



2018 CARBON NEUTRAL ACTION REPORT



TABLE OF CONTENTS

Inside this issue:

Executive Summary	3
Overview of Actions Taken in 2018	4
Plans for Reducing Emissions in 2019	6
Emissions and Offsets Summary	7

EXECUTIVE SUMMARY for School District No. 51 (Boundary)

This Carbon Neutral Action Report for the period January 1st, 2018 to December 31st, 2018 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2018 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2019 and beyond.

By June 30, 2019, School District 51's final *Carbon Neutral Action Report* will be posted to our website at www.sd51.bc.ca.

SD51 is pleased to report a decrease in greenhouse gas emissions in 2018. Our District remains committed to continue to work towards annually reducing emissions.

SD51 Board of Education believes that we should all be lifelong learners, and as a District we try to cultivate as well as teach a respect for our environment that will follow our students into adulthood.

We believe that the District and our schools have a unique opportunity to reinforce positive environmental concepts, that will enhance the relationship between living things and their natural and built surroundings.



Boundary Central Secondary School Textiles 8 and Leadership 11/12 classes ran a clothing drive during waste reduction week. This campaign, titled "I Give a Shirt" was run by Diabetes Canada, Value Village and the Recycling Council of Ontario. They collected over 75 large bags of textiles.

OVERVIEW OF ACTIONS TAKEN IN 2018

In 2018 School District No. 51 took several actions to improve our efficiencies and help reduce our footprint.

The actions we took in 2018 that had the most impact increasing our efficiencies were the bathroom upgrades at Dr. D. A. Perley Elementary and the domestic water supply system replacements at Beaverdell Elementary, Midway Elementary and Christina Lake Elementary Schools through the installation of water saver fixtures.



Outdoor Classrooms are a key part of learning in SD51



BCSS—Agriculture in the Classroom—Spuds in Tubs

Other action items for the 2018 school year included:

- Continuation of HVAC equipment upgrades at Christina Lake Elementary and Beaverdell Elementary Schools
- District-wide lighting retrofits and replacements
- Two new 76 passenger diesel buses with upgraded emission controls
- SD 51 continued to support school recycling programs.

OVERVIEW OF ACTIONS TAKEN IN 2018

SCHOOL HIGHLIGHTS—WEST BOUNDARY & BEAVERDELL ELEMENTARY SCHOOLS:

Recycling Program - every classroom collects and sorts their plastics, paper, and metal into separate bins. These are later combined with all the school's efforts and sent to a recycling facility.

Recycled Materials - we utilize non-recyclable cardboard, paper products, and other interesting found objects that would otherwise end up in a landfill as mediums for the creation of artworks or STEM projects.

Bus sharing - wherever possible we share our busing between multiple schools and minimize the amount of bus trips

Gardening— At WBES we plant six beds of flowers and vegetable plants and then when harvested are shared with our community through a food sharing program and also the harvest lunch. Students also learn how to grow their own food, are educated about compost use, organic gardening, harvesting seeds to save for the next year's crop, and the importance of sharing the bounty of your crop with struggling members of our community. Students at BES, have four raised garden beds that they utilize to help them to develop an understanding of how to grow their own food.



WBES Nature Trail - One of our late Spring adventures is the planting of native trees and plants in our nature area with the assistance of local biologists.

Hot lunch program - wherever possible we purchase ingredients that are grown or produced locally and at both schools hot lunches are created within the school itself.

Lighting - lights are turned off when there is sufficient light streaming through the windows for students to comfortably work in their classrooms. Classrooms also have an automatic motion activated switch that recognizes when our classes are empty and turn off the lights.

Outdoor Education - wherever possible students utilize outdoor spaces as their classroom which reduces the need for electric lights and excessively heated classrooms.

