783	1,783	-
Vancouver Island University	3,034	3,003	11
<b>BC PUBLIC SECTOR TOTAL</b>	<b>785,583</b>	<b>671,702</b>	<b>31,877</b>

- (1) Due to rounding, numbers presented above may not add up precisely to the totals reported.
- (2) B.C.'s public sector organizations purchase offsets from the Ministry of Environment & Climate Change Strategy at \$25 per tonne of CO<sub>2</sub>e to become carbon neutral.
- (3) In addition to the 671,702 tonnes of offset requirements for 2017, the Ministry purchased and retired an additional 4,898 tonnes that reflect routine adjustments to previously reported years to ensure all regulated emissions were accounted for.

<b>TABLE 3</b>	<b>Portfolio of Offset Projects for the 2017 Carbon Neutral Government Commitment</b>				
<b>Project</b>	<b>Sector</b>	<b>Project Type</b>	<b>Price / Tonne</b>	<b>Tonnes CO<sub>2</sub>e</b>	<b>\$ Value</b>
<b>Low Emissions Facility</b> ARC Resources, Dawson Creek	Oil and Gas	Fuel Switching	\$7.23	79,738	\$576,107.05
<b>Electrification of Gas Production Plant (Noel)</b> Blue Source, Dawson Creek	Oil and Gas	Fuel Switching	\$8.50	14,779	\$125,621.50
<b>Electrification of Gas Processing Plant (Septimus)</b> Blue Source, Taylor	Oil and Gas	Fuel Switching	\$8.50	39,449	\$335,316.50
<b>Engine Fuel Gas Management (REMvcue)</b> Blue Source, Northeastern BC	Oil and Gas	Energy Efficiency	\$11	3,710	\$40,810.00
<b>Natural Gas to Biomass Fuel Switch</b> Canfor B.C. Sawmills – Elko, Prince George, Fort St. John, Chetwynd, Mackenzie	Forest – Industry	Fuel Switching	\$10	71,083	\$710,830.00
<b>Forest Conservation/Improved Forest Management</b> Great Bear Rainforest, Haida Gwaii	Forestry – Land Use	Sequestration	\$12	234,449	\$2,813,388.00
<b>Forest Conservation/Improved Forest Management</b> Great Bear Rainforest, North and Central Mid-Coast	Forestry – Land Use	Sequestration	\$9-12	87,662	\$982,557.00
<b>Forest Conservation/Improved Forest Management</b> Great Bear Rainforest, South Central Coast	Forestry – Land Use	Sequestration	\$9	122,121	\$1,099,089.00
<b>Clean Tech Biomass Gasification</b> Kruger Products, New Westminster	Forest – Industry	Fuel Switching	\$15	8,540	\$128,100.00
<b>Landfill Gas Collection</b> Columbia Shuswap Regional District, Salmon Arm	Waste – Landfill	GHG Destruction	\$13	6,748	\$87,724.00
<b>Switching to Biomass/Installing Energy Curtains</b> Sun Select Delta, Delta	Agriculture	Fuel Switching	\$11	3,912	\$43,032.00
<b>Bus Fuel Efficiency Project</b> Translink, Metro Vancouver	Transportation	Energy Efficiency	\$13	4,409	\$57,317.00
<b>GRAND TOTAL</b>				<b>676,600</b>	<b>\$6,999,892.05</b>