


Sooke School District #62 - 2011 Carbon Neutral Action Report

Executive Summary

The Sooke School District No. 62 (SD62) has undertaken many steps towards reaching carbon neutrality for a number of years. In the past, SD62 and Honeywell entered into the first provincial K-12 ESCO agreement to lower SD62's energy consumption at each school site. This also led to the changing of funding for energy in schools throughout the province. This partnership brought about central heating controls and lighting upgrades at a majority of sites.

In 2008 SD62 entered into a partnership with BC Hydro to provide SD62 funding for an Energy Manager. The role of the Energy Manager is to raise awareness, seek out, implement, and facilitate energy conservation projects. This has led to reduced energy consumption and helped to counterbalance rising utility costs. The SD is now one of the best energy performers in the province and has reduced its energy intensity by 10% over the last 4 years.



Dave Lockyer, SD62 Secretary-Treasurer



Date

Overviews

Greenhouse Gas Emissions in 2011

The total 2011 greenhouse gas (GHG) emissions from all sources covered by the Greenhouse Gas Reduction Targets Act (as reported in SMARTTool) is 3,227.92 tonnes CO₂e.

It was estimated that stationary fugitive emissions from cooling do not comprise more than 0.01% of Sooke School District's 3,227.92 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.

Offsets Applied to Become Carbon Neutral in 2011.

Sooke School District has applied for 2,655 tonnes CO₂e to become carbon neutral for 2011. This represents an offset investment of \$66,375 before taxes.



There was an underpayment of 4 tonnes CO₂e in 2010, this underpayment has been added to the 2011 total payment (2,655 + 4 = 2,659) to the Pacific Carbon Trust.

As required by section 5 of the Carbon Neutral Government Regulation, 572.84 tonnes CO₂e of emissions resulting from the operation of school buses were reported as part of our greenhouse gas emissions profile in 2011. However, they were not offset as they are out-of-scope under section 4(2)(c) of the Carbon Neutral Government Regulation.

Emissions Reduction Activities

- **Actions Taken to Reduce Greenhouse Gas Emissions in 2011**

Careful energy monitoring against building energy baselines allowed SD62 to watch for unusual energy spikes across our facilities and make repairs where necessary to reduce SD62's overall GHG's. Several buildings have had major improvements to the heating systems that allow for proper scheduling of holidays to reduce GHG's when buildings are unoccupied.

- **Plans to Continue Greenhouse Gas Emissions 2012 – 2014**

GHG reductions will continue through 2012 and beyond. Natural gas hot water tanks are targeted to be replaced with energy efficient tank-less models. Aging boilers are being investigated for energy efficient replacement options. Several energy consuming mechanical systems have been selected to be replaced with newer systems that allow for reduced GHG's and improved occupant comfort. The District's Energy Manager will continue to provide energy education sessions to staff, and students.

Sooke School District #62 - 2011 Carbon Neutral Action Report

Actions Towards Carbon Neutrality							
The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the <i>Greenhouse Gas Reduction Targets Act</i> .							
Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Mobile Fuel Combustion (Fleet and other mobile equipment)							
Vehicle fuel efficiency							
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	1	% of vehicles are fuel- efficient models	The Grounds department replaced one truck with a newer model with Flex-fuel.	Fuel efficient vehicle options are examined for all potential vehicle replacements	Started before 1995	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	0	% of vehicles down-sized since start year indicated	Vehicles are assigned and evaluated constantly for "right sizing"	Vehicles will still be assigned and evaluated continually for "right-sizing"	Started before 1995	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							
Planning/management							
Enrol in a building energy benchmarking program (e.g., GREEN UP)	Ongoing/In Progress			Building energy benchmarking program is utilized by School District since Sept 2008	Continue to utilize the energy benchmarking software	2008	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	6	% of buildings have a real time metering system installed	2 schools (Edward Milne Secondary, Dunsmuir Middle) were enrolled in BC Hydro's Continuous Optimization Program (COP). Both these sites had real time metering systems installed late 2009.	Including more sites with real time metering systems	2009	No End Date (Continuous)
Owned buildings							
Establish energy performance baseline for owned buildings	Ongoing/In Progress	100	% of owned buildings have an established energy performance baseline	Energy Manager has established baselines for all buildings energy consumption	Energy Manager will continue to monitor the performance of each building against it's energy baseline.	2008	No End Date (Continuous)
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	99	% of owned buildings have undergone energy retrofits since start year indicated	All existing sites have been involved in an energy retrofit previous to 2011	Further energy retrofits planned throughout the District	1998	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	2	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	Boiler upgraded to energy saving condensing technology at Westshore Secondary Annex	Continue to update boilers/furnaces as needed to reduce energy and improve occupant comfort	2011	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	99	% of retrofits since start year indicated had lighting systems upgrades	Majority of lighting systems were upgraded prior to 2011. Remaining older lighting systems are updated as needed.	Continue to update lighting during any renovation	1998	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	50	% of retrofits since start year indicated had control system upgrades or adjustments	9 sites had a major DDC system upgrade to improve communication and serviceability	Continue to update controls as needed	2011	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	2	% of retrofits since start year indicated had insulation improvements	Improved attic insulation at Metchosin Technical School	Continue to improve insulation as needed	2011	No End Date (Continuous)
Leased buildings							

