

Carbon Neutral Action Report 2013



SOOKE 62
SCHOOLS
Shaping Tomorrow Today

Sooke School District #62 - 2013 Carbon Neutral Action Report

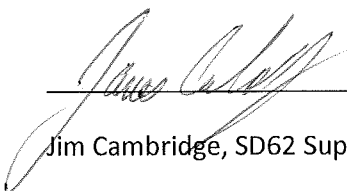
Executive Summary

This is the 2013 Carbon Neutral Action Report for Sooke School District No.62. This report contains our 2013 emissions profile, offsets purchased, the actions we have taken in 2013 to reduce our GHG emissions and our plans to continue reducing emissions in 2014 and beyond.

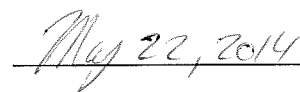
Year 2013, energy saving measures have been accomplished on heating systems such as upgrading boilers, primary heating plants and optimizing sequences of operation and schedules. There was an extension and enhancement of the recycling program and a more aggressive move towards the use of alternate technology for teaching which will see a reduction in paper usage into the future.

With past successes from the first provincial K-12 ESCO and the on-going yearly energy reduction measures, Sooke School District has a solid foundation and commitment to continually seek and implement ways to reduce energy consumption.

School District No.62(Sooke) GHG Emissions and Offsets for 2013(TCO2E)	
GHG Emissions created in calendar year 2013 (from SMARTTool Homepage):	
Total Emissions	2,838
Total Emissions for Offsets	2,363
Adjustments to GHG Emissions Reported in Previous Years (from SMARTTool Homepage) :	
Total Emissions	- 378
Total Emissions for Offsets	- 377
Credit owing from PCT at end of 2012 reporting year (if applicable – from May 15 invoice):	
Credit Owing	0
Total Emissions for Offsets for the 2013 Reporting Year (from Offset Invoice):	1,986



 Jim Cambridge, SD62 Superintendent

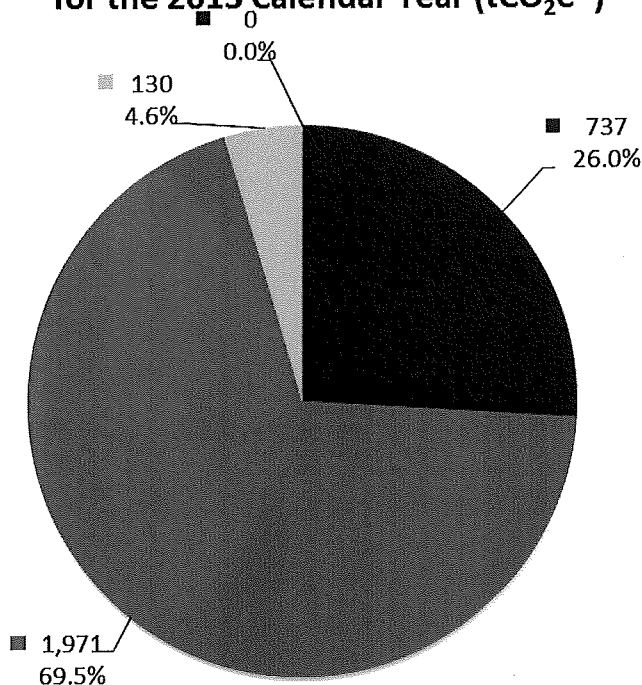


 Date

It was estimated that stationary fugitive emissions from cooling do not comprise more that 0.01% of Sooke School District’s 2,837.94 tonnes CO₂e total emissions and an ongoing effort to collect or estimate emissions from this source would be disproportionately onerous. For this reason, emissions from this source have been deemed out-of-scope and have not been included in Sooke School District total greenhouse gas emissions profile or offset purchase.

Greenhouse Gas Emissions and Offsets Summary in 2013

School District 62 - Sooke Greenhouse Gas Emissions by Source for the 2013 Calendar Year (tCO₂e*)



Total Emissions: 2,838

- 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 2013 (Generated May 20, 2014 4:05 PM)

Total offsets required: **2,363**. Total offset investment: **\$59,075**. Emissions which do not require offsets:

*Tonnes of carbon dioxide equivalent (tCO₂e) 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

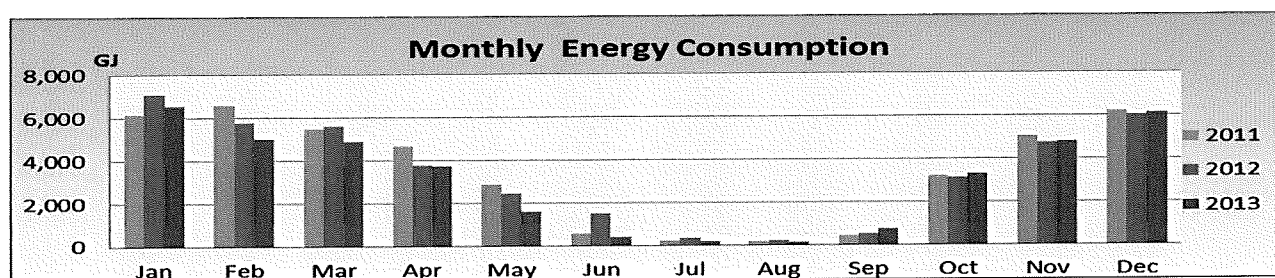
Offsets Applied to Become Carbon Neutral in 2013.

