



Carbon Neutral Action Report

2019

2019 Carbon Neutral Action Report

School District #38 (Richmond)

This Carbon Neutral Action Report for the period January 1st, 2019 to December 31st, 2019 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2019 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2020 and beyond.

By June 30, 2020, School District #38's final *Carbon Neutral Action Report* will be posted to our website at www.sd38.bc.ca.

Executive Summary

On behalf of the Board of Education, School District 38 (Richmond), I am pleased to submit our Carbon Neutral Action Report for 2019. Now in our tenth year of being carbon neutral, energy savings and greenhouse gas emissions reductions remain a priority in our ongoing commitment towards carbon neutrality. We continue to work diligently, as we have many years now, to reduce our greenhouse gas emissions while improving the learning environment for students and staff.

In 2019, we maintained the focus of our greenhouse gas (GHG) reduction initiatives on reducing our footprint from our largest emissions source: our buildings. The Richmond School District has a robust energy management program with aggressive targets and a forward-looking plan to reduce energy consumed in our buildings.

As part of our 2019 energy conservation program, we undertook several projects that have large energy and carbon reduction benefits. We completed two boiler replacements at McRoberts Secondary, Gilmore and Anderson Elementary, 14 rooftop units replacement project at Burnett Secondary, and installed 3 on-demand water heater units at Boy Secondary. Along with several parking lot lighting upgrades to energy efficient LED technology, we also successfully completed a major LED lighting upgrade at Burnett Secondary. Additionally, we completed DDC upgrades at McMath Secondary, Mitchell and McKay Elementary.

With the support of FortisBC, we piloted 4 units of Gas Absorption Heat Pumps at Richmond and Cambie Secondary that potentially reduce about 30% of natural gas consumption for domestic water heating. FortisBC also partly funded the installation of the Solar Wall system at McMath Secondary.

Our Board-approved Environmental Stewardship Policy guides the integration of environmentally sustainable considerations in all of our business decisions. The Richmond School District continues to develop and enhance its focus on sustainability, and Environmental Stewardship is one of our four Developmental Objectives.



Our commitment to sustainability is underpinned by five principles: collaboration, continuous improvement, commitment to the triple bottom line, leadership and learning for all. We continue to create and support the necessary structures for an integrated, system-wide approach to environmental sustainability through the work of the Richmond Sustainability Action Team (RSAT) and the Richmond Sustainability

Advisory Committee (RSAC), comprised of representatives from all stakeholder groups.

Through the actions of our site-based Green Teams, we are making great strides. We will maintain our efforts in educational programs for sustainability to give our students and staff a better understanding of the necessary practices in our operations and facilities for a better and a more sustainable future.

Emissions and Offsets Summary

Richmond School District#38 2019 Carbon Neutral Action Report

This Carbon Neutral Action Report for the period January 1st, 2019 to December 31st, 2019 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2019 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2019 and beyond.

However, due to the Covid-19 pandemic, Neil Dobson, Executive Director, Clean BC Implementation, Climate Action Secretariat directed on March 31, 2020 that "all ministries and Public Sector Organizations covered by the Carbon Neutral Government requirement shall use their 2018 GHG emissions as a temporary estimate for their actual 2019 GHG emissions, for the purposes of the 2019 Carbon Neutral Action Reports and 2019 Carbon Neutral Government reporting required under the Climate Change Accountability Act."

As such, we use the 2018 GHG emissions data for this 2019 Carbon Neutral Action Report.

By June 30, 2020, Richmond School District #38 final *Carbon Neutral Action Report* will be posted to our website at www.sd38.bc.ca

Emissions and Offset Summary Table:

Grand Total Offsets for the 2019 Reporting Year	4692 tCO ₂ e
Price per Tonne	\$25.00
Sub-Total	\$117,300.00
GST @ 5%	\$5,865.00
TOTAL PAYABLE	\$123,165.00

Retirement of Offsets:

In accordance with the requirements of the Greenhouse Gas Reduction Targets Act and *Carbon Neutral Government Regulation*, School District #38 (Richmond) (the Organization) is responsible for arranging for the retirement of the offsets obligation reported above for the 2019 calendar year, together with any adjustments reported for past calendar years. The Organization hereby agrees that, in exchange for the Ministry of Environment and Climate Change Strategy ensuring that these offsets are retired on the Organization's behalf, the Organization will pay within 30 days, the associated invoice to be issued by the Ministry in an amount equal to \$25 per tonne of offsets retired on its behalf plus GST.

Executive sign-off:

Signature:



Date: May 15 2020

Name (please print): Roy Uyeno

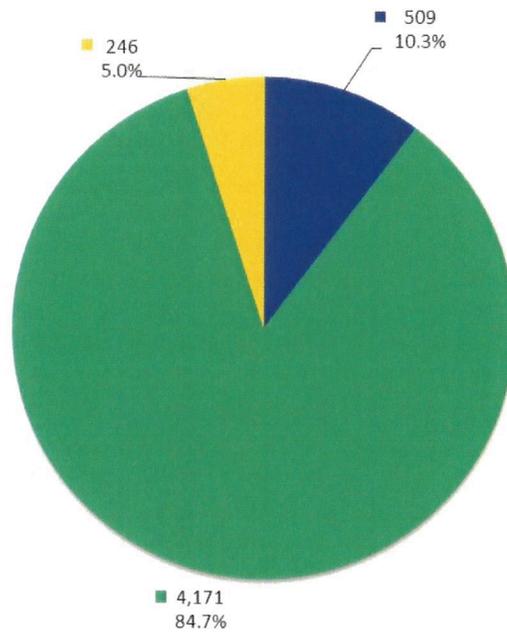
Title: Secretary Treasurer

Overview

Greenhouse Gas Emissions:

Richmond School District #38 Total Greenhouse Gas Emissions in 2018, which is temporarily used for 2019, are represented in the graph below.

