



2019 Carbon Neutral Action Report
SD40 New Westminster



New
Westminster
Schools

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Declaration Statement

This Carbon Neutral Action Report for the period of 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 30th, 2020 New Westminster School District's final Carbon Neutral Action Report will be posted to our website at newwestschools.ca

Overview

The New Westminster School District is a diverse, growing district with eight elementary schools, three middle schools and one high school, along with our school board office.

7,500 students comprised of:

- 1026 English Language Learner (ELL) students;
- 993 French Immersion students;
- 524 students identifies with special needs;
- 298 Aboriginal students

Combined, these dynamic students make our district the multi-national, multi-faceted community that it is today *where students love to learn*.

On behalf of School District 40, we are pleased to present our Carbon Neutral Action Report for 2019. Our school district is committed to lower greenhouse gas emissions through leadership, developmental planning and educating our future generations of the importance of sustainability.

At the grass roots level of New Westminster School District, environment clubs at various schools engage in conservation goals including composting, recycling consumables, community gardening and, in the case of the high school, promoting environment stewardship awareness. At the district level, New Westminster School District continues to replace out-dated gas-fired air handlers with high efficiency air

handlers or AHUs at two to three sites per year as well as replacing old roofing and gutters as part of an on-going effort to achieve carbon neutrality.

In 2019:

- 12 out-dated gas-fired AHUs were replaced at Glenbrook Middle School with hot water AHUs;
- the boiler system at Herbert Spencer were replaced with high-efficiency condensing boilers for heating and domestic loops;
- lighting retrofitted to LED and motion sensors;
- roof membranes installed with insulation at two schools.

New Westminster School District anticipates the use of air source heat pumps (ASHP) to deliver heating to classrooms raising the efficiency of the high efficiency boilers from 70% to 90% efficiency with an estimated a reduction of roughly 56% GHG tonnes per site.

New Construction

Major capital funding has made it possible to replace the aging high school with a replacement school that will incorporate the latest sustainable energy management system. The replacement school will be complete in late 2020/early 2021 with a LEED Gold standard.



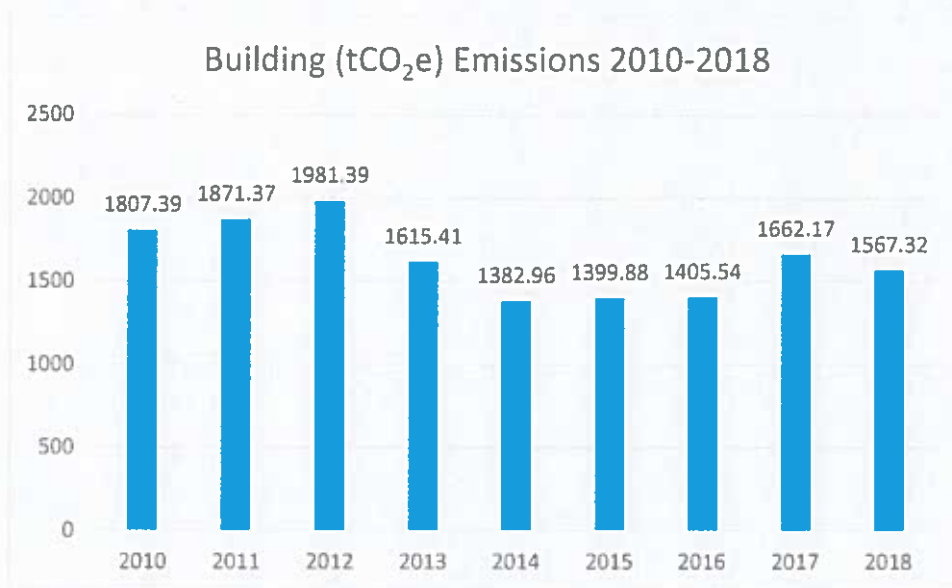
As well as the much anticipate opening of the replacement high school, 90 year old Richard McBride Elementary began its seismic upgrade that is expected to see completion in summer of 2021, providing students with a safe, modern school to learn and thrive in, plus meet today's standards for our carbon neutral goals.

2019 saw the completion of the seismic upgrade for Lord Tweedsmuir Elementary leaving only one school, Hume Park/Home Learners to be seismically upgraded.

