

School District No. 63



Great Places to Learn
& Safe Places to Be



Saanich Schools

2011 Carbon Neutral Action Report

Executive Summary

The Board of Education for School District No. 63 (Saanich) is committed to an environmental learning and sustainability policy that is intended to support the education of ecologically literate individuals with the knowledge, skills, attitudes, experiences and motivation to take personal responsibility and leadership for innovative local and global solutions. This policy also targets energy reductions amounting to fifty percent and thirty-three percent of greenhouse gases from 2007 levels of consumption by 2020.

Saanich Schools has been contributing toward carbon neutrality for a number of years by actively pursuing energy and environmental design practices in the development of new schools, upgrading building envelope insulation or air infiltration performance, mechanical system upgrades, re-commissioning, energy efficient lighting retrofits and a “slim computing” system. In March 2012, the Board was pleased to open the new North Saanich Middle School that is targeted to attain LEED™ Gold standard.



2012 Greenhouse Gas Emissions

Greenhouse gas emissions from all sources covered by the Greenhouse Gas Reduction Targets Act were 2298 tonnes. It was estimated that fugitive emissions from stationary cooling comprises less than 1% of total emissions and the requirement is onerous to collect. For this reason, emissions from this source have been deemed out-of-scope and are not included in the total greenhouse gas emissions profile or offset purchase. The weather has a direct correlation to heating fuel consumption. The heating degree days through 2012 were 4% lower than in 2011. The resulting building emissions have decreased a corresponding 5.3%.

Offsets Applied to Become Carbon Neutral in 2012

Total emission offsets applied to become carbon neutral in 2012 have been purchased through the Pacific Carbon Trust for 1910 tonnes. The School District purchased \$ 47,750 of carbon offset credits to attain carbon neutrality. As required by section 5 of the Carbon Neutral Government Regulation, 388 tonnes of carbon dioxide emissions resulting from the operation of school buses were reported as part of our greenhouse gas emissions profile in 2012. However, they were not offset as they are out-of-scope under section 4(2)(c) of the Carbon Neutral Government Regulation.

Overviews

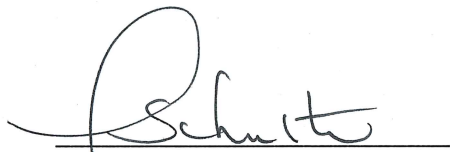
Actions Taken to Reduce Greenhouse Gas Emissions in 2012

Saanich Schools are a participant in the Power Smart Partnership with BC Hydro and will be renewing a contract for energy and sustainability management. Our energy manager provides leadership to the District in creating a culture for conservation. The major program for 2012 was to replace our existing fluorescent lighting with lower wattage lamps as well as implementation of the last phase of our 'slim' computer system.

Facility heating is a major component of the District's greenhouse gas (GHG) emissions production profile. The new North Saanich Middle school was constructed to Leadership in Energy and Environmental Design (LEED TM) to a provisional Gold certification standard. This facility employs a solar domestic hot water and geothermal heating system, in addition to improved thermal insulation that is predicted to be at least 48 percent lower than the model national energy code. A new energy efficient boiler plant was installed at Claremont Secondary along with improved building automation systems being provided at Lochside and Prospect Lake schools.

Plans to Continue Reducing Greenhouse Gas Emissions 2013 – 2015

Saanich Schools is a participant in a Power Smart Partnership with BC Hydro and we were also successful to an application to Fortis BC to provide an Energy Specialist with a focus to carbon management. Additional lighting efficiency upgrades, occupancy sensors, mechanical system upgrades and building automation modernization are all proposed in the 2013 to 2015 period. The Ministry of Education approved a \$200,000 project to replace boilers at Lochside Elementary school as part of the 2013 Carbon Neutral Capital Plan, but the Board's Five-Year Capital Plan that provided for significant mechanical upgrades was otherwise not supported for funding.



