

Carbon Neutral Action Report 2019



SOOKE
SCHOOLS **62**
Shaping Tomorrow Today

CNAR Overview

Title: 2019 Carbon Neutral Action Report

Organization name: School District No.62 (Sooke)

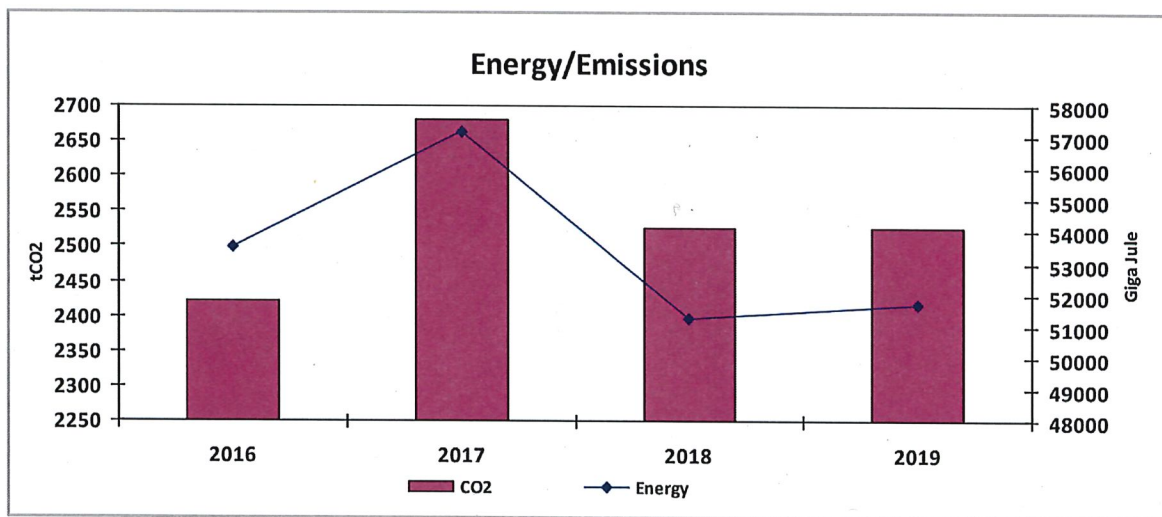
Declaration statement: This Carbon Neutral Action Report for the period January 1st, 2019 to December 31st, 2019 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2019 to reduce our greenhouse gas emissions and our plans to continue reducing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

By June 30, 2020 School District No. 62(Sooke)'s final *Carbon Neutral Action Report* will be posted to our website at www.sd62.bc.ca

Overview:

To achieve carbon neutrality in the 2019 calendar year, School District No.62 applied carbon offsets of 1,716 tonnes of carbon dioxide (tCO₂e), in addition exempt offsets of 809 tCO₂e was identified for total emissions of 2,525 tCO₂e. School District No.62(Sooke)s' total offset investment is \$45,045 with GST included for the required offsets of 1,716 tCO₂e for the 2019 reporting year.

The total energy consumption and greenhouse gas emissions have been maintained from the previous year.



< Greenhous Gas Emissions and Energy Consumption >

- **Actions Taken to Reduce Greenhouse Gas Emissions in 2019**

- Upgrading Unit Ventilators at Dunsmuir Middle School

- Phase one of a two phase project to replace past useful life Herman Nelson's unit ventilators installed in the early 1960's, with new Unit Ventilators and DDC controls.

- Replacing single-glazed and aging windows at Dunsmuir Middle School

- Phase one of a two phase project to replace all single-pane windows with double-pane windows to increase the R value of the building envelope.

- Other actions taken in 2019

- ✓ Installing Variable Speed Drive on boiler water pumps with DDC control: Lakewood Elementary School

Other actions taken in 2019

- ✓ Installing Variable Speed Drive on boiler water pumps with DDC control: Lakewood Elementary School
- ✓ Upgrading DDC communication: rewiring DDC network cable at Hans Helgesen Elementary School
- ✓ Implementing DDC Fault Diagnostic Detection System: OBS, for all schools that run Honeywell DDC systems
- ✓ Upgrading DDC controllers: 15 XL-10 controllers at Spencer Middle School
- ✓ modifying DDC programs for heating demand boiler control: David Cameron, Hans Helgesen, Happy Valley, Lakewood, Willway, Wishart elementary School.
- ✓ Revising Energy Management Policy/Regulation along with SD62 Strategy Plan 2018-2021

• **Plans to Continue Greenhouse Gas Emissions Reduction 2020 – 2022**

School District No. 62(Sooke) is acting to revise and update their emissions reduction plan, otherwise known as the Strategic Energy Management Plan or SEMP. SD62's district goal is to be a Provincial leader in meeting GHG emission reduction targets set out in CLEAN BC by creating an Energy Sustainability Plan (ESP). In cooperation with direction from the District's Board of Education and Executive we will identify and build strategies for effective energy savings projects planned to reduce GHG, energy use and energy costs. As SD62's expected growth continues, being energy efficient is one of the highest priorities of the School District.