Submitted by Angela Bragg, Principal WBES, BES

PLANS FOR REDUCING EMISSIONS IN 2019

In 2019, School District 51 plans to continue to find ways to move forward with energy saving upgrades. Several school enhancement projects are in the queue:

- Washroom upgrades at Grand Forks Secondary, Boundary Central Secondary, Christina Lake Elementary and Beaverdell Elementary
- Insulation of windows and exterior door replacements at J.A. Hutton Elementary School
- West Boundary Elementary building envelope upgrades
- Lighting upgrades in the auditorium at Grand Forks Secondary School
- Replace the air handling unit at Boundary Central Secondary School
- Electrical upgrades at Christina Lake Elementary, J.A. Hutton Elementary, Big White Community School, Walker Development Centre, Grand Forks Secondary, Greenwood Elementary, Beaverdell Elementary, Boundary Central Secondary, Midway Elementary, West Boundary Elementary, Dr. D. A. Perley Elementary, and Glanville Centre.
- Roof upgrades/replacement at Dr. D.A. Perley Elementary, Grand Forks Secondary and the IT Building
- We are supporting a “Re-wilding Project” proposed by Dr. D. A. Perley Elementary and are excited to see this develop and the enthusiasm of the students as they pour into this project.
- Our Technology Department has several projects that will continue to improve our footprint for 2019. They include: the GFSS Auditorium stage lighting project, that includes replacing the older less efficient lighting with newest technologies that require reduced consumption; the ongoing replacement of servers, which are bigger, faster and more energy efficient; as well as desktops including school labs.

Finding the Fibonacci sequence in plant life in a nearby field



We are committed to being responsible environmentally, and the District will continue to look for opportunities through a continued improvement approach to energy management. Collectively these changes will continue to support us as we strive to reduce our Carbon Footprint in 2019.

2018 GREENHOUSE GAS EMISSIONS AND OFFSETS APPLIED TO BECOME CARBON NEUTRAL

<i>School District No. 51 (Boundary)</i> GHG Emissions and Offset for 2018 (tCO ₂ e)	
GHG Emissions created in Calendar Year 2018	
Total Emissions (tCO ₂ e)	894
Total BioCO ₂	10.93
Total Offsets (tCO ₂ e)	659
Adjustments to GHG Emissions Reported in Prior Years	
Total Emissions (tCO ₂ e)	7
Total Offsets (tCO ₂ e)	0
Grand Total Offsets for the 2018 Reporting Year <i>(This is the total of emissions that must be offset for Reporting Year 2018)</i>	
Grand Total Offsets Required (tCO ₂ e)	659
Total Offset Investment <i>(Grand Total Offsets Required X \$25/tCO₂e)</i>	\$16,475.00

Retirement of Offsets:

In accordance with the requirements of the Greenhouse Gas Reduction Targets Act and Carbon Neutral Government Regulation, *School District No. 51 (Boundary)* (**the Organization**) is responsible for arranging for the retirement of the offsets obligation reported above for the 2018 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

Mr. Ken Minette

Name (please print)

May 28, 2019

Date

Superintendent of Schools

Title

Part 1: CNAR Survey

1. General Information

Name: Charlene Wiebe

Contact Email: charlene.wiebe@sd51.bc.ca

Organization Name: School District No. 51 (Boundary)

Sector: School District

Role - Please select your role(s) below.

If more than one individual completed the survey, multiple categories may be selected:

Energy Manager: No

Sustainability Coordinator: No

Administrative Assistant: No

Facilities/Operations Manager/Coordinator: No

CEO/President/Exec Director: No

Treasurer/Accounting: No

Superintendent: No

Other - Please Specify: Executive Assistant

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

1. Actions taken by your organization in 2018 to support emissions reductions from buildings.

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

Yes

If yes above, what are the main goals?: To continue to upgrade and replace in our facilities as needed and as resources are available. In 2018 we did 2 roof replacements, replaced heating units at Christina Lake Elementary and Beaverdell Elementary. We also upgraded the control systems at Big White School, Greenwood Elementary, Christina Lake Elementary and Beaverdell Elementary Schools.

b) Whether you have a strategy or not (1.a), briefly describe your organization's plans to continue reducing emissions from stationary sources:

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

The plan is to:

- upgrade old equipment to more efficient
- replace exterior windows and doors as needed
- replace old light bulbs with LED fixtures
- modify our computer temperature control centre
- roofing upgrades at Perley Elementary, Grand Forks Secondary and in the IT building
- replace Air Handling Unit at Boundary Central Secondary

II. Over the long term (6-10 years)

The plan is to continue the exterior window and door replacements throughout the District.