Monica Schulte
Secretary-Treasurer

School District 63 Saanich - 2012 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 Greenhouse Gas Reduction Targets Act.					
Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Mobile Fuel Combustion (Fleet and other)					
Behaviour change program					
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	No further progress in 2012	Implement Smart Driver Program to Bus and Fleet Drivers	2010	2014
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	In Development	No further progress in 2012	Implement 10 minute accumulated idling duration per day, provide awareness program and reporting feedback	2008	2014
Encourage carpooling in fleet vehicles	Ongoing/In Progress	Carpool vehicle is used to conferences or out of town meetings	Encourage carpooling to conferences or out of town meetings	2008	2012
Vehicle fuel efficiency					
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	Purchase of Two Transit utility vans in place of 3/4 ton vehicles. Disposal of Four-3/4 ton vehicles. Replacement of van with smaller diesel vehicle	Purchase of smaller utility vans	2009	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	Engine and vehicle size reduced on fleet replacement purchases	Purchase of smaller utility vans	2009	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	All fleet vehicles are regularly inspected by operators and maintained by licensed mechanical technicians in accordance with vehicle manufacturer guidelines.	Maintain fleet vehicles in accordance with manufacturer guidelines.	2008	No End Date (Continuous)
Stationary Fuel Combustion, Electricity					
Behaviour change program					
Help staff reduce personal energy use through ""workstation tune-ups""	Not Yet Evaluated				No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Not Yet Evaluated				No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Not Yet Evaluated				No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Not Yet Evaluated				No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	Not Yet Evaluated				No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Not Yet Evaluated				No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Not Yet Evaluated				No End Date (Continuous)
Promote hot water conservation	Not Yet Evaluated				No End Date (Continuous)
IT power management					
Install power management software which shuts down computers outside of regular business hours	Completed (in Reporting Year)	Replaced all computers with thin client model at Parkland Secondary school.		2008	2012
Implement server virtualization	Completed (in Reporting Year)	In conjunction with thin client model, servers at one secondary school was virtualized.		2008	2012
Apply auto-sleep settings on computer monitors and CPUs	Completed (in Reporting Year)	Roll out thin clients to additional secondary schools, ramp up sleep capability to encompass daytime-sleep in addition to already implemented nighttime-shutdown.		2008	2012

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices as part of a print management strategy	Completed (in Reporting Year)	Replace stand alone devices with multi-function devices at one secondary school		2008	2012
Apply auto-sleep settings on printers, fax machines, and/or multi-function devices	Completed (in Reporting Year)	In conjunction with thin client model, all computers, printers and other devices are centrally managed with auto-sleep settings or scheduled shut-downs at one secondary school		2008	2012
Replace computers with ENERGY STAR models during regular computer upgrades	Completed (in Reporting Year)	In conjunction with thin client model, all computers, printers and other devices are centrally managed with auto-sleep settings or scheduled shut-downs at one secondary school		2008	2012
Leased buildings					
Lease space with operations and maintenance performance labelling/certification (e.g., LEED EB:O&M)	Not Yet Evaluated				No End Date (Continuous)
Lease space with commercial interiors performance labelling/certification (e.g., LEED CI)	Not Yet Evaluated				No End Date (Continuous)
Lease space in buildings with new construction performance labelling/certification (e.g., LEED NC)	Not Yet Evaluated				No End Date (Continuous)
Develop a green lease policy that requires green features to conserve energy be included in all lease negotiations	Not Yet Evaluated				No End Date (Continuous)
Owned buildings					
Establish energy performance baseline for owned buildings	Completed (in Reporting Year)	Strategic Energy Management Plan with refined weather corrected energy baseline analysis has continued to be improved through more access to data from real time meters.		2010	2012
Register for performance labelling/certification for operations and maintenance of owned buildings (e.g., LEED EB:O&M)	Not Yet Evaluated				No End Date (Continuous)
Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI)	Not Yet Evaluated				No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress	Construction of North Saanich Middle School for LEED Gold standard with scorecard of 44 potential points to reach 39 point minimum for this level.	Completion of LEED Administration documentation for North Saanich Middle School to receive LEED Gold Certification.	2008	2013
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	Initiate Continuous Optimization Program of BC Hydro at Bayside Middle School. Begin implementation of energy improvement measures at Parkland and Claremont Secondary Schools. Complete facility fuel conversion at Sidney Elementary with increased energy efficiency utilizing heat pump technology. Replace boilers at Claremont Secondary School with new energy efficient boilers. Replace 32 watt T-8 lamps with 25 watt T-8 lamps at additional schools.	Initiate Continuous Optimization Program of BC Hydro at Stelly's Secondary and Royal Oak Middle schools. Undertake energy commissioning optimization program at North Saanich Middle School. Begin implementation of energy improvement measures at Bayside Middle School. Install lighting occupancy sensors at various schools.	2008	No End Date (Continuous)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Not Yet Evaluated				No End Date (Continuous)
Planning/management					

