

School District 79 (Cowichan Valley) - 2010 Carbon Neutral Action Report



Executive Summary

The Cowichan Valley School District is continuing to move towards carbon neutrality. To this end School District 79 has undertaken many measures to reduce its carbon footprint. In 2008 a full time Energy Manager was hired to reduce energy consumption and lower the districts carbon footprint. In 2009 the district adopted a policy on Resource Management and Sustainability and formed a Sustainability Committee whose mandate is to deal with issues that contribute to the district's carbon footprint. Long term reduction goals have been adopted which fall in line with the BC Energy Plan and Bill 44-2007: Greenhouse Gas Reduction Targets Act. Many mechanical system upgrades have been started which will significantly reduce the district's carbon footprint. All bus routes in the district have been changed which will reduce driving distances. The district has been working with BC Hydro on an Energy Awareness Behavioural Pilot program to encourage energy efficient practices across the district.

2010 Greenhouse Gas Emissions

The total Greenhouse Gas Emissions for 2010 were 3,441.01 tonnes CO₂e. 67% of this came from stationary fuel combustion and electricity, 29% came from mobile fuel combustion and 4% came from supplies.

Offsets Applied to Become Carbon Neutral in 2010

Of the total Greenhouse Gas Emissions 798.29 tonnes CO₂e resulted from the operation of school busses. As a result of this the total GHG Emissions that were offset to become Carbon Neutral for 2010 was 2642.72 tonnes CO₂e. This resulted in a payment of \$66,068.00 plus HST which was paid to the Pacific Carbon Trust.

Emissions Reduction Activities

Actions Taken to Reduce Greenhouse Gas Emissions in 2010

By changing the bus routes district wide the Transportation Department was able to reduce annual bus travel by 170,000 kilometres.

The Operations Department has done a number of lighting projects to reduce the district's electrical consumption. Many heating system projects have been started which will make systems operate more efficiently.

Solar Hot Water Systems have been installed at 3 Secondary schools across the district and an application was submitted for a Photo Voltaic System at the district's other Secondary school.

The I.T. Department install Power Management Software on computers in Middle and Secondary schools.

Operational Changes in 2010

The Adult Education Program was moved out of building which was being leased. This resulted in one less facility that has to be maintained.

Plans to Continue Reducing Greenhouse Gas Emissions 2011 – 2013

The district will continue to implement projects in an effort to continue reducing energy consumption and greenhouse gas emissions.

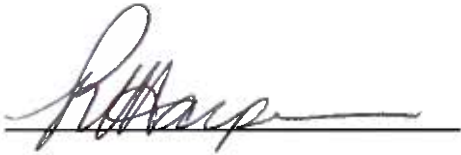
Lighting projects will be implemented at many facilities.

Multiple heating system upgrades have been initiated which will have to be completed. The heating systems in 3 schools are being studied in an effort to come up with more energy efficient solutions.

The I.T. department will be expanding the Power Management Software to computers district wide.

The Transportation Department will continue to monitor routing in an effort to reduce driving distances.