**School District 38 - Richmond
Greenhouse Gas Emissions by Source
for the 2018 Calendar Year (tCO₂e*)**



Total Emissions: 4,926

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion (Building Heating and Generators) and Electricity
- Supplies (Paper)

Offsets Applied to Become Carbon Neutral in 2018 (Generated May 13, 2019 3:20 PM)

Total offsets required: **4,692**. Total offset investment: **\$117,300**. Emissions which do not require offsets: **234** **

*Tonnes of carbon dioxide equivalent (tCO₂e) is a standard unit of measure in which all types of greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.

** Under the *Carbon Neutral Government Regulation of the Greenhouse Gas Reduction Targets Act*, all emissions from the sources listed above must be reported. As outlined in the regulation, some emissions do not require offsets.

Offsets applied to become Carbon Neutral in 2019:

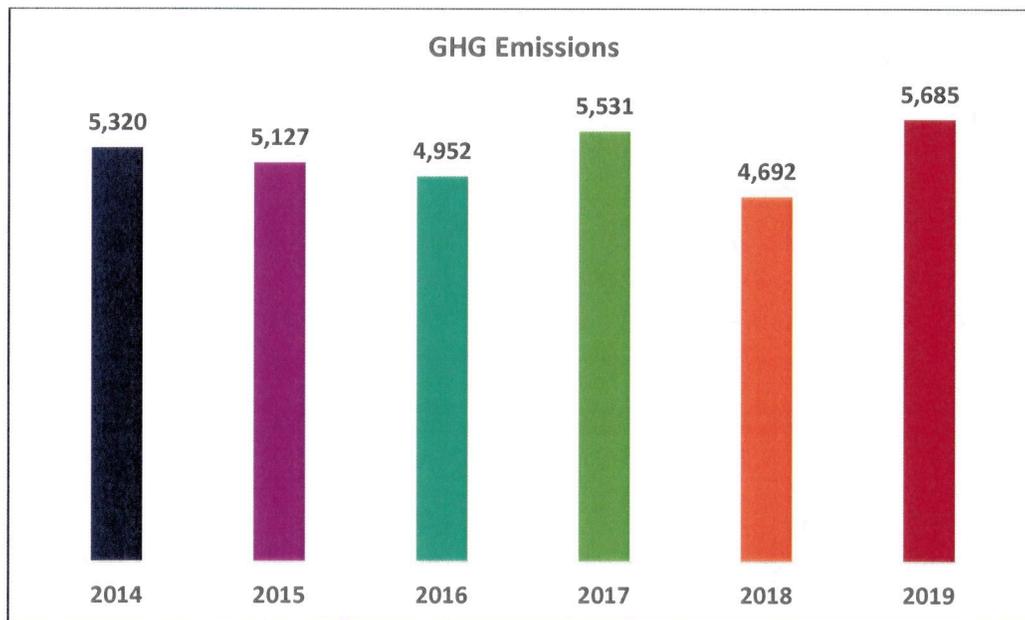
The **4,692** tons of Carbon Emissions (tCO₂e) offsets required above, an offset investment of **\$123,165.00** (GST included) is required to be deemed Carbon Neutral.

Please refer to Appendix A for the 2018 GHG Emissions Source Detail Report and Appendix B for Total GHG Emissions by type.

2019 Greenhouse Gas Emissions

The Richmond School District (herein, "the District") has calculated its 2019 carbon footprint, in accordance with the Greenhouse Gas Reduction Targets Act, to be 5,685 tonnes of CO₂ equivalent. This calculation is pending to be validated by the Climate Action Secretariat and is provided for reference only.

In total, the Greenhouse Gas Emissions in 2019 were increased 993 tonnes of CO₂ equivalent in comparison with 2018. The increased GHGs was from building and fleet vehicles, while GHGs from supplies were reduced in comparison with 2018. The following graph shows the District's emissions over the past six years.



The increase of GHG emissions in building was driven by weather. February 2019 was the coldest on record as recorded at Vancouver International Airport since 1937, a

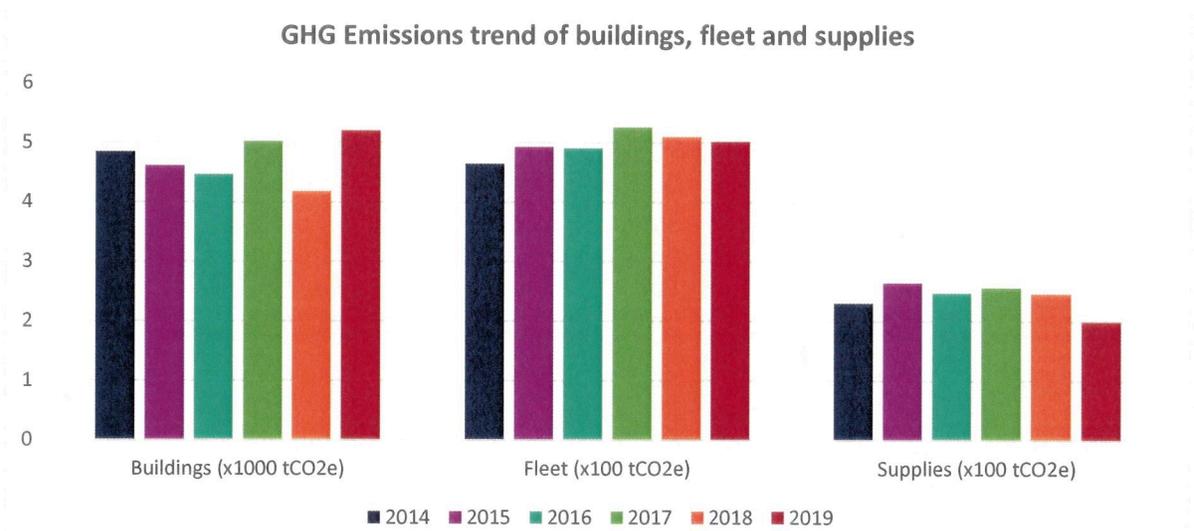
82-year lowest temperature. In addition, October 10, 2019 was the coldest day on record in 123 years.

