

School District No. 71 (Comox Valley)

2009 Carbon Neutral Action Report

Executive Summary

Comox Valley School District has forged ahead with key actions to assist in lowering of Greenhouse Gas Emissions (GHG). We have also developed and passed by the Board, an energy conservation policy (3055) that takes a holistic view of conservation which includes lowering energy use through-out the District, thereby lowering GHG Emissions.

Carbon neutrality and sustainability objectives from the Province are timely in the sense we are all over due to take part in helping reduce Emissions and become active in protecting our environment. As discussed below, we have developed and moved on a number of initiatives to allow our District to move in that direction as quickly as possible.

Overviews

Actions Taken to Reduce Greenhouse Gas Emissions in 2009

During 2009 we continued to explore and initiate energy upgrades as we have done for years, with both lighting and heating plants, reducing our kWh consumption by thousands. At our largest facility, Vanier Secondary School; the main boiler was beginning to fail. That gave us an opportunity to look at the heating system allowing us to replace it with two condensing boilers and using a smaller, existing boiler to help with colder temperatures. This hybrid system will save considerable energy use and assist in lowering of GHG emissions for years to come.

Our Team identified a number of areas that required attention and followed through by adding building insulation, changed numerous windows, and stopped unnecessary heating of storage areas.

Behavioural change is of course one of our main target areas. Engaging students, staff and parents in conservation will work and the steps we have taken so far highlight the outcomes.

During 2009 we held a couple of major contests for students and staff, and interestingly enough, parents of students. The one contest that garnered a lot of interest and participation saw a local VW Dealership award the use of a new 'Clean' VW Jetta for one year. They partnered with the District in our 'Green Challenge' to see what school could be the greenest (Solar Voltaic panels as a prize), the most active student (shirts, mugs and other items as prizes) and the Greenest family (VW Jetta for one year as the prize). One other contest was directed solely at students and divided into three grade categories. This was a bookmark contest where students would create a bookmark with energy saving ideas in graphic form on the bookmarks. Prizes included a bicycle, mini notebook and i-pod. The winner overall also had the bookmark published. We continue to benefit in lower energy consumption because of these forms of participation throughout the District.

Operational Changes in 2009

Though begun in 2008, the Anti-Idling program we embarked upon and subsequent Policy (8025 & 8025 R1) is a driver for fleet operators and our bussing contractor not to run engines if sitting for more than three minutes. The installation of signs in 2009 to that effect reminds staff, parents and others to shut off the engine.

2009 saw the introduction of an Energy Manager to the District. This has assisted us in driving emissions down and proving behavioural change really does work. This provided a more direct focus on building audits and resulting recommendations as well as digging deeper to really challenge ourselves to participate.

With technology advancing as it does, we are taking advantage of it as operational demands dictate. We began using Share Point and are expanding its use. Many staff utilize teleconferences and webinars in an ever increasing fashion. Webcams are used for remote face to face meetings where possible. All of these changes contribute to this district reducing GHG emissions.

We have adopted a cartoon character we call the Energy Bear, and from our District website one can click into the 'Bears Den'. This is a blog maintained by our Energy Manager and helps support our initiatives by making information easily available to students, staff and the general public. Go to www.sd71.bc.ca and click on the green box at the bottom, the Energy Bear Den.

Plans to Continue Reducing Greenhouse Gas Emissions 2010 – 2012

As we move through 2010 and beyond, it is our goal to continue to work toward carbon neutrality. Through the development of Policy and Management Regulation to help drive us in that direction, to brainstorming in groups around the District we are confident our efforts will not go unnoticed.

Beginning in January of 2010 our Human Resources Department went paperless. Absolutely all of their work is now electronic. That will help the District with our resolve to reduce paper usage and lowering of GHG emissions!

As a partner with BC Hydro we are able to offset some costs as we work toward reduction, and using the rebates available, plan on doing more. We feel we need to be Leaders in the Comox Valley and are striving to show off our Carbon Neutrality beginning with 2010 and beyond!

What do we have planned? We have already mentioned Solar Voltaic at one school but now we have participation from another source and have expanded the design to approximately a 2.5 to 3 Kw grid tie-in. This will incorporate pulse metering to allow students and staff to see how their panels are contributing. We are looking forward to this 'Demonstration' project. We are also planning to move ahead with solar pre-heat for an on demand domestic hot water system at one of our Secondary schools. We have a Solar Wall on another Secondary school gymnasium. This uses the energy from the sun to pre-heat make up air for heating the gym.

What do we have planned? A lot; and we are eager to continue with these projects. All of these will assist us to be Carbon Neutral and will make the Comox Valley a better place to live.