Our Emissions Action Plan

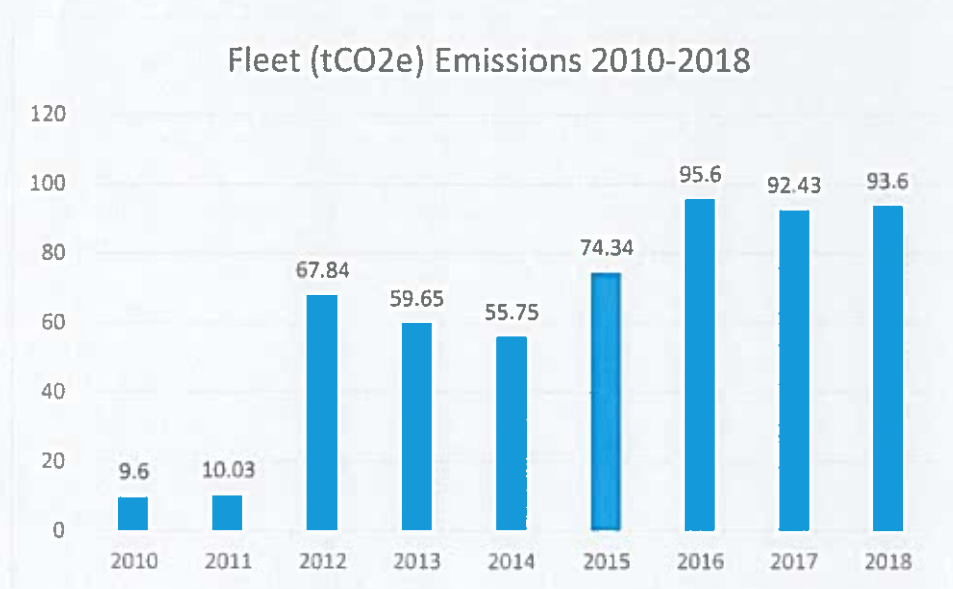
Building

New Westminster School District has made significant changes to the energy efficient heating systems in the past two years to 80% of our schools and portables with the last 20 % completed in the summer of 2020. Old furnaces in portables were updated gas-fired boilers replaced with water AHUs and hot water on demand units through the funding of annual facilities grants. The number of portables in the school district has increased in the last two years (2017 & 2018) to 46 to accommodate new class composition/size and increase of student enrollment, reflecting the increased emissions from 84.92 % of total offsets in 2016 to 86.66 % of offsets in 2017 and 87.41 % (tCO₂e) in 2018. New Westminster School District expects to decrease a minimum of 30% of total (tCO₂e) by 2022.



Fleet

Fuel consumption for New Westminster School District vehicles is at 5.22 % of total offsets for 2018, up slightly from 2017's 4.82 % as two additional vehicles were added to the fleet and 2016 was a heavy snow year. To reduce the emissions moving forward, hybrid or EV will be replace aging vehicles as part of our 5 year plan. Please note: The 2010 and 2011 years show a significant decrease in GHG emissions and fuel consumption that appears to be an aberration of data entry, so is misleading.

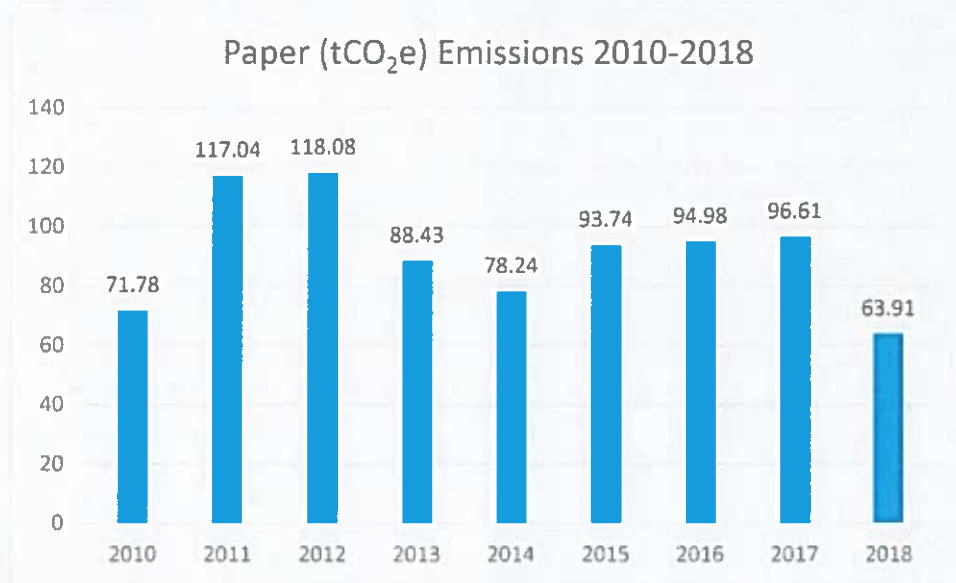


Paper

New Westminster School District realised a decrease of paper emissions at 3.59% of the total offsets in 2018, while the district is pleased with that decrease, ways and means to continue to reduce the amount of paper consumed is on-going.