The following table shows Heating Degree Day (HDD) at Vancouver International Airport weather station. HDD is a measurement designed to quantify the demand for energy needed to heat a building. It is the number of degrees that a day's average temperature is below 18°C, which is the temperature below which buildings need to be heated. The higher HDD number, the more heating needed.

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2014	423.3	432.9	344.4	240.7	114	69	8.6	3.3	62.1	153.3	365.3	405.2	2622.1
2015	383.5	296.4	296.2	263.9	103.6	27.6	5.5	12.4	119	192.7	390	397.8	2488.6
2016	413.2	305.8	299.3	186.6	115.4	61.6	9.5	11.4	113.9	209.7	262.1	530.7	2519.2
2017	499	420.4	347.9	245.9	161.2	75.2	8.2	6.7	77.5	246.7	308.5	478.8	2876.0
2018	392.1	410.1	370.5	262.7	97.9	69.4	10.9	16.1	105	253.2	313	406.8	2707.7
2019	403.3	492.7	373.2	254.2	119.2	51.5	12	6	79.3	289.3	364.3	391.2	2836.2

Due to high HDDs in February, March, October and November, the natural gas consumption in these months was increased significantly, resulting an increased in GHG emissions.

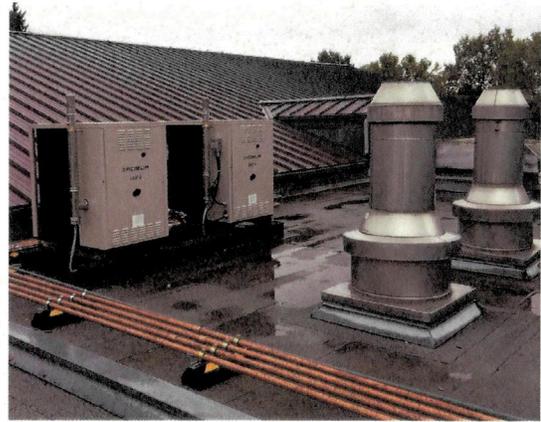
The following graph show the District's emissions from each sources over the past six years.



Buildings



GHG emissions from buildings result from the fossil fuels consumed to provide heating and cooling, ventilation, and electricity to schools and other district facilities. These emissions account for a large majority of the District's overall emissions at 91% in 2019.



Fleet



The use of fossil fuels used to power the District's fleet vehicles, including maintenance vehicles and school busses, results directly in emissions. The fleet accounted for 5% of the District's overall emissions in 2019 and has increased 7% in comparison with 2018. The district has approved to add 3 additional EV car to our fleet system.



Supplies



Supplies emissions are indirect, originating from the District's use of office paper. In 2019, supplies accounted for 4% of the District's overall GHG emissions and has reduced 19% in comparison with 2019. Some of the actions taken to reduce paper consumption have included communicating benchmarked data to schools and defaulting printers to double-sided printing. More significantly, the district completed the launch of centralized printing program, resulting in reduced the number of individual copy machines in the district in 2019.

Fugitive Emissions



As outlined in the *Carbon Neutral Government Regulation of the Greenhouse Gas Reductions Targets Act*, certain types of emissions are out-of-scope for reporting:

- Gases used for research purposes (e.g. science labs)
- Type R-22 coolant from stationary air conditioning and refrigeration units in schools
- Any emission sources that comprise less than 1% of the district's total GHGs

We estimate that in-scope fugitive emissions (HFCs released to the environment from leaks in cooling equipment) do not comprise more than 0.1% of the District's total emissions and an ongoing effort to collect or estimate emissions from this source would be disproportionately onerous. For this reason, we deem emissions from these sources to be out-of-scope and have not included it in the District's total greenhouse gas emissions profile.

Emissions Reduction Activities

Through our 'Eco-Wise' program, we continue to work towards embedding environmental stewardship in the day-to-day operations of the District, and to incorporate Environmental Stewardship into the school curriculum and into the delivery of each employee's core mandates. As defined by its Environmental Stewardship Policy, the District's sustainability plan covers eight focus areas:

Curriculum Development, Energy Conservation, Grounds Greening, Leadership, Sustainable Purchasing, Sustainable Transportation, Waste Management, and Water Conservation



With the assistance of the Richmond Sustainability Advisory Committee (RSAC), comprised of representatives from all stakeholder groups, the District continued to work towards its long-term sustainability vision by developing and implementing the short-term goals for each of the eight focus areas. We have implemented a number of short-term goals in 2019 resulting in some considerable achievements:

