



2019 CARBON NEUTRAL ACTION REPORT (CNAR)

CNAR

Nanaimo-Ladysmith Public Schools (School District 68)

Declaration statement: This Carbon Neutral Action Report for the period January 1, 2019 to December 31, 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, NLPS final 2019 Carbon Neutral Action Report will be posted to our website at www.sd68.bc.ca

Overview:

In 2019, NLPS continued with the strategic plan of reducing energy consumption and GHG emissions. In partnership with BC Hydro, the District replaced indoor lighting (T8 fluorescent to LED) in eleven schools. Our goal of a 300,000 kWh reduction in electricity was attained.

Phase 2 of the Cinnabar (condensing) boiler project was completed. A DDC upgrade occurred and reheat coils were added to the gym rooftop unit; thus taking advantage of the efficiencies of the condensing boiler plant. Fuel consumption and emissions were reduced.

Phase 1 of the Park Avenue School HVAC upgrade was completed. 5 gas furnaces and 3 rooftop units were replaced with a condensing boiler plant (servicing new unit ventilators in classrooms). We expect to realize a 25% reduction in fuel costs and a 13.3 ton reduction of Co₂.

The NLPS Grounds Department engaged in a pilot project rating the performance of battery powered tools. Emissions, noise, health impacts, and efficiencies will be compared.

We completed another year of the 'Energy Cup Challenge', in partnership with Fortis and BC Hydro. Conservation of resources and behavioral change were key elements for the competing schools.

In 2020, we will continue the Power Smart lighting program with BC Hydro, the target will again be a 300,000 kWh reduction.

At Chase River Elementary, we chose a heat pump hot water tank over a gas or electric option. Excess heat in the boiler room can be harvested; the heat pump is efficient, contributing near zero emissions.

At Cedar Elementary this summer, 3 old rooftop gas units will be replaced with hybrid heat pumps. The heat pumps will be clean and efficient; the backup gas heat will occur infrequently (when the unit is in defrost mode and coldest temperatures).



Gabriola will receive an HVAC upgrade this summer, 5 oil furnaces will be replaced with propane. A 12% decrease in energy, 18% decrease in CO2 emissions, and 8.9 tonnes of CO2e saved are estimated.

Park Avenue Phase 2 will complete this year, additional classrooms, change rooms, and the gym will be serviced from the efficient condensing boiler. Fuel and GHGs will decline; comfort and reliability added.

Emissions and Offset Summary Table:

<i>Nanaimo-Ladysmith Public Schools (SD68) GHG Emissions and Offsets for 2019</i>	
As per the Directive issued March 31, 2020, each PSO will use their 2018 GHG Emissions as a placeholder for the purposes of their 2019 CNAR.	
Total Emissions (tCO ₂ e)	3312
Total BioCO ₂	36
Total Offsets (tCO ₂ e)	3245
Offset Investment (\$25 per tCO ₂ e)	\$81,125

Retirement of Offsets:

In accordance with the requirements of the *Climate Change Accountability Act* and Carbon Neutral Government Regulation, Nanaimo-Ladysmith Public Schools (School District 68) 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:

June 8, 2020

Signature

Date

Mark Walsh, Secretary-Treasurer

Name (please print)

Title

Please scan and email the completed form to Carbon.Neutral@gov.bc.ca

Confirmation number: 00C4C9F2

Submitted date: 2020-06-23 12:17:35 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>rob lumsden</i>
Contact Email:	<i>rlumsden@sd68.bc.ca</i>
Organization Name:	<i>School District 68 Nanaimo Ladysmith</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:	<i>Energy Manager</i>
Please select your sector:	<i>School District (SD)</i>

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?	<i>Yes</i>
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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 our LED lighting (and controls) program. Advocate for AFG, CNCP, SEP funding for HVAC, boiler upgrades. Try to gravitate to LCE solutions for upgrades. When equipment fails, try to recognize it as an opportunity to upgrade to greener technology.</i>
Over the long term (6-10 years)	<i>LED lighting (with controls) projects may fade out. Emphasis will transfer to boiler/HVAC solutions that save more on GHGs and energy. We will continue, and hopefully accelerate our retrofits of fossil fuel equipment. We have a 5 year plan on heating equipment.</i>

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

Energy audits are generally done to help build our 5 year plan, when equipment fails, or when preparing to ask for grant money. They are generally focused on heating equipment. We would like to move to all inclusive audits (insulation, etc.).

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

8%

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

*Building envelope projects are done periodically (Dover Bay over \$2 million this year).
Roofing projects are done each year.
CNCP grants are applied for each year (boilers/HVAC)
Take advantage of seismic upgrades to upgrade
Take advantage of additions to schools-upgrade mechanical systems*

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

*Roofing 5%
Lighting 25%
HVAC 5%
Boilers 4%
Building envelope 4%*

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

10%

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

5%

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.)

4%

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

*SD 68 has done building recommissioning in the past, we are looking into opportunities thru BCH.
We have taken part in COP in the past.*

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.

Yes

If yes, have you quantified and reported the associated emissions? What, if any, mitigation approaches have been considered? Please describe

*We have not reported out any fugitive emissions.
Strict attention is given to SD forces and contractors to comply with capture of refrigerant gases.*

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

Strict attention is given to SD forces and contractors to comply with capture of refrigerant gases.

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.

Never had a construction project in 2019. We will do an addition next year to Hammond Bay, I believe it will be near LEED.

Other actions? Please describe briefly:

No answer

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)

*Purchasing 2 battery electric buses and plan on expanding program.
Waiting for an effective truck/van solution.
Always look for a low carbon solution when choosing a vehicle replacement.*

Over the long term (6-10 years)

*Increase battery electric numbers in bus fleet.
Hopefully we have a decent solution for electric trades vans.*

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

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

1

“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

8

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

*tractor (only choice gas/diesel)
3 ton dump truck (no electric solution)
Cube vans (no electric solution)
1 ton vans*

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

1

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

1

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.)

*Study being done for stations to service 2 buses
Hammond Bay addition will include a feed to charging station*

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)

1

“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

0

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

2

Gas/diesel

6

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

39

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)

*Promote awareness, promote double-sided printing (make it the default choice)
Include in behavioral change programs
Use more recycled paper
Restrict purchasing (has to be done centrally)*

Over the long term (6-10 years)

Build on the 5 year plan, control buying at a central location, not allowing each school to buy paper (no control)

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

Yes

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

No

Other 2019 actions, please specify

Central buying is a good control measure, schools buy whatever is cheapest