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Reduce office space (square meters) per employee	Completed (in Reporting Year)	Reduction of operating area by 800 square meters by opening North Saanich Middle School; a capacity reduction from 550 students to 400 students. Reduction and sale of 3 portable classrooms.		2011	2012
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	Installation of measuring and verification meters at North Saanich Middle School	Installation of 4 real-time electrical and natural gas meters	2010	2014
Retrofit details for owned buildings					
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	Replace mid-efficiency boilers at Claremont Secondary with high efficiency condensing units. Replace electric boiler and cooling tower at School Board Administration Office with air to water heat pump.	Replace mid-efficiency boilers at Lochside Elementary with high efficiency condensing units.	2008	2014
Upgrade lighting systems during retrofits	Ongoing/In Progress	Replace T8-32 watt lighting at various schools with T8-25watt lamps	Replace T8-32 watt lighting at various schools with T8-25watt lamps. Install lighting occupancy sensors at various schools.	2008	2014
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	Upgrade District wide area network building automation server. Upgrade Lochside and Prospect Lake elementary school direct digital control systems Upgrade School Board Office direct digital control system	Replace South Island Distance Education School programmed thermostatic mechanical and radiant heat panel controls with a digital control system.	2008	2014
Supplies (Paper)					
Behaviour change program					
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Not Yet Evaluated				No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Not Yet Evaluated				No End Date (Continuous)
Electronic media in place of paper					
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development	Evaluating Alfresco software for document management. Using Zimbra, Moodle and Drupal collaborative software	Begin implementation of an electronic document management system	2011	2014
Use electronic document library for filing common documents	Completed (in Previous Year)				No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Completed (in Previous Year)				No End Date (Continuous)
Paper Type					
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	Overall paper consumption has reduced from 18,200 packages in 2010 to 16,000 packages in 2011 and has remained at this level in 2012; a reduction of 14 percent.	Encouragement for further paper reductions or increased recycled content	2008	2014
Purchase 40% post-consumer recycled paper	Ongoing/In Progress	Encouragement for further paper reductions or increased recycled content	Encouragement for further paper reductions or increased recycled content	2008	2014
Purchase 100% post-consumer recycled paper	Ongoing/In Progress	Encouragement for further paper reductions or increased recycled content	Encouragement for further paper reductions or increased recycled content	2008	2014

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Printer/document settings					
Switch networked printers and photocopiers to automatic double-sided	Completed (in Reporting Year)	In conjunction with thin-client model, all computer or multi-function printer modules are server managed and provide for default automatic double-siding.		2009	2012