- Executed the Zero Waste Campaign at 25 schools and initiated the district-wide Zero Waste Strategy since September 2019.
- Continued to implement a full waste management program comprising district-wide organics and recyclables collection in our schools and administrative buildings. Organic waste is being separated and diverted from the landfill to become 'class A' compost in all of our facilities, and recyclable materials are forming an increasing proportion of our waste stream. Provided more recycle and organic bins to 30 schools.
- Completed additional new raised garden beds at schools to reach 220 raised garden beds, 36 Schools have Outdoor Learning Spaces.
- Installed 20 new water bottle filling stations in ten schools to reduce the amount of waste generated by single-use disposable water bottles. The current total is 90 stations spread across most of our sites.
- Shared internal benchmarked energy, paper, and water consumption data, engaging staff to reduce their carbon and water footprint.
- Supported students participating in the Richmond Earth Day Youth-led (REaDY) summit in April 2019 and monthly Eco-Cafes on a variety of sustainability topics.
- Continued with district-wide awareness programs that support both staff and students in implementing behavior change campaigns to target energy conservation.
- Launched Garden classroom to educate teacher towards outdoor learning activities. Quilchena Elementary, Mitchell Elementary and Richmond High Secondary named Butterflyway schools by the David Suzuki Foundation.
- Continued to develop our relationship with a wide range of external stakeholders, including City of Richmond, Fortis BC, BC Hydro, BC Green Games, David Suzuki Foundation, and Translink.



- Ferris Elementary wins 2019 Greenest School in Canada, awarded by Canada Green Building Council and Super Power Your School Contest (\$20,000 in technology), awarded by Staples
- Board of Education approved \$200,000 for Solar Energy Initiatives; \$40,000 has been allocated to support Richmond Secondary's installation of 24 solar panels on the rooftop to be installed in 2020; other schools received \$1000 grants to fund school-based solar energy projects



Our carbon neutral objectives and GHG reduction endeavours are inextricably linked to our environmental stewardship initiatives. Of the eight Environmental Stewardship focus areas, Energy Conservation presents the greatest opportunity for both GHG reductions and financial savings given that the largest proportion of the District's GHG emissions is from energy use in buildings. Thus, the largest proportion of our GHG reduction initiatives focus on energy conservation within our schools and administrative facilities.

- Implemented boiler replacements to high efficiency condensing boilers at McRoberts Secondary, Gilmore and Anderson Elementary
- Installed on-demand water heater units at Boy Secondary
- Implemented DDC upgrades at McMath Secondary, Mitchell and McKay Elementary
- LED lighting upgraded at Burnett Secondary, following the success of the similar upgrade at MacNeill and McNair Secondary
- LED lighting upgraded at Whiteside Elementary
- Installed a Solar Wall system at McMath Secondary
- Installed 4 Gas Absorption Heat Pump units at Richmond and Cambie Secondary as a pilot project in collaboration with FortisBC
- Continued the replacement of 14 rooftop units at Burnett Secondary
- Upgraded parking lot lighting to LED lighting at three schools: Boyd Secondary, Palmer Secondary, and Spul'u'kwuks Elementary
- Completed the launch of centralized printing program, resulting in reduced the number of individual copy machines in the district
- Continued to execute regular duct and HVAC coil cleaning at various sites
- Continued to tie in corridor lighting with alarm panels so that all interior lighting can be automatically turned off when building security system is armed.

Plans to Continue Reducing Greenhouse Gas Emissions

We are continuing with the District's comprehensive energy conservation program and have a number of energy efficiency projects slated for 2020/21 including:

- Boiler replacements to high efficiency condensing boilers at Wowk and Spul'u'kwuks Elementary
- Carbon Capture System to be installed at the Administration Building as a pilot project in collaboration with FortisBC
- HVAC system upgrade at the Administration Building
- LED lighting upgrade at Cambie and Richmond Secondary, Anderson and Hamilton Elementary
- Direct Digital Control upgrades at McNair Secondary, Quilchena Elementary and Thompson Elementary
- Pneumatic Control conversion to Direct Digital Control at Tait Elementary
- Continue the 2 rooftop units replacement at Burnett Secondary, and replacement of rooftop units at McNair, McRoberts and Palmer Secondary, and Quilchena Elementary
- Install the Solar PV system (8.28 kW capacity) at Richmond Secondary
- Continue to execute regular duct and HVAC coil cleaning at various sites
- Launch the Zero Waste Initiative and 5-year Sustainability Action Plan

Achieving Carbon Neutrality

In 2019, we were carbon neutral with respect to our operations for the tenth year in a row. We achieved this through our commitment to reducing energy consumption in our buildings, paper consumption, fleet travel emissions, and by purchasing offsets for the remaining emissions.

In order to become carbon neutral for 2019, the Board of Education of School District 38 (Richmond) purchased carbon offsets from the Pacific Carbon Trust for 4,926 tonnes of CO₂e.

As required by Section 5 of the Carbon Neutral Government Regulation, 234 tonnes CO₂e of emissions resulting from the operation of school buses were reported as part of our greenhouse gas emissions profile in 2019. These emissions from school busses were not offset as they are out-of-scope under section 4(2)(c) of the Carbon Neutral Government Regulation.

