

Sooke School District #62 - 2009 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.

Currently SD62 has implemented Destination Conservation, a 3 year behaviour education program focused on conservation of energy, water, and waste. Destination Conservation, started in November 2008, is running in 16 out of 22 schools in the District.

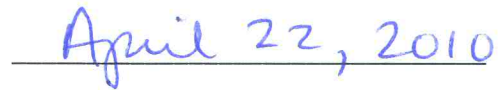
In 2009, SD62 adopted an Energy Policy with quantifiable targets for electricity and greenhouse gas reductions. As well, SD62 performs an annual energy management assessment/audit (EMA) to highlight key areas of energy conservation.

<http://www.sd62.bc.ca/conferences/District%20Policies/FOV1-0001EF4F/S00BD2742-00BD2742>

<http://www.sd62.bc.ca/conferences/District%20Policies/FOV1-0001EF4F/S00A07B64-00A07B64>



Dave Lockyer, SD62 Secretary-Treasurer



Date

Overviews

Actions Taken to Reduce Greenhouse Gas Emissions in 2009

A community school in Port Renfrew received funding (PSECA) to reduce greenhouse gas emissions in 2009. The funding was used to replace 2 undersized oil fired furnaces with a new propane boiler, air handling unit and new duct work. This project is expected to reduce greenhouse gas emissions, reduce energy costs, and improve occupant comfort in the facility.

The bus transportation department replaced 3 aging buses with 3 new cleaner burning diesel school buses. As well, the school buses have switched to using 5% bio-diesel (B5) for lower carbon emissions from the tailpipe.

Started in November of 2008, Destination Conservation (DC) is running in 16 out of 22 potential schools in the District. The DC program is a 3 year plan with a focus on energy, water, & waste reduction (behaviour) projects carried out by DC teams at each School. A lights out campaign has been started at nearly every Destination Conservation participating school. A school campaign can utilize posters, stickers, incentives, and reporting to reach energy awareness throughout the school. The results of the first year of Destination Conservation show a savings of 208,740 kWh's of electricity (~\$16,052) or a 9% reduction in electricity consumption. This equates to a greenhouse gas reduction of ~4,600 kg's. Half of the avoided cost (~\$8,000) has returned to the participating schools in the form of a rebate payment to encourage further energy conservation initiatives.

Plans to Continue Reducing Greenhouse Gas Emissions 2010 – 2012

SD62's bus transportation department is investigating switching to 20% bio-diesel (B20), from 5% bio-diesel to further reduce CO2 emissions from school buses. As well, all school bus drivers will be trained on FleetSmart's "Smart School Bus Driver" program to reduce idling, and fuel consumption.

Expanding the CO2 reduction scope to buildings, SD62 is participating in BC Hydro's Continuous Optimization Program (COP) at 2 sites. It's expected that energy savings from this program will be ~10% of current consumption. Depending on the success of the program, it's expected to expand to a further 3 sites.

SD62 has completed an energy management assessment (EMA) late 2009. The EMA results will provide the framework for energy conservation (GHG reductions) throughout 2010 - 2012. The EMA results highlight a focus on:

1. Demonstrated Leadership Commitment
 - Arrange for the executive-level sponsor to sign an energy-specific policy or directive containing specific, quantitative goals and objectives for improving energy efficiency and/or reducing energy costs. Establish regular reporting to executive-level sponsor on the organization's progress towards the established energy-specific goals.
2. Accountabilities
 - Establish clear roles, accountabilities, and expectations for energy control for site coordinators in key operating areas and locations.
3. Operating Procedures
 - Review current operating procedures for major energy-using systems and ensure instructions reflect efficient methods of operation.
4. Procedures for Equipment Selection
 - Document and communicate the energy efficiency purchase guidelines to be used for selection of general equipment. Establish, document and communicate the purchase guidelines based on life-cycle analysis to be used for selection of efficient energy intensive systems.
5. Metering and Monitoring
 - Continue developing the capability for interval measurement of energy usage and performance at key energy consuming sites.