Carbon offset for being carbon neutral in 2013 would be 2,363.01 tonnes CO₂e.

Year	Total emissions, tCO ₂ e	Offset, tCO ₂ e	Offset purchased,\$
2011	3,228	2,655	66,375
2012	3,175	2,695	67,375
2013	2,838	1986 (2,363 – 377)	49,650

There was an overpayment of tonnes CO₂e in 2011 and 2012, 73 tonnes CO₂e in 2011 and 304 tonnes CO₂e in 2012, this overpayment is going to be deducted from the 2013 total payment (2,363 - 304 - 73 = 1,986 tonnes CO₂e) to the Pacific Carbon Trust. Sooke School District is going to apply for 1,986 tonnes CO₂e to become carbon neutral for 2013. This represents an offset investment of \$49,650 before taxes.

Compared to the emissions in 2012, 202.82 tCO₂ of emissions reduction has been achieved from Stationary Combustion in 2013. The following graph shows energy savings in natural gas and electricity has been achieved through the year of 2013.



< Graph of monthly energy usage in 3 years >

Emissions Reduction Activities

- Operational Changes in 2013**

Demolishing Glenlake Elementary School Buildings – Glenlake Elementary School has been closed since June 2008 and been used for storage so that some energy has been used for this building until March 2013. As this building has been demolished for construction of a new high school in March 2013, total energy consumption for this school in 2013 dropped from 630 GJ to 115 GJ.

- Natural gas consumption : 503 GJ to 88 GJ
- Electricity consumption : 127 GJ to 28 GJ

As a result, GHG emission reduction due to demolishing Glenlake Elementary School is 22 tCO₂.

- Emissions in 2012 : 26 tCO₂

- Emissions in 2013 : 4 tCO₂

- **Actions Taken to Reduce Greenhouse Gas Emissions in 2013**

- ✓ Maximizing Air Source Heat Pumps' operability at Belmont Secondary School
- ✓ Upgrades old oil fired boilers with propane fired condensing boilers at Hans Helgesen Elementary School
- ✓ Replaced tank type water heater with instantaneous type heaters for three schools
- ✓ Updating and changing Global Schedules for each school based on each school's condition
- ✓ 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 2014 – 2016**

School District No. 62(Sooke) has emissions reduction plan with Strategic Energy Management Plan 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 2014, new condensing boilers and heating systems upgrades are going to be implemented at Edward Milne Community School, and old tank type domestic water heaters will be going to be replaced with instantaneous type water heaters, and new DDC systems will be implemented for operation of HVAC systems at Hans Helgesen Elementary School. Optimization of Sequence of HVAC operation and scheduling will be continuing through the year.

In 2015, as new Belmont Secondary School and Royal Bay Secondary School are going to open with existing Belmont Secondary School closed, the total conditioned area will be increasing. However these new schools have been designed to be very energy efficient, total energy use will stay around the current use. These new school projects will be bringing emissions reduction in natural gas by 15% compared to the natural gas use in 2013. Upgrades boilers, domestic hot water heaters, DDC system will be continuing.

In 2016, 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.

2013 Carbon Neutral Action Report (CNAR) - Part 2 ACTIONS

Created Thursday, February 06, 2014

Updated Friday, May 23, 2014

<http://fluidsurveys.com/surveys/cas-z/2013-cnar-form-bps-actions/c44a6b85549abdde12539c9f58724d58/>

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Please complete the following sections of the 2013 Carbon Neutral Action Report form. Save your work frequently to prevent it from being lost. You can also save a copy for your own use as either a WORD or PDF file using the buttons at the bottom of each page.

This is Part 2 of the Carbon Neutral Action Report form. This section reports on actions taken to reduce emissions during the 2013 calendar year. This information will be included in your final Carbon Neutral Action Report posted on the Ministry of Environment website.

When the form is complete press the submit button on the last page to automatically submit the information to the Climate Action Secretariat (CAS). Do not press submit before you are ready – this may result in a loss of work.

In addition to completing this survey (Part 1 2), you are required to submit your completed Overview (Executive Summary) and Self-Certification Checklist. The 2013 Overview template was included in the email sent and can also be found on the LiveSmart leaders Community.

Please ensure you meet the following reporting deadlines:

A DRAFT 2013 CNAR is due to CAS by March 31, 2014. The draft is comprised of the Overview ONLY (no executive sign-off required).

The FINAL 2013 CNAR is due to CAS by May 30, 2014. The final 2013 CNAR includes Part 1 Part 2 survey form and Overview.