Appendix A: Total GHG Emissions source detail report 2018 (temporarily used for 2019)

School District 38 - Richmond
Greenhouse Gas Emissions Source Detail Report for the 2018 Calendar Year
Generated: May 13, 2019

Source		Quantity	Greenhouse Gases In Tonnes			
			CO ₂	CH ₄	N ₂ O	tCO ₂ e *
Stationary Fuel Combustion (Building Heating and Generators) and Electricity						
Offset Required	Fuel Combustion **	80,230.90 GJ	3,988.37	0.08	0.08	4,012.93
	Purchased Energy	52,672.13 GJ	158.02	0.00	0.00	158.02
Offset Required Sub Total			4,146.39	0.08	0.08	4,170.95
TOTAL STATIONARY EMISSIONS			4,146.39	0.08	0.08	4,171
Mobile Fuel Combustion (Fleet and other mobile equipment)						
Offset Required	Fuel Combustion **	112,240.40 L	262.18	0.02	0.04	274.93
	Offset Required Sub Total		262.18	0.02	0.04	274.93
Offset Exempt	School Bus	83,455.01 L	212.29	0.01	0.01	216.39
	CO ₂ from Biogenic Fuel Combustion		17.48	N/A	N/A	17.48
Offset Exempt Sub Total			229.77	0.01	0.01	233.87
TOTAL MOBILE EMISSIONS			491.95	0.03	0.05	509
Supplies (Paper)						
Offset Required	Non-recycled Content Paper	4,449 Pkg	29.82	0.00	0.00	29.82
	Recycled Content Copy Paper	36,564 Pkg	216.10	0.00	0.00	216.10
Offset Required Sub Total			245.92	0.00	0.00	245.92
TOTAL SUPPLIES EMISSIONS			245.92	0.00	0.00	246
Total Offset Exempt			229.77	0.01	0.01	234
Total Offset Required			4,654.49	0.10	0.12	4,692
TOTAL EMISSIONS			4,884.27	0.11	0.13	4,926

* Each greenhouse gas has been converted to a standard measurement (tCO₂e) by multiplying its emissions by its global warming potential (GWP).

The GWP of carbon dioxide (CO₂) from both anthropogenic and biogenic sources is 1; methane (CH₄) is 25, and nitrous oxide (N₂O) is 298.

The Totals for tCO₂e are shown here rounded to the nearest whole metric tonne as only whole tonnes of tCO₂e can be purchased for offsets.

** Includes Fossil Fuels and CH₄ and N₂O from Biogenic Fuels

Appendix B: Total GHG Emissions by type, 2018

SMARTTool | Report

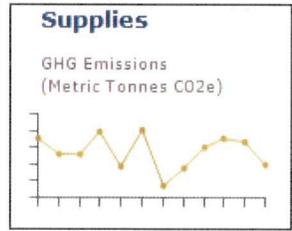
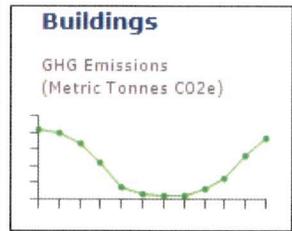
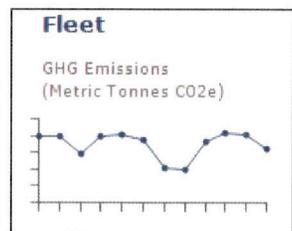
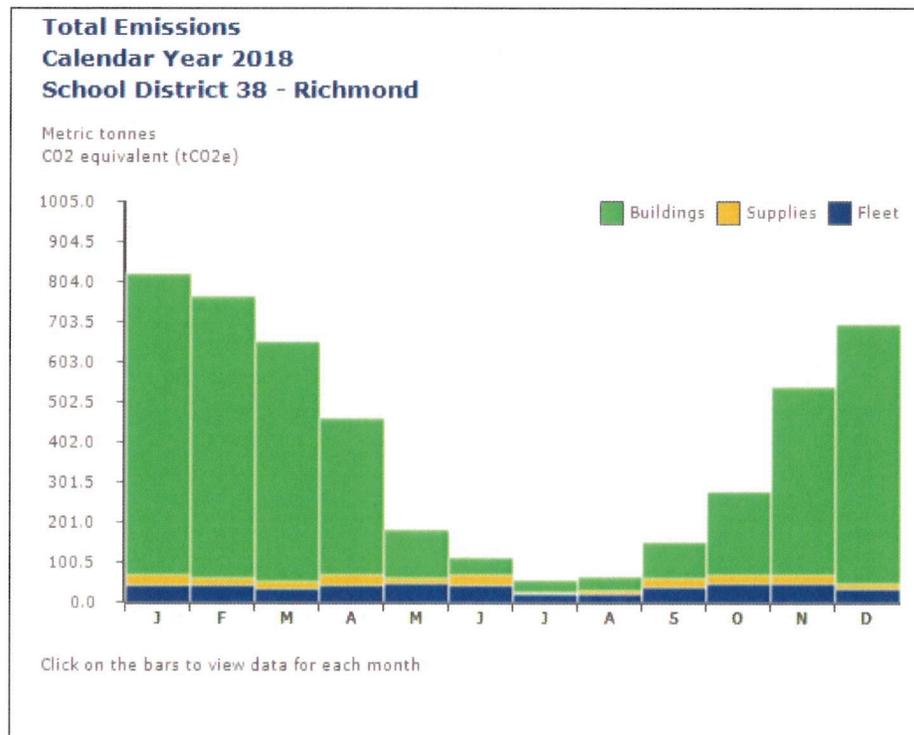
May 13, 2019

Reporting Unit:

School District 38 - Richmond ▼

Calendar Year 2018 ▼

Show Report



Reporting Entity: School District 38 - Richmond
 Reporting Year: Calendar Year 2018

