

# Carbon Neutral Action Report 2015



**SOOKE 62**  
SCHOOLS  
Shaping Tomorrow Today

## CNAR Overview

**Title:** "2015 Carbon Neutral Action Report"

**Organization name:** School District No.62(Sooke)

**Declaration statement:** This Carbon Neutral Action Report for the period January 1<sup>st</sup>, 2015 to December 31<sup>st</sup>, 2015 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2015 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2016 and beyond.

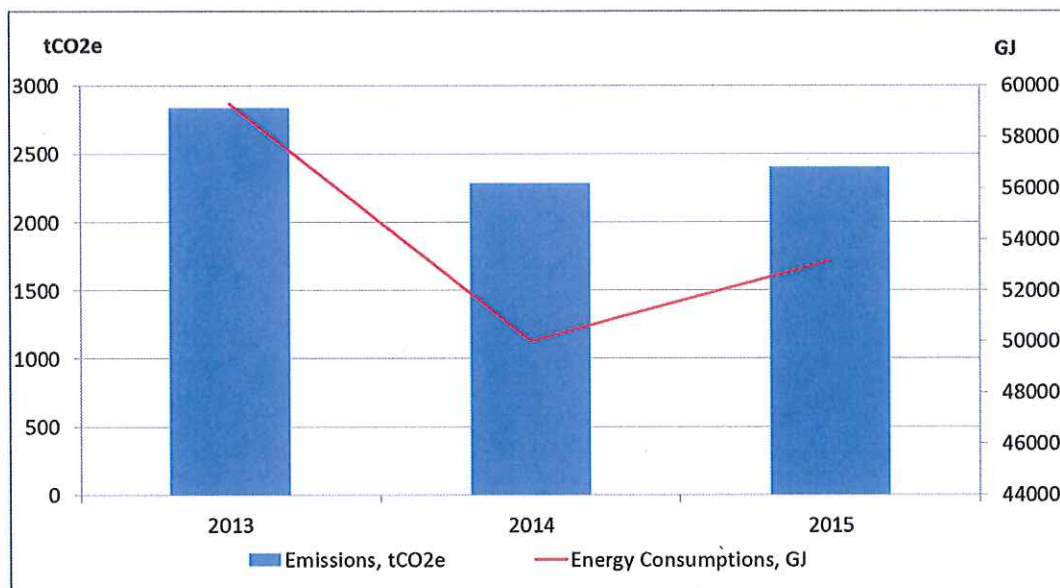
By June 30, 2016 School District No.62(Sooke)'s final *Carbon Neutral Action Report* will be posted to our website at [www.sd62.bc.ca](http://www.sd62.bc.ca)

### Overview

For becoming carbon neutral in 2015 calendar year, School District No.62 applied carbon offsets of 1,859 tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e) with offset exempt, 544 tCO<sub>2</sub>e from total emissions, 2,403 tCO<sub>2</sub>e. An additional 1 tCO<sub>2</sub>e was offset for adjustments to emissions occurring in prior years. School District No.62(Sooke)s' total offset investment is \$48,825 with GST included for the grand total offsets 1,860 tCO<sub>2</sub>e for the 2015 reporting year.

In 2015, School District No.62(Sooke) has completed two new Secondary School projects, Belmont Secondary School and Royal Bay Secondary School, and these schools has successfully opened in September 2015 with old Belmont Secondary School closed. As a result, the total square footage in square meter has increased by 12,706 square-meter which is equivalent to 11.5% of change in total square meter to the previous year.

The total energy consumption and greenhouse gas emissions have been increased compared to the previous year by the result of replacing one secondary school with two secondary schools.



< Trend of Greenhouse Gas Emissions and Energy Consumption for 3 years >

- **Actions Taken to Reduce Greenhouse Gas Emissions in 2015**

Opening two new Secondary Schools: New Belmont Secondary School and Royal Bay Secondary School, in September 2015

New Belmont Secondary School and Royal Bay Secondary School's projects have been completed with closing old Belmont Secondary School in September 2015. The new schools are designed and implemented with high efficiency HVAC systems, waste heat recovering systems, and advanced controlling DDC systems to reduce the use of natural gas that is a main energy source with higher emissions factor than that of electricity based on same amount of heat capacity for heating. The total energy use may be increasing as two schools substituting one school, but the energy intensity, kWh per square meter, will be decreased by more than 30 percent compared to the energy intensity of the old Belmont Secondary School.

Replacing domestic hot water heater, David Cameron Elementary School

One HB Smith DHW boiler with 670 MBH standing pilot and 240 gallon tank has been replaced with one 199 MBH Navien condensing water heater with Efficient Water Heater Rebate Program at Fortis BC. This project was completed in January 2015. Replacing old domestic water heaters with instantaneous type heater is on-going energy savings project every year.

