

Carbon Neutral Action Report 2017



SOOKE 62
SCHOOLS
Shaping Tomorrow Today

CNAR Overview

Title: 2017 Carbon Neutral Action Report

Organization name: School District No.62(Sooke)

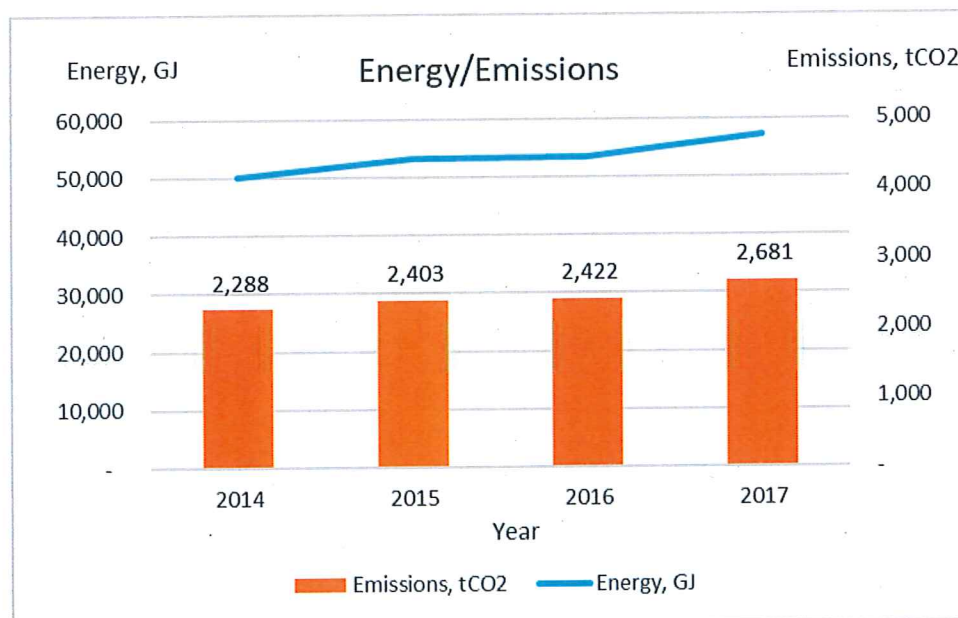
Declaration statement: This Carbon Neutral Action Report for the period January 1st, 2017 to December 31st, 2017 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2017 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2018 and beyond.

By June 30, 2018 School District No.62(Sooke)'s final *Carbon Neutral Action Report* will be posted to our website at www.sd62.bc.ca

Overview

For becoming carbon neutral in 2017 calendar year, School District No.62 applied carbon offsets of 1,960 tonnes of carbon dioxide equivalent (tCO₂e) with offset exempt, 720 tCO₂e from total emissions, 2,681 tCO₂e. An additional 61 tCO₂e was offset for adjustments to emissions occurring in prior years. School District No.62(Sooke)s' total offset investment is \$53,051 with GST included for the grand total offsets 2,021 tCO₂e for the 2017 reporting year.

The total energy consumption and greenhouse gas emissions have increased compared to the previous year. In 2017, heating degree days was higher by 14% compared to 2016 and it means it was colder and required more energy for heating.



< Greenhouse Gas Emissions and Energy Consumption >

- **Actions Taken to Reduce Greenhouse Gas Emissions in 2017**

Operational optimization in new secondary schools

Belmont Secondary School and Royal Bay Secondary School are designed and built with high efficiency HVAC systems and each school's Energy Performance Index(GJ/sq.metre) has been improved by operational optimization on HVAC systems since 2016.

Belmonst Secondary School	2016	2017
Energy Index, GJ/sq.metre	0.497	0.3358
Saved Energy, GJ		2,200
Royal Bay Secondary School	2016	2017
Energy Index, GJ/sq.metre	0.405	0.3363
Saved Energy, GJ		896

Saved energy 3,096 GJ is about 5.4 % of 57,040 GJ total energy use for School District No.62(Sooke) and it is equivalent to 154 tCO₂e emissions reduction.

Other actions taken in 2017

- ✓ Maximizing utilization of lower emission heating systems
- ✓ Updating and changing Global Schedules for each school based on each school's specific conditions and occupancy
- ✓ Updating and changing reset schedules for boiler water supply temperature and supply air temperature
- ✓ Reviewing and changing programs for operating HVAC systems on DDC.

- **Plans to Continue Greenhouse Gas Emissions 2018 – 2020**

School District No. 62(Sooke) has emissions reduction plan, Strategic Energy Management Plan(SEMP), to reduce GHG emission by 33 % of the emissions in 2007. In cooperation with Senior Management, effective energy savings projects have been planned to reduce GHG, energy use and energy cost as well. Also, School District No.62 is expected to grow in size, being energy efficient is the highest priority in the policy of School District.

In 2018-20, School District No.62(Sooke) will be continuing to upgrade old and inefficient heating systems and control system including upgrading lighting and building envelope.