		Greenhouse Gases in Tonnes				
Measure	Quantity	CO ₂	CH ₄	N ₂ O	tCO ₂ e ¹	
Scope 1 (Direct) Emissions						
Mobile Combustion (Fleet)	Litres	195,895.41	474.47	0.03	0.05	491.32
Stationary Combustion, Estimated ²	GigaJoules	555.18	27.53	0.00	0.00	27.69
Stationary Combustion, Reported ³	GigaJoules	79,875.72	3,980.85	0.08	0.08	3,985.24
Total Scope 1 Emissions		4,462.85	0.11	0.13		4,504.25
Scope 2 (Indirect) Emissions						
Purchased Energy, Estimated ²	GigaJoules	423.27	1.27	0.00	0.00	1.27
Purchased Energy, Reported ³	GigaJoules	52,248.88	156.75	0.00	0.00	156.75
Total Scope 2 Emissions		158.02	0.00	0.00		158.02
Scope 3 Emissions						
Business Travel and Office Paper						
Office Paper	Packages	41,013.00	245.92	0.00	0.00	245.92
Total Scope 3 Emissions		245.92	0.00	0.00		245.92
Emissions from Biomass						
Total Biomass Emissions		17.48	0.00	0.00		17.48
Total Emissions, Calendar Year 2018		4,884.27	0.11	0.13		4,925.67

1. Global Warming Potential (GWP) has been applied only to the tCO₂e values.

2. Estimated data has been calculated based on the methods described in the Methodology Document.

3. Reported data refers to consumption which has been directly billed to the organization.

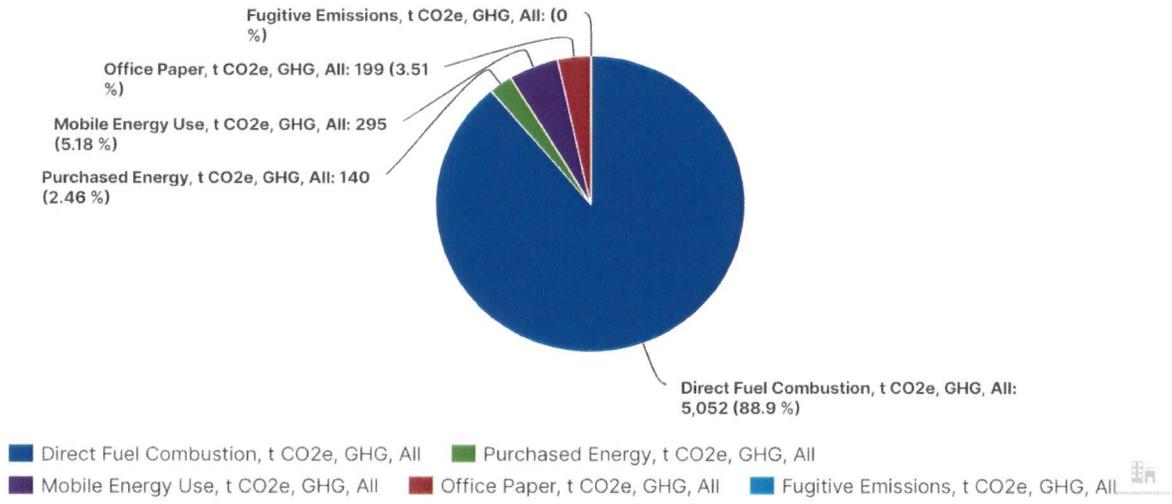
This information is provided by the Government of British Columbia, and is subject to verification.

Appendix C: Estimated GHG Emissions 2019 (pending to be validated)

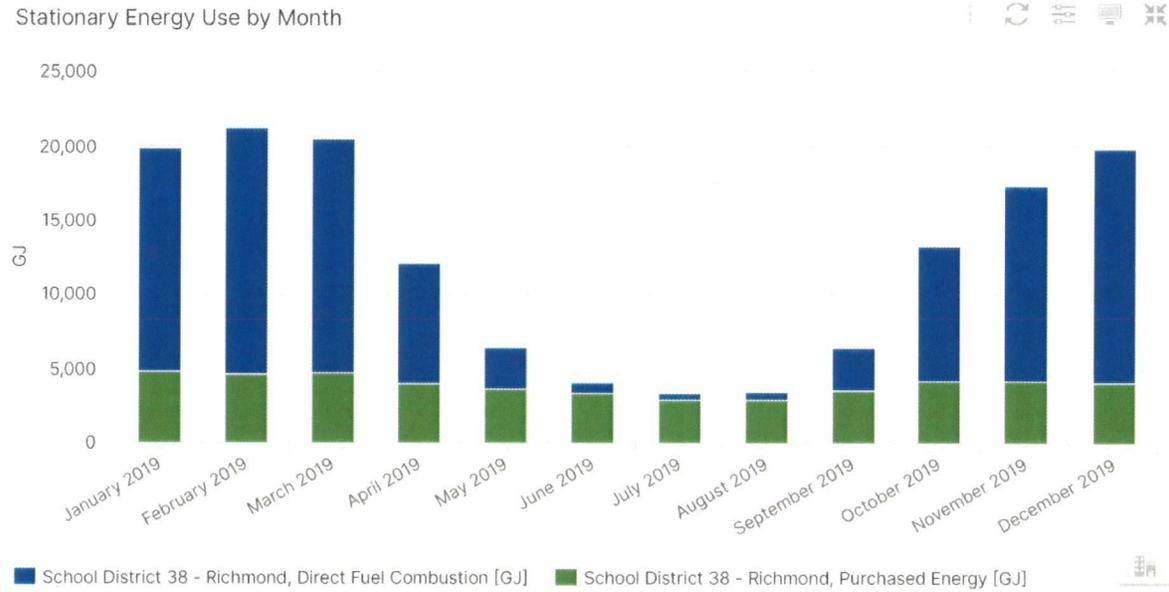
Offset Required GHG Emissions by Activity Data Source (no Biogenic)



Offset Required, 2019



Appendix D: Stationary Energy Use by Month, 2019 (pending to be validated)



Confirmation number: 00BF1C22

Submitted date: 2020-06-15 14:09:28 Pacific Daylight Time

Carbon Neutral Action Report Survey - 2019

Public sector organizations (PSOs) are required to complete this survey, in addition to a Carbon Neutral Action Report (CNAR) as mandated by BC's [Climate Change Accountability Act](#) and the [Carbon Neutral Government Regulation](#).