Mr. Chuck Morris (Director of Operations)



Mr. Len Ibbs (Secretary Treasurer)



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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 (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	In Development			Researched availability of what may work for our needs	Produce plan on how to replace fleet when required, with 'Right Sizing' and fuel efficient types.	2010	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	In Development			Researched availability of what may work for our needs	Depending on budgets we may move in this direction (2010/2011)	2010	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	100	% of vehicles are subject to regular maintenance for fuel efficiency	Frequency of oil changes and other servicing is twice per year except for vehicles over 5500kg. Other service is as required.	Continue with current frequency unless we can prove otherwise. Continually work with operators of fleet vehicles to improve efficiency of their vehicles.	2007	No End Date (Continuous)
Replace small maintenance vehicles with more fuel-efficient models	In Development			Researched availability of what may work for our needs	Surveying possibilities and depending on budgets may move in this direction (2010/2011)	2010	No End Date (Continuous)
Behaviour change program							
Provide fleet driver training to reduce fuel use	In Development			Investigated 3rd party lessons	2010 (February) directives about van loads, better planning for the day to reduce trips back to Maintenance, and monitoring of same.	2010	No End Date (Continuous)
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Ongoing/In Progress			Subject at meetings. We initiated Anti Idling in 2008.	Continue topic at meetings and begin to enforce policy.	2008	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress			Where applicable, we carpool to meetings	Continued encouragement of carpooling to meetings, etc	2009	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Ongoing/In Progress			If weather permits and distance not too far, walking is encouraged	Weather permitting and distance not too far, walking encouraged	2009	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)	In Development			Developed plans with the Energy Manager	Energy Manager currently developing the benchmarks	2010	2010
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	In Development			Identified budget and qualifying facilities	Evaluate cost / looking to move ahead with program (BC Hydro Continuous Optimization Program)	2010	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	Data mining and entering historical information	Create 3 year average baseline of all facilities.	2010	2010
Incorporate integrated design process into new construction or during renovations of owned buildings	In Development			Putting plans and ideas together for renovation and new construction	If projects approved, would incorporate	2009	No End Date (Continuous)
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress	65	% of owned buildings have undergone energy retrofits since start year indicated	Retrofitted three entire schools (lighting)	Identifying what we can do and planning when we can do it	2000	No End Date (Continuous)

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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
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	20	% of retrofits (captured above) had heating, cooling, and ventilation systems upgrades	Boiler Replacment (condensing Hybrid System) at one Secondary	Would like to complete another Condensing Hybrid conversion	2009	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	80	% of retrofits (captured above) had lighting systems upgrades	Completed Airport Elementary and a few other, ancilliary buildings	Complete gym lighting upgrade in 5 gymnasiums	1998	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	15	% of retrofits (captured above) had control system upgrades or adjustments	Began using daylighting control with our upgrades as well as motion activation	Gymnasium controls and other areas	2009	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	10	% of retrofits (captured above) had insulation improvements	Insulated 1940's vintage building (it had none)	If re-roofing, plan to upgrade roof insulation where applicable	2009	No End Date (Continuous)
Install an on-site renewable energy demonstration project	Ongoing/In Progress	10	% of retrofits (captured above) had on-site renewable energy components	Held contest (Green Challenge)	Install Solar Voltaic 3 Kw grid tie-in at winning school (Green Challenge)	2009	No End Date (Continuous)
IT power management							
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	80	% of computers shut down automatically outside of regular business hours	Monitored systems periodically to see if software continues to work as it should	Expansion of program	2006	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress	95	% of computers have auto-sleep settings applied	Checked systems to ensure software working	Continue with program	2007	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress	10	% reduction in printers, copiers, and/or fax machines since start year indicated	Evaluation of what we have and how we can change	Will look at reductions	2009	No End Date (Continuous)
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	Ongoing/In Progress	95	% of devices have auto-sleep settings applied	Set up systems to move to auto-sleep after a short period of inactivity	Continue with plan	2009	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Complete	100	% of computers are ENERGY STAR rated	Continued with Energy Star related computer purchases	Continue with plan	2007	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	50	% of fridges are ENERGY STAR rated	As replacement identified Energy Star requested	Continue with plan	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	100	% of replacements are / will be ENERGY STAR	Encouraged staff if replacing to ensure they purchase Energy Star rated appliances	This will become a regulation	2009	No End Date (Continuous)
Replace desk lamp incandescent bulbs with compact fluourescent (CFL) bulbs or source more efficient desk lamps for future purchases	Ongoing/In Progress	80	% Complete. Stopped supplying incandescent, using compacts	Supplied Compacts, stop carrying incandescent bulbs	Continue with removing incandescent bulbs throughout the district	2009	No End Date (Continuous)
Behaviour change program							