Other actions taken in 2015

- ✓ Updating and changing Global Schedules for each school based on each school's specific conditions
- ✓ Updating and changing reset schedules for boiler water supply temperatures and supply air temperatures to prevent systems from both heating and cooling
- ✓ Minimizing manual operation by fixing issues on the manual points
- ✓ Reviewing and changing programs for operating HVAC systems on DDC.

- **Plans to Continue Greenhouse Gas Emissions 2016 – 2018**

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 2016, as new Belmont Secondary School and Royal Bay Secondary School are opened, operational optimization on HVAC systems will be conducting to maximize the operability of high efficiency systems. Upgrading boilers, domestic hot water heaters, DDC system will be continuing.

In 2017, recommissioning energy studies for the schools showing higher Energy Utilization Index than average E.U.I in School Districts will be conducted to find energy savings opportunities.



**Emissions and Offset Summary Table:**

School District No.62(Sooke) GHG Emissions and Offset for 2015 (TCO2E)	
<b>GHG Emissions created in Calendar Year 2015</b>	
Total Emissions (tCO <sub>2</sub> e)	2,403
Total Offsets (tCO <sub>2</sub> e)	1,859
<b>Adjustments to GHG Emissions Reported in Prior Years</b>	
Total Emissions (tCO <sub>2</sub> e)	1
Total Offsets (tCO <sub>2</sub> e)	1
<b>Grand Total Offsets for the 2015 Reporting Year</b>	
Grand Total Offsets (tCO <sub>2</sub> e)	1,860

**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

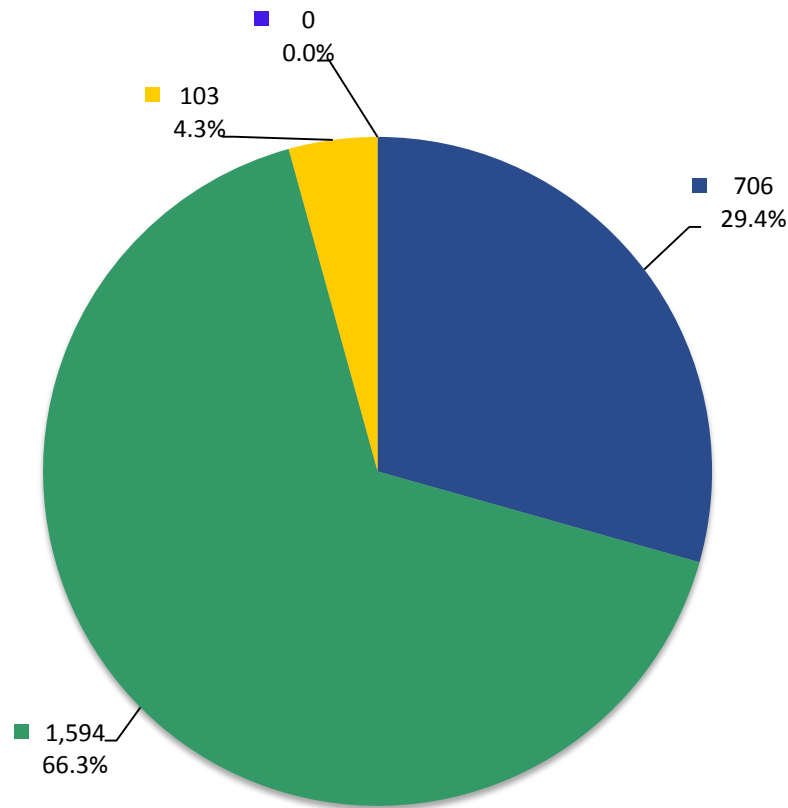
Date

May 18 / 16

Name : Jim Cambridge

Title : Superintendent of Schools

# **School District 62 - Sooke** **Greenhouse Gas Emissions by Source** **for the 2015 Calendar Year (tCO<sub>2</sub>e\*)**



**Total Emissions: 2,403**

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion (Building Heating and Generators) and Electricity
- Supplies (Paper)
- Fugitive Sources

## **Offsets Applied to Become Carbon Neutral in 2015 (Generated May 25, 2016 10:15 AM)**

Total offsets required: **1,859**. Total offset investment: **\$46,475**. Emissions which do not require offsets: **544** \*\*

\*Tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e) is a standard unit of measure in which all types of greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.

\*\* Under the *Carbon Neutral Government Regulation of the Greenhouse Gas Reduction Targets Act*, all emissions from the sources listed above must be reported. As outlined in the regulation, some emissions do not require offsets.