Due to the COVID-19 pandemic, the following [Directive](#) was issued on March 31, 2020. Certain deadlines were also extended for the 2019 reporting year (see below).

March 31, 2020 Directive:

Under my authority as the Director for the purposes of the Act, and under the authority delegated to me in Section 6 of the Carbon Neutral Government Regulation, I hereby direct that all ministries and Public Sector Organizations covered by the Carbon Neutral Government requirement shall use their 2018 GHG emissions as a temporary estimate for their actual 2019 GHG emissions, for the purposes of the 2019 Carbon Neutral Action Reports and 2019 Carbon Neutral Government reporting required under the Climate Change Accountability Act.

Neil Dobson, Executive Director, Clean BC Implementation
Climate Action Secretariat

Although 2018 emissions data will be used as a placeholder for 2019, **all other (qualitative) components of the CNAR and CNAR Survey are to be completed with information from 2019 (e.g., actions taken or planned to reduce emissions)**. The only change to the survey is that the deadline was extended by one month to June 30, 2020.

This survey is divided into two parts:

Part 1 - Will be made public on the Climate Action Secretariat (CAS) [website](#) after June 30, 2020; however, it will not be appended directly to each individual PSO CNAR as was done in previous years. This section collects details about actions taken or planned to reduce emissions and is intended to supplement the legislative requirements in your CNAR.

Part 2 - Will NOT be made public. Information you provide in this section is important and will be used internally to help CAS staff with planning for emissions reduction and climate change adaptation initiatives. Although not required, PSOs are highly encouraged to complete Part 2.

Note: Survey progress can be saved at any time by clicking the "Save and continue later" button at the bottom of each page. A new window will open and you will be asked to provide your name and email. An email will be sent to you from Carbon.Neutral@gov.bc.ca with the subject line: "Questionnaire Link", which will include a hyperlink for the "Project: Carbon Neutral Action Report Survey – Broader Public Sector 2019". You can then continue responding at another time or email the hyperlink to a colleague to complete remaining section(s).

May 29, 2020	<ul style="list-style-type: none">The final, signed version of the CNAR (or Small Emitters Form) must be submitted by email to: Carbon.Neutral@gov.bc.ca
June 30, 2020*	<ul style="list-style-type: none">Ministry of Environment and Climate Change Strategy must post a final CNAR for each organization on the BC Government's CNG website and each PSO is encouraged to post the report on their website.The CNAR Survey (optional for Small Emitters) must be completed and submitted online. *Deadline extended from May 29, 2020.<u>All offset invoice payments must be submitted to CAS.</u>
Sept 30, 2020*	<ul style="list-style-type: none">Clean Government Reporting Tool (CGRT) Data Entry must be completed for the 2019 reporting year.

	*Deadline extended from April 30, 2020.
Oct 15, 2020*	<ul style="list-style-type: none"> • Self-Certification checklist must be completed, signed and submitted by email to: Carbon.Neutral@gov.bc.ca. *Deadline extended from May 15, 2020.

*See the [Carbon Neutral Government – Program Requirements website](#) for more information on program requirements, timelines and templates.

PART 1 - Included as part of your public CNAR report.

Reminder that Part 1 will be made public on the CAS [website](#).

Contact Name:	<i>Jonathan Ho</i>
Contact Email:	<i>joho@sd38.bc.ca</i>
Organization Name:	<i>School District #38 (Richmond)</i>
Role – Please select the best category for your current role with your organization. If more than one individual completed the survey, multiple categories may be selected:	Energy Manager Other - Please Specify: <i>Energy Specialist</i>
Please select your sector:	School District (SD)

Stationary Sources (e.g. Buildings, Power Generators): Fuel Combustion, Electricity use, Fugitive Emissions.

Actions taken by your organization in 2019 to support emissions reductions from buildings

Do you have a strategy to reduce emissions from stationary sources?
Yes

Whether you have a strategy or not, briefly describe your organization's plans to continue reducing emissions from stationary sources:

Over the medium-term term (1-5 years)
<p><i>We have developed an annual Strategic Energy Management Plan (SEMP), which details our current situation with respect to energy consumption in our buildings and outlines plans to reduce consumption in the buildings with the highest energy intensity.</i></p> <ul style="list-style-type: none"> - Conduct energy audits to identify energy y saving opportunities - Perform energy retrofit projects - Building renovations - Apply best practices in building management

Over the long term (6-10 years)

- Execute long-term facility planning
- Integrate building management into energy management using smart controls

Please describe your strategy's goals (if any) related to energy audits.

- energy consumption analysis
- energy saving and GHG emissions reduction opportunities

What % on average of your building portfolio has an energy audit completed each year (if any)?

10

What % on average of your building portfolio is retrofitted each year in the following categories (if any) - click here for further information:

30

Minor retrofits (e.g. low cost, easy to implement measures including caulking, lighting, adding roof insulation, etc.)

15

Major retrofits (e.g. replacing windows and doors, equipment replacement such as boilers, etc.)

10

Deep retrofits (e.g. replacing roof, replacing the heating, ventilation and air-conditioning system with a renewable technology like a ground-source heat pump, etc.)

5

What % on average of your building portfolio do you recommission each year?