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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
Help staff reduce personal energy use through "workstation tune-ups"	Ongoing/In Progress	10	% of current staff have completed a workstation tune-up	Issued 'Turn it Off' Stickers to all office staff and have had students place them on light switch covers	Continue with this (encouraging staff to turn equipment off) and expand on the 'Work Station Tune-up'.	2009	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress			Asked Staff through memo's to unplug and turn off	Visit each site and show staff what to turn off/uplug and explain the benefits of doing so.	2008	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress			Asked Staff through memo's to close blinds	Continue with the mantra and visit each site	2008	No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	Ongoing/In Progress			Provided memos to staff on energy saving ideas	Continue with the Mantra about how to achieve our goals	2009	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Ongoing/In Progress			Provided memos to staff and email directives	Memos sent to site Administration	2009	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress	80	% of facilities 'stickered'	Re-emphasized the need to be part of the solution	Re-enforce these steps (light switch 'turn it off' stickers applied. Posters next to help get the message across.	2008	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress			Encourage staff to conserve hot water	Lay out procedures to address this	2009	No End Date (Continuous)
Other Stationary Fuel Combustion and Electricity Actions							
Upgrading portables with new sealed unit windows, high efficiency gas furnaces, heat recovery ventilation units and door seals.	Ongoing/In Progress			Completed two portable upgrades	Complete all 13 remaining upgrades	2009	2011
Domestic Electric Hot Water tank scheduling	Complete	100	% completed	Installed controls on HWT to shut them down when school not in session and overnight.	Completing this with DDC control of remaining HWT	2009	2010
Supplies (Paper)							
Printer/document settings							
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	55	% of network printers or photocopiers are set to automatic double-sided	Encouraged staff to use double sided printing	Will expand on this and ensure it is being done	2009	No End Date (Continuous)
Reduce default margin size in standard document templates (e.g., letters, briefing notes, forms, etc.)	Ongoing/In Progress			Advised staff to look at reduction of margins	Will be making this more of a directive	2009	No End Date (Continuous)
Electronic media in place of paper							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress	20	% of staff workstations with software installed	Initiated Sharepoint	Broaden use	2009	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress			Formulated plans to make materials available online rather than printed copy	H/R moved paperless in January 2010	2009	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Complete	100	% complete	Payroll paper eliminated	Continue to explore what else can go this direction	2008	No End Date (Continuous)
Behaviour change program							
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress	10	% of staff currently have received collaborative software training	Began using Sharepoint	Will expand on the use of Sharepoint	2009	No End Date (Continuous)

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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
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress		Encouraged staff to hold paperless meetings	Will expand on this concept	2009	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress		Advised all staff to re-use paper	Will continue this movement	2009	No End Date (Continuous)
Other Paper Supplies Actions						
Human Resources Department moved to paperless as of January 2010	Complete		Prepared to move paperless	Ensure going paperless works and is supported by all staff	2010	No End Date (Continuous)

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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 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							
Virtual meeting technology							
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Ongoing/In Progress	5	% of computers have web-conferencing software installed	Encouraged use of Elluminate and Live Meeting	Expand on the use of web conferencing	2009	No End Date (Continuous)
Make desktop web-cameras available to staff	Ongoing/In Progress	5	% of staff have access to a desktop web-camera	Minor expansion of webcam purchases	Will continue as requirement are identified	2008	No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Ongoing/In Progress	2	% of meeting rooms have access to video-conferencing equipment	Board Meetings are broadcast	Trying portable units as we explore logistics	2008	No End Date (Continuous)
Behaviour change program							
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress	20	% of staff utilize virtual attendance / presentations	Leading by example by using teleconference and webcast meetings and presentations	Continue to encourage and direct staff	2009	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress	100	% of staff carpool when / where it is feasible	Where applicable staff carpool to work and / or to meetings	Work at expanding on carpooling	2008	No End Date (Continuous)
Education, Awareness, and Engagement							
Team-building							
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	In Development			Lay Groundwork for formation of teams	Intent is to establish Teams this year	2010	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress			Determined how to approach each partner group and present information. Started with small employee groups.	Plans being developed to expand to include all partner groups.	2009	No End Date (Continuous)
Awards/Recognition							
Establish a sustainability/green awards or recognition program	In Development			Met to discuss what this could look like.	Further development of awards/sustainability program and implementation involving school electrical load reduction and incentives.	2009	No End Date (Continuous)
Staff Professional Development							
Support green professional development (e.g., workshops, conferences, training)	In Development			This is currently being discussed but we need to broaden our scope	Finalize format and implement	2009	No End Date (Continuous)
Staff awareness/education							
Provide education to staff about the science of climate change	In Development			Planning stage	Confirm delivery and plan to implement	2010	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress			Some information has gone out.	Secure information package and provide to staff continually	2009	No End Date (Continuous)