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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 Greenhouse Gas Reduction Targets Act. Public sector					
Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Business Travel					
Behaviour change program					
Train staff in web-conferencing	In Development	Encouragement of web-conferencing opportunities	Encouragement of Out-of-Province committee meeting attendance through web-conferencing	2010	2014
Encourage staff to consider virtual attendance/presentation at events where possible	In Development	Encouragement of Out-of-Province committee meeting attendance through web-conferencing	Encouragement of Out-of-Province committee meeting attendance through web-conferencing	2010	2014
Encourage carpooling to meetings	In Development	Encouragement for Out-of-City meeting attendance through car pooling	Encouragement for Out-of-City meeting attendance through car pooling	2010	2014
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Not Yet Evaluated				No End Date (Continuous)
Policy and budgeting					
Create a low-carbon travel policy or travel reduction goal	Not Yet Evaluated				No End Date (Continuous)
Virtual meeting technology					
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Completed (in Previous Year)				No End Date (Continuous)
Make desktop web-cameras available to staff	Not Yet Evaluated				No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Not Yet Evaluated				No End Date (Continuous)
Education, Awareness, and Engagement					
Awards/Recognition					
Establish a sustainability/green awards or recognition program	Not Yet Evaluated				No End Date (Continuous)
Staff Professional Development					
Support green professional development (e.g., workshops, conferences, training)	Not Yet Evaluated				No End Date (Continuous)
Staff awareness/education					
Provide education to staff about the science of climate change	Not Yet Evaluated				No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress	Continuation of Destination Conservation program to stimulate student conservation projects	Development of Energy Specialist position to support school-based green teams or energy conservation leaders in educational resources, programs or environmental projects.	2010	2014
Provide green tips on staff website or in newsletters	In Development	No further progress for update of 'Green Space' website to include collaboration and leadership actions in environmental or energy conservation practices	Improvements to 'Green Space' website.	2012	2014
Provide sustainability education during new staff orientation	Not Yet Evaluated				No End Date (Continuous)
Team-building					
Create Green, Sustainability, Energy Conservation, or Climate Action	Ongoing/In	District Green Team is operating with Executive support.	Energy Leaders are using BC Hydro Education resources and	2009	2014

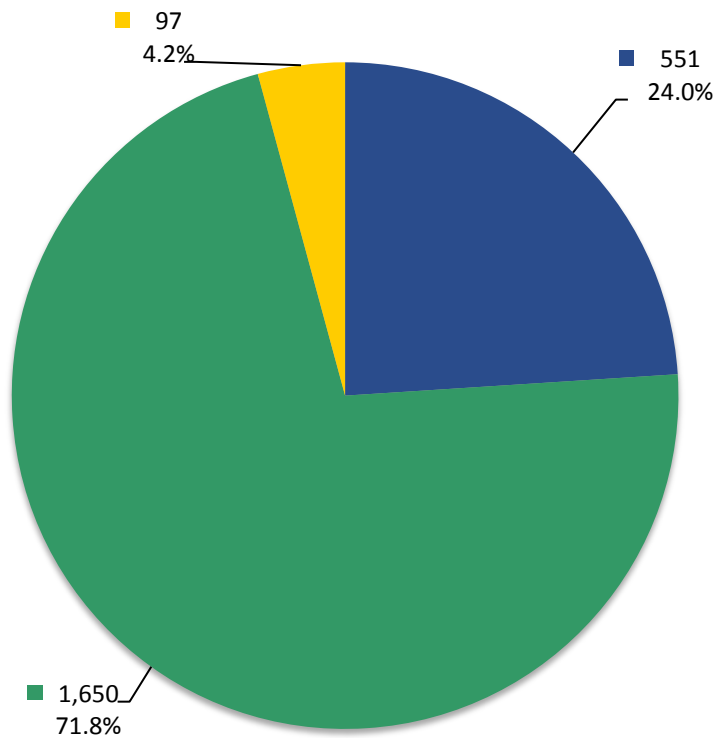
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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Teams with executive endorsement	Progress		Destination Conservation program for energy and water conservation projects.		
Provide resources and/or dedicated staff to support teams	In Development	Implementation of prototype energy-use reporting system to building occupants at Claremont school.	Support by Energy Specialist position to energy conservation leaders as well as funding to provide relief time to assist in local school sustainability measures.	2013	2014
Providing behaviour change education/training to teams (e.g., community-based social marketing)	In Development	Application for resources grant to hire an Energy Specialist to assist with behavior change and occupant engagement strategy	Development of Energy Specialist position to work with school-based energy conservation leaders in educational resources, programs and behavior change projects.	2012	2014
Other Sustainability Actions					
Adaptation to Climate Change					
Assessed whether extreme weather events and/or long term changes in climate will affect the organization's business areas	Not Yet Evaluated				No End Date (Continuous)
Integrated considerations of extreme weather events and/or long term changes in climate into the organization's decision making.	Not Yet Evaluated				No End Date (Continuous)
Building construction, renovation					
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	Not Yet Evaluated				No End Date (Continuous)
Incorporate lifecycle costing into new construction or renovations	Completed (in Previous Year)				No End Date (Continuous)
Commuting to and from home					
Introduce telework/work from home policy	Not Yet Evaluated				No End Date (Continuous)
Encourage commuting by foot, bicycle, carpool or public transit	Not Yet Evaluated				No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	In Development	New owned or leased facilities since 2006 have lockers and showers for staff who commute by foot or by bicycle	New owned or leased facilities since 2006 have lockers and showers for staff who commute by foot or by bicycle	2008	2014
Provide secure bicycle storage	In Development	New owned facilities since 2006 have supervised bike rack areas	New owned facilities since 2006 have supervised bike rack areas	2008	2014
Procurement (non-paper supplies)					
Incorporate minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.)	Not Yet Evaluated				No End Date (Continuous)
Establish green standards for goods that are replaced infrequently and/or may require capital funds to purchase (e.g., office furniture, carpeting, etc.)	Not Yet Evaluated				No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress	Implemented an ionized water cleaning program to eliminate all custodial chemical use. Introduced 14 activated water spray bottles Introduced 3 electrically charged water autoscrubbers Introduced a cleaning solution with no synthetic chemicals, no volatile ingredients and no surfactants that is ecologo certified. Used Green floor finish district-wide that is ecologo and green-seal certified.	Plan to introduce chemical free cleaning district wide using electrically charged water, minerals & salt. Plan to introduce probiotic cleaning products for change-rooms, showers, weight rooms, buses and floors. Propose to eliminate all toxic cleaning chemicals from the school district (1800 bottles). Expect to upgrade district vacuum cleaners to HEPA filtration.	2011	2014