Planned Projects

in 2018 : Poirier Elementary School boiler upgrading, Ruth King Elementary windows upgrading
 in 2019-20 : Willway Elementary School boiler upgrading/David Cameron School boiler upgrading/
 Johnmuir Elementary School boiler upgrading/DDC upgrading at Saseenos/Sangster/Milstream
 Elementary School

Emissions and Offset Summary Table:

School District No.62(Sooke) GHG Emissions and Offset for 2017 (TCO2E)	
GHG Emissions created in Calendar Year 2017	
Total Emissions (tCO ₂ e)	2,681
Total Offsets (tCO ₂ e)	1,960
Adjustments to GHG Emissions Reported in Prior Years	
Total Emissions (tCO ₂ e)	61
Total Offsets (tCO ₂ e)	61
Grand Total Offsets for the 2017 Reporting Year	
Grand Total Offsets (tCO ₂ e)	2,021

Retirement of Offsets:

In accordance with the requirements of the Greenhouse Gas Reduction Targets Act and Carbon Neutral Government Regulation, School District No.62(Sooke) is responsible for arranging for the retirement of the offsets obligation reported above for the 2015 calendar year, together with any adjustments reported for past calendar years. The Organization hereby agrees that, in exchange for the Ministry of Environment ensuring that these offsets are retired on the Organization's behalf, the Organization will pay 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

Name : Jim Cambridge

Title : Superintendent of Schools

Part 1: CNAR Survey

1. General Information

Name: James Lee

Contact Email: jalee@sd62.bc.ca

Organization Name: School District No.62(Sooke)

Sector: School District

2. Stationary Sources (eg. Buildings, Power Generators): Fuel Combustion, Electricity use, Fugitive Emissions.

During 2017, did your organization take any of the following actions to support emissions reductions from buildings? (please select all that apply)

Conducted an energy audit/study of building(s) in the organization's portfolio.; Performed energy retrofits of the organization's building(s)

If you selected "*Performed energy retrofits of the organization's building(s)*":

How many buildings were retrofitted?: 4

If you selected "*Built, or are building new LEED Gold or other "Green" buildings*":

How many new "Green" buildings?:

Did your Organization perform any retrofits during 2017? Please describe briefly:

- Ruth King Elementary School : Windows upgrading
- Sangster Elementary School : Lighting upgrading to LED
- Spencer Middle School : Lighting upgrading
- Lakewood Elementary School : Boiler upgrading

2a. Stationary Sources (eg. Buildings, Power Generators): Fuel Combustion, Electricity use, Fugitive Emissions.

Please briefly describe your organization's plans to continue reducing emissions from its stationary sources:

a) Over the next 1-5 years

- upgrading conventional type boilers to condensing boiler
- maximizing utilization of air source heat pump for heating
- installing DDC system for operation control in the no DDC installed schools
- operational optimization for heating and cooling
- installing operational monitoring and diagnosis system on DDC
- upgrading old/inefficient light bulbs with LED bulbs
- upgrading light control system with occupancy sensor controlled system

b) Over the following 6-10 years

- upgrading conventional type boilers to condensing boiler
- maximizing utilization of air source heat pump for heating
- installing DDC system for operation control in the no DDC installed schools
- operational optimization for heating and cooling
- upgrading light bulbs with LED bulbs
- upgrading light control system with occupancy sensor controlled system

3. Mobile Sources (Vehicles, Off-road/portable Equipment): Fuel Combustion:

During 2017, did your organization take any of the following actions to support emission reductions from its mobile sources? (please select all that apply)

None of the above

3) Mobile Sources - Other? Please specify: Maintained same mileage for new bus routes and more students.

If you selected "*Replaced existing vehicles with more fuel efficient vehicles (gas/diesel)*":

How many vehicles?:

If you selected "*Replaced existing vehicles with hybrid or electric vehicles*":

How many vehicles?:

3a. Mobile Sources (Vehicles, Off-road/portable Equipment): Fuel Combustion:

Please briefly describe your organization's plans to continue reducing emissions from its mobile sources:

a) Over the next 1-5 years

None at this point

b) Over the following 6-10 years

None at this point

4. Supplies (Paper): Indicate which actions your PSO took in 2017:

During 2017, did your organization take any of the following actions to support emissions reductions from paper supplies? (please select all the apply)

Had an awareness campaign focused on reducing office paper use

4) Supplies (Paper): Indicate which actions your PSO took in 2017: - Other? Please describe briefly:: SD doesn't have a policy for recycled content paper but SD purchased only 30%/100% recycled content papers.

If you selected "*Had a policy requiring the purchase of recycled content paper*":

State the required recycled content here (30%, 50%, 100%):

If you selected "*Had a policy requiring the purchase of alternate source paper (bamboo, hemp, wheat, etc)*", which type of alternate source paper did you use?

Please briefly describe your organization's plans to continue reducing emissions associated with its office paper use in future years.

None at this point

5. Other Sustainability Actions

a) Business Travel

During 2017, did your organization take any of the following actions to support emissions reductions from business travel? (please select all that apply)

Created a low-carbon travel policy or travel reduction goal (low-carbon = lowest emission of greenhouse gas per kilometre per passenger); Encouraged alternative travel for business (e.g. bicycles, public transit, walking)

b) Education/Awareness

During 2017, did your organization have any of the following programs or initiatives to support sustainability education and awareness? (please select all that apply)

Support for professional development on sustainability (e.g. workshops, conferences, training); Supported or provided education to staff about the science of climate change, conservation of water, energy and/or raw materials

c) Other Sustainability Actions

During 2017, did your organization have any of the following programs or initiatives to support sustainability? (please select all that apply)

A water conservation strategy which may include a plan or policy for replacing water fixtures with efficient models; An operations policy or program to facilitate the reduction and diversion of building occupant waste (e.g., composting, collection of plastics, batteries) from landfills or incineration facilities; Lifecycle costing of new construction or renovations