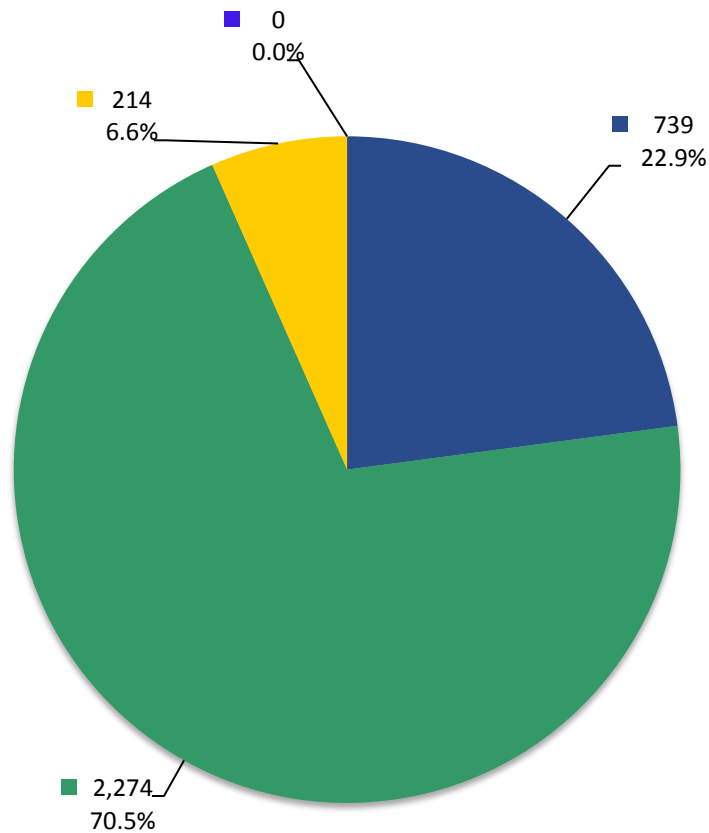
Sooke School District #62 - 2011 Carbon Neutral Action Report

Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Establish energy performance baseline for leased buildings	Ongoing/In Progress	100	% of leased buildings have an established energy performance baseline	Energy Manager has established baselines for all buildings energy consumption	Energy Manager will continue to monitor the performance of each building against it's energy baseline.	2008	No End Date (Continuous)
IT power management							
Implement server virtualization	In Development				Server Virtualization planned for District Board office systems	2012	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	20	% of computers are ENERGY STAR rated	Replacement PC's are typically Energy Star rated	Energy Star rated equipment will become mandatory during replacement	2009	No End Date (Continuous)
Appliances and electronic devices							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	5	% of fridges are ENERGY STAR rated	School District Energy Policy requires newer replacement equipment be Energy Star rated	Enforcement of Energy Policy to ensure new equipment is Energy Star rated	2008	No End Date (Continuous)
Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress			School District Energy Policy requires newer replacement equipment be Energy Star rated	Enforcement of Energy Policy to ensure new equipment is Energy Star rated	2008	No End Date (Continuous)
Supplies (Paper)							
Electronic media in place of paper							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress	100	% of staff workstations with software installed	SharePoint websites are now widely used within the School District	Further SharePoint training is required to unlock the sharing potential of electronic files	2011	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Ongoing/In Progress			School District offers e-notification of pay stubs	School District will continue to encourage the use of the e-notification pay stub system for all employees	2008	No End Date (Continuous)

Sooke School District #62 - 2011 Carbon Neutral Action Report

Actions to Reduce Provincial Emissions and Improve Sustainability							
The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the <i>Greenhouse Gas Reduction Targets Act</i> . Public sector organizations can optionally use this section to report on actions that will help British Columbia meet its provincial greenhouse gas reduction targets, engage the public, and improve environmental sustainability across all aspects of their organization.							
Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Business Travel							
Virtual meeting technology							
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Ongoing/In Progress	10	% of computers have web-conferencing software installed	Web conferencing software is installed on PC's to attend virtual meetings as required	Web conferencing software will continue to be installed on PC's as needed to attend virtual meetings	2008	No End Date (Continuous)
Behaviour change program							
Encourage carpooling to meetings	Ongoing/In Progress			Staff carpool when possible to meetings, conferences, etc...	Staff continue to carpool when possible to meetings, conferences, etc...	Started before 1995	No End Date (Continuous)
Education, Awareness, and Engagement							
Team-building							
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	In Development				School District is seeking a multi-year behaviour conservation program for all K-12 classrooms and staff	2012	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	In Development				School District is seeking a multi-year behaviour conservation program for all K-12 classrooms and staff	2012	No End Date (Continuous)
Other Sustainability Actions							
Commuting to and from home							
Offer staff a compressed work week	Ongoing/In Progress			Flex time is available to CUPE workers	Flex time is available to CUPE workers	Started before 1995	No End Date (Continuous)

**School District 62 - Sooke
Greenhouse Gas Emissions by Source
for the 2011 Calendar Year (tCO₂e*)**



Total Emissions: 3,228

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

Offsets Applied to Become Carbon Neutral in 2011 (Generated May 18, 2012 12:24 PM)

Total offsets required: **2,655**. Total offset investment: **\$66,375**. Emissions which do not require offsets: **573** **

*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 from the sources listed above must be reported. As outlined in the regulation, some emissions do not require offsets.