Purchasing options include a minimum of 30% recycled content for white only paper. Class sets of textbooks are purchased digitally, reports cards are electronic, all communications with student parents/guardians is sent via email and school offices are sending invoicing to the board office electronically.

As shown below, 2018 emissions for paper consumption is at a ten year low, the school district continues to explore avenues of conservation with our staff.



Emissions and Offset Summary Table:

New Westminster School District GHG Emissions and Offsets for 2019 (tCO ₂ e)	
2018 GHG Emissions as a placeholder for the purposes of 2019 CNAR.	
Total Emissions (tCO ₂ e)	1,796
Total BioCO ₂	2.99
Total Offsets (tCO ₂ e)	1,793
Adjustments to GHG Emissions Reported in Prior Years	
Total Emissions (tCO ₂ e)	1
Total Offsets (tCO ₂ e)	1
Grand Total Offsets for 2019 Reporting Year	
Grand Total Offsets Required (tCO ₂ e)	1794
Offset Investment (\$25 per tCO ₂ e)	\$44,850

Retirement of Offsets:

In accordance with the requirements of the Climate Change Accountability Act and Carbon Neutral Government Regulation, School District 40 New Westminster 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 (if applicable). The Organization hereby agrees that, in exchange for the Ministry of Environment and Climate Change Strategy (the Ministry) 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 29, 2020

KARIM HALICAT

Name (please print) Superintendent of Schools

Confirmation number: 00BF3F48

Submitted date: 2020-05-29 12:43:52 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>Dino Stiglich</i>
Contact Email:	<i>maintenance@sd40.bc.ca</i>
Organization Name:	<i>School District 40 - New Westminster</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:	Facilities/Operations Manager/Coordinator
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
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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)	<i>Continue mechanical upgrades, replacing gas-fired furnaces with hot water ventilators, replacing older furnaces in our portables with high-efficiency furnaces and replacement hot water circulating pumps with variable speed drive models to conserve energy and water consumption.</i>
Over the long term (6-10 years)	<i>Implement a change of heating delivery to classrooms from the older radiant ceiling panels to air source heat pumps to increase boiler efficiency and decrease emissions.</i>

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

With the closing of the district's two least energy efficient and highest producing GHG emission sites, we will be conducting our first energy audit.

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

0

Please describe your strategy's goals (if any) related to building retrofits.

Implementation of LED tube lighting replacement is on-going as well as installation of motion sensors for lighting where feasible. Roofing replacement is also on-going with two sites on average being completed each year.

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

20% - Minor Retrofits
18% - Major Retrofits
18% - Deep Retrofits

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

Caulking as required at our schools, roof insulation installed as required.

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

Boiler replacement at two schools.

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.)

Roofing replacements at two schools.

Please describe your strategy's re/retro-commissioning goals (if any)?

N/A

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

0

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

What, if any, mitigation approaches have been considered? Please describe.

N/A

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 buildings were completed.

Other actions? Please describe briefly:

N/A

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?

Yes

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)

Replacing combustible engine vehicles with hybrid or EV as available or fuel efficient vehicles if no other alternative is apparent.

Over the long term (6-10 years)

Hybrid or EV vehicles replace aging trades vehicles, plus an increase of EV charging stations installed for fleet vehicles and staff use.

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

2

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

No hybrid or EV could be found for our requirements and/or budget.

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?

3

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

0

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.)

None as yet, though with the purchase of EV fleet vehicles, a charging station feasibility study will occur.

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)

0

“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

13

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

2

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)

Digital textbooks continue to be purchased instead of printed materials, reports cards for the high school are now digital and homework assignments are also sent electronically reducing the need for printed materials. The offices are reducing printed materials by with invoicing sent to the board office in via digital filing.

Over the long term (6-10 years)

An on-going effort is being made to include the elementary schools' usage of paper products to be limited to as needed rather than a daily occurrence by educating staff and students and by reducing purchasing of office pape from the current 30 % recycled content to 50 %..

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

Yes

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

Yes

Other 2019 actions, please specify

Sugar based paper was purchased to test the feasibility of its use, but was discontinued when discovered the carbon emissions created though shipping from pulp source to consumer was extensive. We embrace a renewable resource and have concluded that wood pulp produced less GHG emissions over the lifetime of the paper used.