The Self-Certification Checklist is due to CAS by May 15, 2014.

For more information about the Carbon Neutral Government process, please refer to *Becoming Carbon Neutral 2013*, or should you have any questions please contact climateactionsecretariat@gov.bc.ca.

Organization Name

School District No.62(Sooke)

Actions Taken to Reduce Emissions

1) Stationary Fuel Combustion, Electricity (Buildings):

Indicate which actions were taken in 2013:

Performed energy retrofits on existing buildings

Yes

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

Yes

Undertook an evaluation of overall building energy use.

Yes

Please list any other actions taken to reduce emissions from Buildings:

- o Upgrades old oil fired boilers with propane fired condensing boilers*
- o Replaced tank type water heater with instantaneous type heaters.*
- o Updating and changing Global Schedules for each school based on each school's condition*
- o Updating and changing reset schedules for boiler water supply temperatures and supply air temperatures to prevent systems from both heating and cooling*
- o Making energy efficient systems such as heat pumps run at high operability*
- o Minimizing manual operation by fixing issues on the manual points*
- o Reviewing and changing programs for operating HVAC systems on DDC.*

2) Mobile Fleet Combustion (Fleet and other vehicles):

Indicate which actions were taken in 2013:

Do you have a fleet?

Yes

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

Yes

Replaced existing vehicles with hybrid or electric vehicles

No

Reduced the overall number of fleet vehicles

Yes

Took steps to drive less than last year

Yes

Please list any other actions taken to reduce emission from fleet:

- o Provide fleet driver training to reduce fuel use*
- o Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers*
- o Replaced larger vehicles with smaller models according to fleet "right-sizing" principles*
- o Perform regular fleet maintenance to improve fuel-efficiency*

3) Supplies (Paper):

Indicate which actions were taken in 2013:

Used less paper than previous year

No

Used only 100% recycled paper

No

Used some recycled paper

Yes

Used alternate source paper (Bamboo, hemp, etc.)

No

Please list any other actions taken to reduce emissions from paper use:

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

Actions Taken to Reduce Emissions - continued

Explain how you plan to continue minimizing emissions in 2014 and future years:

Continuous Energy Savings Projects will be implemented Strategic Energy Management Plan to achieve the Emission Target of 33% reduction by 2020. Various funds need to be allocated to implement Energy Savings Projects such as

- Upgrading boiler system, domestic water heaters, DDC and other HVAC system to improve energy efficiency.*
- Optimizing operating schedules and sequences of HVAC systems to prevent fossil fuels and electricity from being wasted*
- Regular monitoring and reporting energy use, energy performance, operating status to find abnormal conditions of operation causing energy waste.*

If you wish to list any other "sustainability actions" outside of buildings, fleet, paper and travel check "yes". This reporting is optional.

Yes

Actions to Promote Sustainability and Conservation - Optional

The following are actions that fall outside the scope of the *Carbon Neutral Government Regulation*, but which many organizations still undertake and may wish to report on. This section is optional for reporting.

Business Travel

Created a low-carbon travel policy or travel reduction goal (Low-carbon: Lowest emission of greenhouse gases per kilometre per passenger)

Yes

Virtual Meeting Technology

Installed web-conferencing software (e.g., Live Meeting, Elluminate, etc.)

Yes

Made desktop web-cameras available to staff

Yes

Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)

Yes

Encourage carpooling to meetings

Yes

Education and Awareness

Have created Green, Sustainability, Energy Conservation, or Climate Action Teams.

Yes

Provided resources and/or dedicated staff to support these teams

Yes

Provided behaviour change education/training for these teams (e.g., community-based social marketing)

Yes

Established a sustainability/green awards or recognition program

Yes

Support green professional development (e.g., workshops, conferences, training)

Yes

Planning for Climate Change

Have assessed whether extreme weather events and/or long term changes in climate will affect our organization's business areas

Yes

Long term changes in climate have been incorporated into our organization's decision making.

Yes

Actions to Promote Sustainability and Conservation - Optional (continued)

Staff Awareness and Education

Provided education to staff about the science of climate change

Yes

Provided education to staff about the conservation of water, energy, and raw materials

Yes

Provided green tips on staff website or in newsletters

Yes

Alternate Work/Commuting Options

Allow for telework/working from home

Yes

Staff have the option of a compressed work week

Yes

Commuting by foot, bicycle, carpool or public transit is encouraged

Yes

Shower or locker facilities are provided for staff/students who commute by foot or by bicycle

Yes

Secure bicycle storage is provided

Yes

Other Sustainability Actions

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

Yes

Put in place a potable water management strategy to reduce potable water demand of building-level uses such as cooling tower equipment, toilet fixtures, etc. and landscape features

Yes

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

Yes

Have implemented a hazardous waste reduction and disposal strategy (Hazardous Waste: E.g., electronics including computer parts and monitors, batteries, paints, fluorescent bulbs)

Yes

Have incorporated minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.)

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 and other sustainability actions you wish to report not included in the previous list.

(No response)