

# 2018 Carbon Neutral Action Report

## **Nanaimo-Ladysmith Public Schools (School District 68)**

### **Declaration statement**

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 Nanaimo-Ladysmith Public Schools (NLPS)] final Carbon Neutral Action Report will be posted to our website at [www.sd68.bc.ca](http://www.sd68.bc.ca).

### **Overview:**

In 2018, NLPS continued with the strategic plan of reducing energy consumption and GHG emissions. In partnership with BC Hydro, the District replaced outdoor lighting with LED technology, installed dimming and occupancy controls (offices/classrooms), and traded T8 fluorescent lamps for LED. Variations of this work was performed at 13 District sites. A goal of a 300,000 kWh reduction in electricity was attained.

At Cinnabar Elementary, 2 Atmospheric boilers providing 70% seasonal efficiency, were exchanged with 3 Condensing boilers. The new boilers offered 85-95% efficiency, saving on fuel and reducing GHG emissions by 20-30%.

At Hammond Bay School, a project harvesting heat from the Regional District's main sewer outfall line is nearing completion. Carbon emissions are estimated to be reduced by up to 78%; a possible addition planned for this school will also take advantage of this Green heating source.

We completed our fourth year of the Energy Cup Challenge in partnership with BC Hydro and Fortis BC's Energy Wise Network. Many schools took part, conservation of all resources was key, with behavioral changes being our main goal.

We continue to explore opportunities to limit our carbon footprint in 2019.

- We have planned and tendered an HVAC upgrade for Park Avenue Elementary. A 25% decrease in both energy consumed and CO2 emissions are expected (estimated 13.3 tonnes of CO2e saved each year).

- Next year's lighting upgrades have been proposed and accepted by BC Hydro, incentives will be paid to the District after completion of the project. We have committed to a further reduction of 300,000 kwhs.
- Phase 3 of the Cinnabar boiler upgrade will be completed (controls/fan coil), further reducing emissions.
- We will endeavor to improve and expand our Energy Cup Network, campaigns will be directed on saving energy, sustainability, and reducing emissions.


<b>Nanaimo-Ladysmith Public Schools</b>	
<b>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)	3,312
Total BioCO <sub>2</sub>	35.98
Total Offsets (tCO <sub>2</sub> e)	3,245
<b>Adjustments to GHG Emissions Reported in Prior Years</b>	
Total Emissions (tCO <sub>2</sub> e)	326
Total Offsets (tCO <sub>2</sub> e)	325
<b>Grand Total Offsets for the 2018 Reporting Year</b>	
Grand Total Offsets Required (tCO <sub>2</sub> e)	3,570
Total Offset Investment	89,250

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**Retirement of Offsets:**

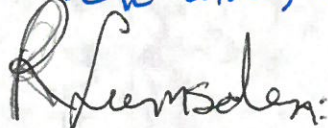
In accordance with the requirements of the Greenhouse Gas Reduction Targets Act and Carbon Neutral Government Regulation, Nanaimo-Ladysmith Public Schools (the Organization) is responsible for arranging for the retirement of the offsets obligation reported above for the 2018 calendar year, together with 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  Date *May 25/19*  
**Carrie McVeigh**  
SECRETARY-TREASURER  
School District No. 68  
(Nanaimo-Ladysmith)

Name (please print) Title

  
**PETE SABO, Director of Planning & Operations** *May 21, 2019*

  
**Rob Lumsden, ENERGY MANAGER** *May 21/19*

# Part 1: CNAR Survey

## 1. General Information

**Name:** rob lumsden

**Contact Email:** rlumsden@sd68.bc.ca

**Organization Name:** SD 68

**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: Yes

Sustainability Coordinator: No

Administrative Assistant: No

Facilities/Operations Manager/Coordinator: No

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?: Reduce run time of equipment, replace equipment with more efficient technology

##### 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)

Upgrade oldest, most inefficient equipment as quickly as possible (depending on budget constraints)

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

We have an inventory list that details equipment age, condition, and efficiency. The worst systems are changed out first. We are trying to accelerate our replacement schedule

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

React to emergent situations first, then upgrade worst systems next

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.**

We choose the most efficient technology (least amount of emissions), we consider fuel switching if we can.  
Many decisions are driven by budget considerations

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.) (%): 10

Major retrofits (e.g., replacing windows and doors, equipment replacement such as boilers, etc.) (%): 8

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.) (%): 5

I. What % on average of your building portfolio do you recommission each year?: 5

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

No

I. If yes, have you included the associated emissions in your reporting?

No

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

Contractors do our refrigeration work at present, they are responsible for mitigation.

**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.

No buildings built

**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?

Increase EV's in fleet

\Buy more economical combustion fueled vehicles

Pilot an electric bus program

**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)**

Installed a GPS system in vehicles  
 Anti-idling program in place  
 Consider EV when replacing vehicles  
 Adding charging stations to workplace

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

Add EV or Hybrid vehicles to our fleet  
 Pilot an electric bus program  
 Add charging stations to all our workplaces

**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: 1

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

Needed a truck that carried 4 workers and their equipment

**d) 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: 1  
 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.)**

None

**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): 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: 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: 2

Gas/diesel: 45

**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?: 200000

How many LDVs do you plan to procure annually over the next 5 years?: 4

How much do you budget per LDT?: 50

How many LDTs do you plan to replace annually over the next 5 years?: 4

How much do you plan to spend per HDV?: 85000

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?

Yes

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

Reduce, recycle.

#### 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)

Reduce amount used  
Use more recycled paper over 'new' paper  
Recycle all used paper

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

Same as above

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

No

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

No