## 2015 Carbon Neutral Action Report Survey

Organization Name:

*School District No.62(Sooke)*

Please select your sector:

- School District

1) Stationary Sources (Buildings, Power Generators, Ext. Lighting) Fuel Combustion, Electricity use, Fugitive Emissions:

Please indicate which actions your PSO took in 2015:

Have developed an overall strategy/plan to reduce energy use in your organization's buildings inventory:

*Yes*

If Yes, please describe:

*School District No.62 has Strategic Energy Management Plan for the reduction of energy and emissions to achieve the reduction target, 33% reduction by 2020. Also, School District No.62 established the long term action plan of implementing energy savings projects.*

*Reduction Target;*

*- 20% reduction of electricity consumption by 2020*

*- 30% reduction of fossil fuel consumption by 2020*

Undertook evaluations of building energy use:

*Yes*

Performed energy retrofits on existing buildings:

*Yes*

Built or are building new LEED Gold or other "Green" buildings:

*Yes*

Please list any other actions, programs or initiatives that your organization has introduced that support emissions reductions from buildings:

- o Upgrading old low efficient conventional boilers to high efficient condensing boilers*
- o Replacing tank type water heaters with instantaneous type heaters*
- o Optimizing and utilizing DDC systems for operational efficiency*
- o Maximizing heat pump for heating*
- o Implemented high energy efficiency heating and cooling systems for two new Secondary School : Belmont Secondary School, Royal Bay Secondary School*

## 2) Mobile Sources (Fleet, Off-road/Portable Equipment) Fuel Combustion:

Indicate which actions your PSO took in 2015:

Have put in place an operations policy/program to support systematic reductions in fleet related emissions:

(e.g., program to convert fleet to renewable fuels)

Yes

If Yes, please describe:

- o Providing fleet drivers' training to reduce fuel use*
- o Keeping anti-idling policy and/or raise anti-idling awareness for fleet drivers*
- o Replacing larger vehicle with smaller models according to fleet "right-sizing" principle*
- o Perform regular maintenance to improve fuel-efficiency*

Replaced existing vehicles with more fuel efficient vehicles (gas/diesel):

Yes

Replaced existing vehicles with hybrid or electric vehicles:

No

Took steps to drive less than previous years:

Yes

Please list any other actions, programs or initiatives that your organization has introduced that support emissions reductions from fleet combustion:

(No response)

## 3) Supplies (Paper):

Indicate which actions your PSO took in 2015:

Have put in place an operations policy/program to facilitate a systematic reduction in paper-related emissions:

(e.g., policy to purchase 100% Recycled Content; default to double-sided printing)

Yes

If yes, please describe:



*o Training staff to use collaborative software for electronic editing(e.g. SharePoint, Groove, etc)*  
*o Switching to electronic payroll notification system in place of paper pay stubs*

Have put in place an operations policy/program to facilitate behavioural changes from paper use:

(e.g. awareness campaign to reduce paper use):

*Yes*

If yes, please describe:

*(No response)*

Used only 100% recycled paper:

*No*

Used some recycled paper:

*Yes*

Used alternate source paper:

(e.g., bamboo, hemp, wheat etc.)

*No*

Please list any other actions, programs or initiatives that your organization has introduced that support emissions reductions from paper supplies:

*(No response)*

4) Other Sustainability Actions:

Please note that this section is optional

Business Travel

Created a low-carbon travel policy or travel reduction goal:

(low-carbon = lowest emission of greenhouse gas per kilometer per passenger)

*Yes*

Encouraged alternative travel for business:

(e.g. bicycles, public transit, walking)

*Yes*

Encouraged or allow telework/working from home:

*Yes*

Other:

*(No response)*

Education Awareness

Have a Green/Sustainability/Climate Action Team:

*No*

Supported green professional development:

(e.g. workshops, conferences, training)

*No*

Supported or provided education to staff about the science of climate change, conservation of water, energy and/or raw materials:

*Yes*

Other:

*(No response)*

## Adaptation Planning for Climate Risks

Have assessed whether increased frequency of extreme weather events and/or long term changes in climate will affect your organization's infrastructure, its employees and/or its clients:

*No*

Have incorporated these anticipated changes in climate into your organization's planning and decision making:

*No*

Other:

*(No response)*

## Other Sustainability Actions

Established a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models:

*Yes*

Have put in place an operations policy/program to facilitate the reduction and diversion of building occupant waste stream from landfills or incineration facilities:

(e.g., composting, collection of plastics, batteries)

*Yes*

Established green standards for goods that are replaced infrequently and/or may require capital funds to purchase:

(e.g., office furniture, carpeting, etc.)

*Yes*

Incorporated lifecycle costing into new construction or renovations:

*Yes*

Please list any other sustainability actions your organization has taken not listed above:

*(No response)*