

# School District 79 (Cowichan Valley) 2018 Carbon Neutral Action Report



## Declaration statement

This is the 2018 Carbon Neutral Action Report for School District 79 Cowichan Valley. This report is for the period January 1st to December 31st, 2018 summarizing our emissions profile, the actions we have taken in 2018 to reduce our GHG emissions, the amount of offsets purchased to reach net zero emissions and our plan to continue reducing emissions in 2019 and beyond.

By June 30, 2019 School District 79 Cowichan Valley's final CNAR will be posted to our website at [www.sd79.bc.ca](http://www.sd79.bc.ca).

## Executive Summary

The Cowichan Valley School District is continuing to work towards reducing their Greenhouse Gas emissions. The actions of the school district have a tremendous impact on the community it serves. In 2009 the district adopted a policy on Resource Management and Sustainability and formed a Sustainability Committee whose mandate was to deal with issues that contribute to the district's carbon footprint. Long term reduction goals were adopted which fall in line with the BC Energy Plan and Bill 44-2007: Greenhouse Gas Reduction Targets Act.

Due to reduced energy consumption over the past 10 years Cowichan Valley School District's electrical consumption was down by over 40% and natural gas consumption was down by over 30% for the 2017/18 school year compared to the 2007/08 school year. As well Cowichan Valley School District has been making an effort to switch to cleaner energy sources which has resulted in a large reduction in Greenhouse Gas emissions. These efforts are noticeable all across the district influencing students and staff to become more aware of environmental issues. Cowichan Valley School District continues to upgrade and optimize mechanical systems which have significantly reduced the district's carbon footprint. In 2018 the district continued with its window and building envelope projects. Another major project was the installation of heat pumps for all of the district's portables. These projects have a large impact on occupant comfort and heating energy consumption. The district has adjusted bus routing to reduce bus runs and driving distances. The district has also continued to do exterior lighting upgrade projects.

## 2018 Greenhouse Gas Emissions

<b>School District 79 Cowichan Valley GHG Emissions and Offset for 2018 (tCO<sub>2</sub>e)</b>	
<b>GHG Emissions created in Calendar Year 2018:</b>	
Total Emissions (tCO <sub>2</sub> e)	2,167
Total Offsets (tCO <sub>2</sub> e)	1,783
<b>Adjustments to GHG Emissions Reported in Prior Years:</b>	
Total Emissions (tCO <sub>2</sub> e)	81
Total Offsets (tCO <sub>2</sub> e)	81
<b>Grand Total Offsets for the 2016 Reporting Year:</b>	
Grand Total Offsets (tCO <sub>2</sub> e)	1,864

### Distribution of Emissions

The total Greenhouse Gas Emissions for 2018 were 2,167 tonnes CO<sub>2</sub>e. 57.07% of this came from stationary fuel combustion, 35.66% came from mobile fuel combustion, 2.26% came from indirect emissions and 5.01% came from travel and supplies.

### Offsets Applied to Become Carbon Neutral in 2018

Of the total Greenhouse Gas Emissions 384 tonnes CO<sub>2</sub>e resulted from Carbon Neutral or Offset Exempt sources. As a result of this the total GHG Emissions required to be offset to become Carbon Neutral for 2018 was 1,783 tonnes CO<sub>2</sub>e. This resulted in a charge of \$44,575.00 plus GST.

### Changes to Greenhouse Gas Emissions and Offsets Reporting from Previous Years

Following the public release of School District 79 Cowichan Valley's 2017 Carbon Neutral Action Report it was determined that the total emissions for the 2017 calendar year were under reported by 81 tonne CO<sub>2</sub>e. This resulted in an additional 81 tonnes CO<sub>2</sub>e which require the purchase of offsets. This gives an overall total of 1,864 tonnes CO<sub>2</sub>e which require the purchase of offsets. Therefore, the total payment to the Ministry of Environment is \$46,600.00 plus GST.

### Retirement of Offsets

In accordance with the requirements of the Greenhouse Gas Reduction Targets Act and Carbon Neutral Government Regulation, School District 79 Cowichan Valley 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 district hereby agrees that, in exchange for the Ministry of Environment ensuring that these offsets are retired on the district's behalf, the district will pay the associated invoice issued by the Ministry in an amount equal to \$25 per tonne of offsets retired on its behalf plus GST.

# Emissions Reduction Activities

## Actions Taken to Reduce Greenhouse Gas Emissions in 2018

The Transportation Department has continued to work on bus routes. Due to an overall increase of ridership the actual distance travelled has increased but through efficient routing this increase has been minimized. The district has also replaced 1 bus with a new more fuel efficient bus.