3

Do you keep records of Refrigerant gases¹ category and refilling volumes?

[1] Fugitive emissions from stationary cooling equipment are attributed to the leakage and loss of HFC and PFC based coolants from air conditioning and commercial type refrigeration systems. Coolant loss can occur during the manufacturing, operation, and disposal of such equipment. Gases that may be reported via CGRT include HFC R-134, HFC R-134a, HFC R-404a, HFC R-407c, HFC R-410a.

No

How many newly constructed buildings received at least LEED Gold certification in 2019?

0

How many newly constructed buildings did not receive LEED Gold certification?

0

Please explain why LEED Gold certification was not obtained for those new buildings.

No new construction

Other actions? Please describe briefly:

Behavioural change campaigns for students, staff, and other building occupants regarding energy usage.

Mobile Sources (Fleet Vehicles, Off-road/portable Equipment): Fuel

Combustion:

Actions taken by your organization in 2019 to support emissions reductions from mobile sources?

Do you have a strategy to reduce emissions from mobile sources?

No

Whether you have a strategy or not, briefly describe your organization's plans to continue reducing emissions from mobile sources:

Over the medium-term term (1-5 years)

- Fleet electrification:
- + Install EV chargers
- + Replace old vehicle with EV or hybrid cars
- Run behavioral programs to educate staff in regards emission associated with using vehicles
- Bike and walk more, drive less
- Carpool

Over the long term (6-10 years)

- Fleet electrification
- Run behavioural programs to educate staff in regards emission associated with using vehicles

How many fleet vehicles did you purchase from the following categories:

Electric Vehicle – EV - (e.g., Nissan Leaf, Chevy Bolt)

0

"Plug In" Electric Vehicle – PHEV (e.g., plug-in Prius, Chevy Volt)

0

Hybrid vehicle – HEV – non "Plug In"- (e.g., Toyota Highlander Hybrid)

0

Hydrogen fuel cell vehicle

0

Natural gas/propane

0

Gas/diesel vehicle

1

If you purchased new gas/diesel vehicles, can you briefly explain why vehicles from the other categories were not chosen?

There was hard to find an EV we want (Nissan Leaf) in the market at the time we were trying to buy

Actions taken by your organization in 2019 to support emissions reductions from mobile sources? (Continued)

How many existing EV charging stations does your organization have in each category:

Level 2?

8

Level 3?

0

How many level 2 stations (if any) are specifically for your fleet vehicles?

As defined as Level 2 stations only your organization's fleet vehicles may use

8

How many level 3 stations (if any) are specifically for your fleet vehicles?

As defined as Level 3 stations only your organization's fleet vehicles may use

0

How many EV charging station(s) did you install in 2019 in each category:

Level 2?

0

Level 3?

0

How many level 2 stations (if any) were installed specifically for your fleet vehicles?

As defined in the previous section

0

How many level 3 stations (if any) were installed specifically for your fleet vehicles?

As defined in the previous section

0

Please briefly describe any other related actions, (e.g. charging station feasibility studies, electrical panel upgrades, etc.)

- Conducted a charging station feasibility study at the board office
- Executed electrical panel upgrade at the board office
- Applied for funding incentive for the installation of Level 2 chargers

Please indicate the total number of the vehicles in the following vehicle classes that are in your current fleet

Definitions:

- Light duty vehicles (LDVs) are designated primarily for transport of passengers <13 and GVWR<3900kg
- Light duty trucks (LDTs) are designated primarily for transport of light-weight cargo or that are equipped with special features such as four-wheel drive for off-road operation (include SUVs, vans, trucks with a GVWR<3,900kg)
- Heavy duty vehicles (HDV) includes vehicles with a GVWR>3,900 kg (e.g. ¾ tonne pick-up truck, transport trucks)

Light duty vehicles (LDVs)

Electric Vehicles – EV - (e.g., Nissan Leaf, Chevy Bolt)

10

"Plug In" Electric Vehicle – PHEV -- (e.g., plug-in Prius, Chevy Volt)

0

Hybrid vehicles – HEV – (e.g., non "Plug In"- older Toyota Prius, Toyota Camry hybrid)

0

Hydrogen fuel cell vehicles

0

Natural gas/propane

0

Gas/diesel

6

Light duty trucks (LDTs)

Electric Vehicles – EV

0

"Plug In" Electric Vehicle – PHEV

0

Hybrid vehicles – HEV – (e.g., non "Plug In"- older Ford Escape Hybrid, older Chevrolet Silverado pickup hybrid, etc)

0

Hydrogen fuel cell vehicles

0

Natural Gas/propane

0

Gas/diesel

77

Heavy duty vehicles (HDV)

Electric Vehicles – EV

0

"Plug In" Electric Vehicle – PHEV

0

Hybrid vehicles – HEV – (e.g., non "Plug In")

0

Hydrogen fuel cell vehicles

0

Natural Gas/propane

0

Gas/diesel

6

Actions taken by your organization in 2019 to support emissions reductions from paper supplies.

Briefly describe your organization's plans to continue reducing emissions from paper use:

Over the medium-term (1-5 years)

- Reduce printing demand
- Double-sided printing default set up
- Centralized printers

Over the long term (6-10 years)

- Increase high recycled content

Do you have an awareness campaign focused on reducing office paper use?

No

Purchased alternate source paper (bamboo, hemp, wheat, etc.)

Yes

Other 2019 actions, please specify

- The purchasing department is using a Document Management System that can reduce overall paper consumption.
- The district completed the launch of a centralized printing program, resulting in reduced the number of individual copy machines in the district in 2019.