Over the next several years SD62 will be continue to upgrade old and inefficient heating and control systems, lighting grids and building envelopes.

Planned Projects for 2020

- ✓ Phase two Dunsmuir Middle School Hvac and window upgrade replacing beyond useful life and inefficient units with Unit Ventilators and DDC controls and upgrading the envelope by replacing the remaining single pane windows with more efficient double pane windows
- ✓ Completing DDC Fault Diagnostic Detect System: OBS Honeywell

Future Projects to be completed when resources are available

- ✓ New Condensing boilers with VFD pumps at David Cameron Elementary School
- ✓ New Condensing boilers with VFD pumps at Willway Elementary School
- ✓ Replacing Roof Top HVAC equipment that is deteriorated and past it's useful life ; Spencer Middle School, Willway Elementary School
- ✓ New DDC for the non-DDC schools: Saseenos Elementary School, Millstream Elementary School, Sangster Elementary School
- ✓ Replacing Roof Top HVAC equipment that is deteriorated and past it's useful life
- ✓ Replacing Roof Top HVAC equipment that is deteriorated and past it's useful life
- ✓ New Condensing boilers with VFD pumps at David Cameron Elementary School
- ✓ Installing New DDC for the non-DDC schools

Emissions and Offset Summary Table:

School District NO. 62(Sooke) GHG Emissions and Offset for 2019 (tCO ₂ e)	
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)	2,525
Total BioCO ₂	43.23
Total Offsets (tCO ₂ e)	1,716
Offset Investment (\$25 per tCO ₂ e)	\$42,900

Retirement of Offsets:

In accordance with the requirements of the *Climate Change Accountability Act* and Carbon Neutral Government Regulation, School District No. 62(Sooke) (**the Organization**) is responsible for arranging for the retirement of the offset's 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

May 7, 2020

Date

Scott Stinson

Name (please print)

Superintendent / CEO

Title

Confirmation number: 00BFD887

Submitted date: 2020-06-18 16:14:11 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. <p>*Deadline extended from May 29, 2020.</p> <ul style="list-style-type: none"><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>James Lee</i>
Contact Email:
<i>jalee@sd62.bc.ca</i>
Organization Name:
<i>School District No.62(Sooke)</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:
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)
<ul style="list-style-type: none"> - upgrading low/medium efficiency boilers with condensing boiler or Air Source Heat Pump - upgrading old furnaces with condensing boiler or Air Source Heat Pump - replacing propane/Light Fuel Oil boilers with natural gas condensing boilers - operation optimization to increase energy efficiency
Over the long term (6-10 years)
<ul style="list-style-type: none"> - upgrading low/medium efficiency boilers with condensing boiler or Air Source Heat Pump - upgrading old furnaces with condensing boiler or Air Source Heat Pump - replacing roof top air handling units with higher energy efficiency/low carbon foot print units

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

- monitoring and reporting energy consumption by energy source, schools
- identifying GHG reduction opportunities by analyzing Energy Utilization Index(kWh/sq.meter) with comparison to peer group bench mark or historical performance.
- utilizing energy performance analysis for capital projects

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

100

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

- capital/maintenance projects for energy efficiency and comfort.
- implementing Preventive Maintenance for capital projects and maintenance
- remmissioning HVAC systems
- upgrading boilers/furnaces/roof top units/DDC
- upgrading building envelop, replacing single pane windows

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

25%(assumption)

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

- upgrading light bulb with LED bulb.
- replacing/fixing heating valve and damper actuator of air handling units
- installing variable speed drive pumps/fans with DDC controlled
- installing CO2 sensor on air handling unit to control the amount of outside air

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

- upgrading old unit ventilators with new one and DDC control
- replacing single pane windows
- upgrading DDC controllers

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.)

- installing air/ground source heat pump for new schools' projects

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

None at this point

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

25

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.

None at this point

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

None

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

None

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

N.A

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?

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)

- replacing diesel school buses with electric bus
- replacing diesel/gasoline vehicles with electric vehicle
- optimizing school bus route

Over the long term (6-10 years)

- replacing diesel school buses with electric bus
- replacing diesel/gasoline vehicles with electric vehicle

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 infrastructure prepared.

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?

6

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.)

Planning of installing new Level-2 EVs charging station for electrical school buses at Transportation ground.

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

2

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
30

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
8

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)
<i>SD doesn't have a policy for recycled content paper but SD purchased only 30%/100% recycled papers.</i>

Over the long term (6-10 years)
<i>None at this point</i>

Do you have an awareness campaign focused on reducing office paper use?
No

Purchased alternate source paper (bamboo, hemp, wheat, etc.)
No

Other 2019 actions, please specify
<i>None</i>