Sooke School District #62 - 2009 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 12/31/09) | Performance to Date (as of 12/31/09) | | Steps Taken in 2009 | Steps Planned for 2010 -2012 | 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 | 4 | % of vehicles are fuel- efficient models | 3 school buses were replaced with newer, cleaner burning, diesel school buses, B5 Biodiesel has been introduced for use in the Bus fleet | 1 newer bus replacement is planned. B20 Biodiesel will be tested on the school buses to replace B5 Biodiesel (lower CO2 emissions) | 2008 | No End Date (Continuous) |
| Behaviour change program | | | | | | | |
| Provide fleet driver training to reduce fuel use | In Development | | | Management has attended Fuel Management 101 program | Driver training for School Buses will be introduced during Pro-D sessions | 2009 | No End Date (Continuous) |
| Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages) | In Development | | | Idle free zone signs are posted at every site in the District | Enhancing driver training on anti-idling | 2008 | 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 | 2009 | 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 | 2011 |
| Complete 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 2009. | Further energy retrofits are planned throughout the school district | 1995 | No End Date (Continuous) |
| Retrofitting owned buildings | | | | | | | |
| Upgrade mechanical systems (heating, cooling, ventilation) during retrofits | Ongoing/In Progress | 5 | % of retrofits (captured above) had heating, cooling, and ventilation systems upgrades | Port Renfrew School has upgraded mechanical system during its renovation | Further boiler replacements are planned | 2008 | No End Date (Continuous) |
| Upgrade lighting systems during retrofits | Ongoing/In Progress | 99 | % of retrofits (captured above) had lighting systems upgrades | Majority of lighting systems are upgraded prior to 2009. Remaining older lighting in portables are updated during a renovation | Continue to update lighting during any renovation | 1995 | No End Date (Continuous) |
| Upgrade/adjust control systems during retrofits | Ongoing/In Progress | 10 | % of retrofits (captured above) had control system upgrades or adjustments | Completed an initial report on the districts current control systems in 2009. Misc. sites received updated HVAC controls | Replacement of aging control systems | 2009 | No End Date (Continuous) |

Sooke School District #62 - 2009 Carbon Neutral Action Report

| Action | Status (as of 12/31/09) | Performance to Date (as of 12/31/09) | | Steps Taken in 2009 | Steps Planned for 2010 -2012 | Start Year | End Year |
|---|----------------------------|---|---|--|---|------------|-----------------------------|
| Leased buildings | | | | | | | |
| Establish energy performance baseline for leased buildings | Ongoing/In Progress | 75 | % 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 | 2011 |
| IT power management | | | | | | | |
| Install power management software which shuts down computers outside of regular business hours | In Development | | | IT Department has been investigating installing powersave software throughout the district. The District already installs shutdown software (freeware) on new installations. | A test run in a schools computer lab is scheduled for Spring 2009. Further action will depend on the outcome of the test. | 2009 | 2010 |
| Apply auto-sleep settings on computer monitors and CPUs | In Development | | | IT Department has been investigating installing powersave software throughout the district. | A test run in a schools computer lab is scheduled for Spring 2009. Further action will depend on the outcome of the test. | 2009 | 2010 |
| Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices | Ongoing/In Progress | 75 | % of devices have auto-sleep settings applied | Multi-function devices are installed throughout the district sites with energy saving settings applied | Ensure that staff are aware of the energy saving settings | 2007 | 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 | 2010 |
| 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 | Removed a number of unnecessary fridges from school sites | Energy Star rated equipment will become mandatory during replacement | 2009 | 2010 |
| Behaviour change program | | | | | | | |
| Ask staff to unplug electrical equipment or switch off power bars when not in use | Ongoing/In Progress | | | Energy Managers Newsletter offered tips to reduce energy use | Continue to offer tips in the newsletter | 2009 | No End Date (Continuous) |
| Ask staff to close blinds at end of work day to reduce heating/cooling demands | Ongoing/In Progress | | | Energy Managers Newsletter offered tips to reduce energy use | Continue to offer tips in the newsletter | 2009 | No End Date (Continuous) |
| Provide reminders for turning off lights (e.g., signs, stickers, messages) | Ongoing/In Progress | | | Destination Conservation Teams have put up stickers as part of their campaigns to reduce energy at their school | Continue to utilize Destination Conservation teams to spread the conservation message at their school | 2008 | 2011 |
| Promote hot water conservation | Ongoing/In Progress | | | Destination Conservation Teams have started a water conservation campaign at their school | Continue to utilize Destination Conservation teams to spread the conservation message at their school | 2008 | 2011 |
| Supplies (Paper) | | | | | | | |
| Printer/document settings | | | | | | | |
| Switch networked printers and photocopiers to automatic double-sided | In Development | | | Individual settings override double sided print settings. Few individuals have reprogrammed their settings to print double sided. | Further training and education to staff regarding the reason to print double sided | 2009 | No End Date (Continuous) |
| Electronic media in place of paper | | | | | | | |
| Switch to an electronic payroll notification system in place of paper pay stubs | In Development | | | Payroll offers electronic pay stubs as an option | Encourage more staff to sign up for the paperless payroll system | 2007 | No End Date (Continuous) |