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Provide green tips on staff website or in newsletters	Ongoing/In Progress			Our Energy Bear Blog on the District Website provides tips	Plan to expand on this during 2010	2009	No End Date (Continuous)
Provide sustainability education during new staff orientation	In Development			Put information together for the orientation sessions	Implement during 2010	2010	No End Date (Continuous)
Client/public awareness/education							
Provide green tips on client/public website or in newsletters	Ongoing/In Progress			Green Tips on District website in our Energy Bear Blog	Expand the flow of information	2009	No End Date (Continuous)
Other Education, Awareness, and Engagement Actions							
Elementary and Secondary Student 'Green' Contest Book Mark Challenge	Complete			80% of schools participated. Note book, bicycle as prizes	Develop other participation awareness contest/programs	2009	No End Date (Continuous)
Green Challenge	Complete			Green Challenge to reduce/reuse/recycle; prizes included solar voltaic for a school and use of a new Clean VW Jetta for a year for the winning family	Continue with the same challenge as an annual event	2009	No End Date (Continuous)
Destination Conservation for staff	Ongoing/In Progress			A series of sessions with Destination Conversation was begun	Will expand on this during 2010	2009	No End Date (Continuous)
Energy Ambassadors at Secondary Schools	Ongoing/In Progress			Working with BC Hydro we initiated the Energy Ambassador program. Four Secondary Schools have Teams now.	We are working on expanding this Program to all of our schools	2009	No End Date (Continuous)
Many schools distribute newsletters home using Synervoice and email	Ongoing/In Progress			Encourage participation of initiatives	Working toward 100% participation of all schools	2009	No End Date (Continuous)
At least one school grade 6/7 Computer class uses no paper at all as all assignments are online and homework is handed back through the school server	Ongoing/In Progress			Explored feasibility of going paperless	Look froward to expanding this method of going paperless	2009	No End Date (Continuous)
Contact Vendors and obtain information from them on what they are doing to encourage fewer emssions from their organization.	Ongoing/In Progress	25	% contacted to date	Began contacting Vendors to explore what they do to reduce GHG	Complete our research and explain our approach to them.	2010	No End Date (Continuous)
Promote and encourage participation of EARTH HOUR at noon on March 26, 2010 to turn off all lights and unplug	Ongoing/In Progress	100	% of schools took part	Continue to promote Earth Day and have facilities take part	Since Earth Hour falls on a weekend we decided to hold our own on March 26th. Encouraging schools to shut it down for an hour at noon.	2010	No End Date (Continuous)
Other Sustainability Actions							
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	60	% of schools involved at this point	Began recycling program in conjunction with Town of Comox and City of Courtenay and local contract recycler (Emterra)	All Schools now participating (recycling cans, paper, drink containers, etc)	2009	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress			We re-cycle what we can, we do not divert tubes or other hazardous waste to landfills	Strengthen program	2002	No End Date (Continuous)
Building construction, renovation, and leasing							
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	Ongoing/In Progress			A 'Heads Up' given to Maintenance staff to re-use / re-cycle where feasible	Development of more in-depth planning and implementation	2010	No End Date (Continuous)
Indoor air quality							

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Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.)	Ongoing/In Progress			Collecting information to help us develop a sensitive policy	Many sites have an informal policy, we plan to try to develop District policy around this.	2009	No End Date (Continuous)
Incorporate low volatile organic compounds (VOCs) standards into procurement policy for products such as paints, carpets, and furniture	Ongoing/In Progress			Already use low or no VOC paint products, encourage vendors to supply Low VOC products (ie: Flooring., etc)	Will be looking at developing policy around this	2009	No End Date (Continuous)
Commuting to and from home							
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress			Many staff already cycle, run, walk, carpool	Encourage continuation and expansion of this	2009	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In Progress			As identified, we provide secure storage of bicycles	As identified we provide secure storage of bicycles	2009	No End Date (Continuous)
Other Sustainability Actions							
One school uses re-cycled grey water for all toilets in the facility	Complete	100	% of toilets in this facility	Maintain systems (permit compliance)	Maintain systems (permit compliance)	2000	No End Date (Continuous)