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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 Greenhouse Gas Reduction Targets Act. Public sector					
Action	Status	Steps Taken	Steps Planned	Start Year	End Year
		Began using surfactant-free laundry detergent to extend cleaning efficacy of microfiber cloths. Expanded use of HEPA filtration vacuum cleaners.			
Waste reduction/diversion					
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	Ongoing/In Progress	Switched to degradable garbage bags district wide. Expanded use of recycling sorter stations Expanded classroom composting Began supplying schools with classroom recycling receptacles to replace cardboard boxes Purchased a recycling container for Stelly's Secondary	Supply schools with recycling and composting bags. Implement enhanced recycling service to include soft plastics, styrofoam, foil wrappers, and composting. Expand distribution of recycling sorter stations, classroom composting and recycling receptacles. Increase the number of curbside recycling totes Distribute assorted posters for recycling and composting	2009	2014
Implement a hazardous waste reduction and disposal strategy	In Development	Implemented a fluorescent bulb and computer hardware safe-disposal program. Removed all hazardous custodial chemicals from storage rooms.	Develop program for battery or paint disposal strategies.	2012	2014
Water conservation					
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Not Yet Evaluated				No End Date (Continuous)
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	In Development	Opening of North Saanich MS replacement facility to incorporate energy and environmental design standards for water conservation with reuse of stormwater for toilet fixtures.	Destination Conservation program to demonstrate options for potable water conservation.	2012	2014
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	In Development	Complete stormwater management strategy at North Saanich MS, which includes demonstration of permeable paving, bioswale and raingardens.	Continue with integration of stormwater management methods for new or renovated parking facilities	2012	2014

School District 63 - Saanich
Greenhouse Gas Emissions by Source
for the 2012 Calendar Year (tCO₂e*)



Total Emissions: 2,298

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

Offsets Applied to Become Carbon Neutral in 2012 (Generated May 31, 2013 10:18 AM)

Total offsets required: **1,910**. Total offset investment: **\$47,750**. Emissions which do not require offsets: **388** **

*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.