Sooke School District #62 - 2009 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 12/31/09) | Performance to Date (as of 12/31/09) | | Steps Taken in 2009 | Steps Planned for 2010 -2012 | Start Year | End Year |
| Business Travel | | | | | | | |
| Behaviour change program | | | | | | | |
| Encourage staff to consider virtual attendance/presentation at events where possible | In Development | | | Multiple meetings held in lower mainland area were attended via web conference | Continue to utilize web conferencing when possible | 2009 | No End Date (Continuous) |
| Education, Awareness, and Engagement | | | | | | | |
| Team-building | | | | | | | |
| Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement | Ongoing/In Progress | | | Destination Conservation Teams at schools have been created | Destination Conservation program runs until 2011 | 2008 | 2011 |
| Provide resources and/or dedicated staff to support teams | Ongoing/In Progress | | | BC Hydro funded Energy Manager is available to support teams | BC Hydro funded Energy Manager is available to support teams | 2008 | 2011 |
| Awards/Recognition | | | | | | | |
| Establish a sustainability/green awards or recognition program | Ongoing/In Progress | | | Schools participating in a conservation program that reduce energy consumption, receive 50% of the avoided electricity cost | Reward program will continue through to the end of Destination Conservation in the School District (Nov 2011). | 2008 | 2011 |
| Staff Professional Development | | | | | | | |
| Support green professional development (e.g., workshops, conferences, training) | Ongoing/In Progress | | | SD62's energy manager & director of facilities attended BC Hydro's PowerSmart Multi-day Forum | Planning to have district electricians attend BC Hydro energy conservation workshops | 2008 | No End Date (Continuous) |
| Staff awareness/education | | | | | | | |
| Provide education to staff about the science of climate change | Ongoing/In Progress | | | Energy Manager has hosted a Pro-D workshop session on reducing Carbon Footprint | Future Pro-D workshops are being planned | 2009 | No End Date (Continuous) |
| Provide education to staff about the conservation of water, energy, and raw materials | Ongoing/In Progress | | | Energy Manager has provided newsletters with tips for conservation | Energy Manager to provide newsletters with tips for conservation | 2009 | No End Date (Continuous) |
| Provide green tips on staff website or in newsletters | Ongoing/In Progress | | | Energy Manager has provided newsletters with tips for conservation | Energy Manager to provide newsletters with tips for conservation | 2009 | No End Date (Continuous) |
| Client/public awareness/education | | | | | | | |
| Provide education to clients/public about the conservation of water, energy, and raw materials | Ongoing/In Progress | | | Energy Manager has made several presentations to schools, PACs, and staff | Energy Manager will continue to provide presentations to schools, PACs, and staff | 2009 | No End Date (Continuous) |
| Provide green tips on client/public website or in newsletters | Ongoing/In Progress | | | Energy Manager has provided newsletters with tips for conservation | Energy Manager has provided newsletters with tips for conservation | 2009 | No End Date (Continuous) |
| Other Sustainability Actions | | | | | | | |
| Water conservation | | | | | | | |
| Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models | Ongoing/In Progress | | | Water fixtures are replaced as needed with water efficient fixtures | Continue replacing water fixtures as required with water efficient fixtures | 2009 | No End Date (Continuous) |
| Procurement (non-paper supplies) | | | | | | | |

Sooke School District #62 - 2009 Carbon Neutral Action Report

| Action | Status (as of 12/31/09) | Performance to Date (as of 12/31/09) | | Steps Taken in 2009 | Steps Planned for 2010 -2012 | Start Year | End Year |
|---|----------------------------|---|--|--|---|------------|----------|
| Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags | In Development | | | Investigation into costs surrounding sustainable products showcased additional funding is required prior to moving forward | Sustainable purchasing policy for cleaning products is in development and being planned | 2009 | 2010 |
| Indoor air quality | | | | | | | |
| Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.) | Complete | | | | | | |
| Incorporate low volatile organic compounds (VOCs) standards into procurement policy for products such as paints, carpets, and furniture | Complete | | | | | | |
| Commuting to and from home | | | | | | | |
| Provide shower or locker facilities for staff/students who commute by foot or by bicycle | Complete | | | | | | |