A Building Envelope project was started at a school that reopened in 2018. This project will continue through 2019. This projects will enhance occupant comfort and reduce the consumption of heating energy. The Operations Department has undertaken a number of lighting projects throughout the district to reduce electrical consumption. These lighting projects include a small interior LED lighting project at one of the district's schools as well as exterior and parking lot LED lighting at 2 other elementary schools. Continuous Optimization projects are coming to completion at 2 facilities which will result in a significant reduction in electricity, natural gas and fuel oil consumption. The district has also started doing annual end-to-end reviews of DDC systems at an additional 4 schools. Now all of the schools in the district have end-to-end reviews of their DDC systems annually. This identifies and corrects issues that occur throughout the year which cause inefficiencies in the heating systems.

## Plans to Continue Reducing Greenhouse Gas Emissions 2019 – 2020

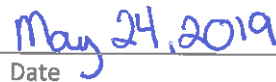
The district will continue to implement projects in an effort to reduce energy consumption and Greenhouse Gas emissions. The district will continue with lighting projects, including the continuation of the installation of exterior and parking lot LED light fixtures at schools across the district.

The district will be starting major heating plant upgrades at 2 elementary schools. The district is also continuing a building envelope project at one site. These projects will have a large impact on occupant comfort and the reduction of heating energy and greenhouse gas emissions.

The communication of Energy Efficient and Sustainable practices will continue district wide in an effort to promote the overall awareness of sustainability issues.



Signature



Date



Name (please print)



Title

# Part 1: CNAR Survey

## 1. General Information

**Name:** Brian Branting

**Contact Email:** bbranting@sd79.bc.ca

**Organization Name:** School District 79 Cowichan Valley

**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: Yes

CEO/President/Exec Director: No

Treasurer/Accounting: No

Superintendent: No

## 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?: Any replacement or upgrade projects are done with energy efficiency and emission reduction as one of the main goals.

#### 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)

There are 2 new boiler installations scheduled that will greatly reduce fuel combustion and greenhouse gas emissions.

Any lighting upgrades that happen will include the most energy efficient light fixtures that are practical for the application.

There are also some building envelope projects that will include the insulation value of the buildings and therefore reduce energy consumption.

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

For any building upgrades energy efficiency and greenhouse gas emissions will be considered.

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

Energy audits have been performed on the majority of the buildings in the school district.

At this time there is no plan to do additional audits.

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.**

All retrofits are undertaken with a conscious goal of reducing energy consumption and reducing greenhouse gas emissions.

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.) (%): 12

Major retrofits (e.g., replacing windows and doors, equipment replacement such as boilers, etc.) (%): 15

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.) (%): 0

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

The district does annual end to end re/retro-commissioning on all DDC systems.

I. What % on average of your building portfolio do you recommission each year?: 100

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

No

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

There is very little use of refrigerant in the district. To this point refilling has not been needed. Due to the fact that many small units that use refrigerant have been installed recently the HVAC department have been instructed to report any occasions where refrigerant needs to be refilled.

**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.

There were no newly constructed buildings.

**h) Other actions? Please describe briefly.**

N/A

**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?**

Yes

I. If yes, what are its goals?

Any time a new vehicle is purchased consideration is given to the need. Fuel efficiency and emissions are considered when purchasing any new vehicles.

Due to limited budgets the purchase of alternative fuel vehicles is difficult to deal with.

**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)**

The main strategy is to minimize travel distances where ever possible.

The district would like to look at alternative fuel, low emissions vehicles but currently the cost of these vehicles do not fall within the funding parameters.

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

Continue to reduce travel distances where ever possible. Find a way to purchase alternative fuel, low emissions vehicles when buying replacement 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: 4

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

Due to limited budgets the purchase of alternative fuel, low emissions vehicles is too expensive.

**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.)**

N/A

**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: 3

**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: 31

**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: 3

**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?: 30000

How many LDTs do you plan to replace annually over the next 5 years?: 2

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

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

## 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?

Yes

##### I. If yes, what are its goals?

All paper purchased must contain a minimum of 30% recycled content where ever possible.

The actual goal is to purchase 100% sugar cane waste paper when ever possible. This is the default on our order forms.

#### 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)

As products become available switch to 100% sugar cane waste (non-forest) paper when ever possible.

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

Continue to look for non-forest 100% waste or recycled paper sources for all paper needs.

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

Yes

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

Yes

#### e) Other actions, please specify.

Printers are set up so you must put in a code to receive your printing to avoid lost printing.

Paperless meetings and held when ever possible.