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

Monitoring energy usage to determine and prioritize where to make more efficiencies.

I. What % on average of your building portfolio has an energy audit completed each year (if any)? : 0

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

This is managed as situations arise.

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

Minor retrofits (e.g., low cost, easy to implement measures including caulking, lighting, adding roof insulation, etc.) (%): 30

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.) (%): 10

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

Every project taken into consideration and implemented is based on building needs and funding available.

I. What % on average of your building portfolio do you recommission each year? : 30

f) Do you keep records of Refrigerant gases category and refilling volumes?

No

g) How many newly constructed buildings received at least LEED Gold certification in 2018 : 0

I. How many newly constructed buildings did not receive LEED Gold certification? : 0

II. Please explain why LEED Gold certification was not obtained.

We do not have any new buildings.

B. Mobile Sources (Vehicles, Off-road/portable Equipment): Fuel Combustion:**3. Actions taken by your organization in 2018 to support emissions reductions from mobile sources.****a) Do you have a strategy to reduce emissions from mobile sources?**

No

b) Whether you have a strategy or not (3.a), briefly describe your organization's plans to continue reducing emissions from mobile sources:

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

To research alternate fuel source vehicles.

II. Over the long term (6-10 years)

To fully replace our existing fleet with alternate fuel source vehicles.

c) 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: 3

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

At this time we are not staffed or setup to maintain vehicles in the other categories (1 full-time mechanic).

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

level 2: 0

level 3: 0

How many level 2 stations (if any) are specifically for your fleet vehicles: 0

How many level 3 stations (if any) are specifically for your fleet vehicles: 0

e) How many EV charging station(s) did you install in 2018 in each category:

level 2: 0

level 3: 0

How many level 2 stations (if any) were installed specifically for your fleet vehicles: 0

How many level 3 stations (if any) were installed specifically for your fleet vehicles: 0

f) Other actions, please describe briefly (e.g. charging station feasibility studies, electrical panel upgrades, etc.)

Not applicable at this time.

4. Please indicate the number of the vehicles in the following vehicle classes that are in your current fleet (including any purchased in 2018):

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)

a) 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: 0

b) 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: 10

c) 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: 15

5. Please indicate the number of the vehicles you plan to replace in your fleet:

How much do you budget per LDV?: 0

How many LDVs do you plan to procure annually over the next 5 years?: 0

How much do you budget per LDT?: 0

How many LDTs do you plan to replace annually over the next 5 years?: 0

How much do you plan to spend per HDV?: 0

How many HDVs do you plan to replace annually over the next 5 years?: 1

C. Office Paper: Indicate which actions your PSO took in 2018:**6. Actions taken by your organization in 2018 to support emissions reductions from paper supplies.****a) Do you have an Office Paper strategy?**

No

b) Whether you have a strategy or not (6.a), briefly describe your organization's plans to continue reducing emissions from paper use:**I. Over the medium-term (1-5 years)**

We will continue to intentionally choose to hold meetings with digital agendas and copies rather than supplying paper options. As schools continue to implement the "new" curriculum, it is anticipated that less paper will be used. We also have purchased software licensing for a program that can monitor/limit copies by school or employee. We are working with our administrators to develop reduction goals for the 2019-20 school year.

II. Over the long term (6-10 years)

Unknown at this time, although we are considering more control over paper consumption as described above.

c) Have an awareness campaign focused on reducing office paper use

No

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

No

e) Other actions, please specify.

None at this time.