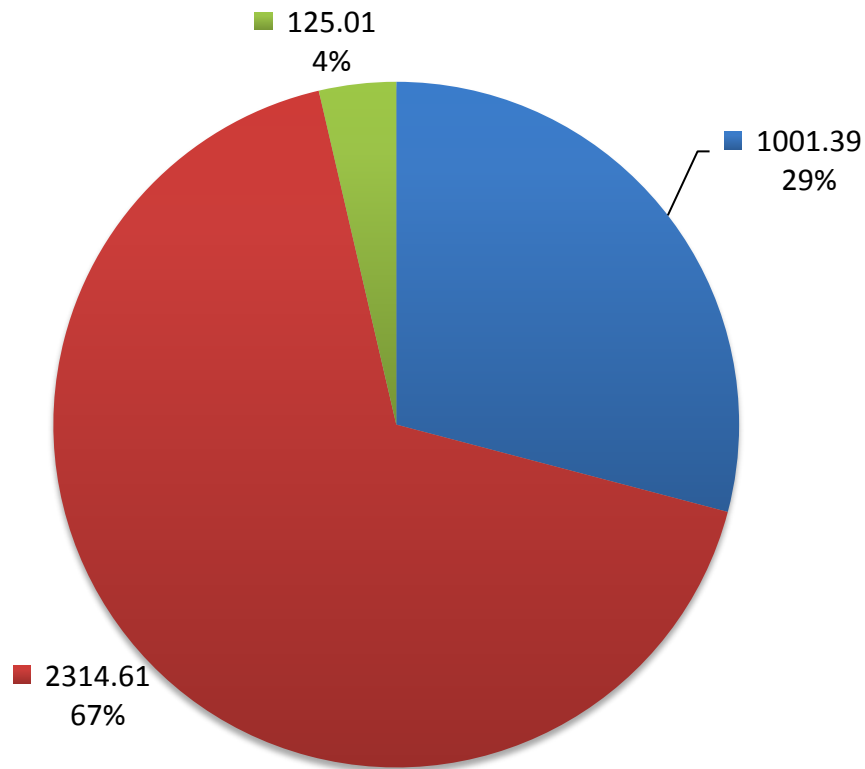
The communication of Energy Efficient and Sustainable practices will continue district wide in an effort to promote the overall awareness of sustainability issues.

A handwritten signature in black ink, appearing to read 'R. Harper', is written over a solid horizontal line.

Robert Harper, Secretary-Treasurer

School District 79 Cowichan Valley

Greenhouse Gas Emissions by Source for the 2010 Calendar Year (tCO₂e*)



Total Emissions: 3441.01

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion and Electricity (Buildings)
- Supplies (Paper)

Offsets Applied to Become Carbon Neutral in 2010

Total offsets purchased: **2642.72**. Total offset investment: **\$66,068.00**. Emissions which do not require offsets: **798.29** **

*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.

School District 79 Cowichan Valley - 2010 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 (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	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	58	% of vehicles are fuel- efficient models	2 of 39 busses and 2 of 37 operations vehicles were replaced.	Continually replace vehicles as budgets allow.	2000	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	Oil, Lube and filter changes on: busses every 4000 km, operations vehicles every 2800km. Tune-ups as required. This is all done by mechanics in house.	Maintain current maintenance schedules.	Started before 1995	No End Date (Continuous)
Replace small maintenance vehicles with more fuel-efficient models	Ongoing/In Progress	45	% of small maintenance vehicles are fuel-efficient	Replaced 2 ride-on mowers with more fuel efficient mowers.	Continually replace vehicles as budgets allow.	2008	No End Date (Continuous)
Behaviour change program							
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	50	% of current drivers are trained	New drivers were given training.	All drivers to be trained by the end of 2013. Continue to train all new drivers.	2009	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	100	% of current drivers are trained	Anti-idling information given to all district drivers and signs posted at sites.	Continue to remind current staff and train all new staff.	2009	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress	100	% of staff encouraged to carpool	Carpooling is continually encouraged.	Continue promoting carpooling.	2007	No End Date (Continuous)
Other Mobile Fuel Combustion Actions							
Make bus routes more efficient	Ongoing/In Progress			All of the bus routes in the district were changed in 2010. Because of this 7 busses have been taken off the road.	Continually review bus routes for efficiencies.	2009	No End Date (Continuous)
Encourage slower driving.	Ongoing/In Progress			Maximum speeds for routes are set on bus computers. Importance of slower driving is continually communicated to drivers.	Continue communication.	2009	No End Date (Continuous)
Deliveries direct to school sites.	Ongoing/In Progress			Many items are shipped direct to schools rather than using district central distribution.	Continue to use individual site delivery when ever possible.	2004	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	100	% of building with benchmarking	Compare building performance with other school districts through SD Energy Managers.	Establish a standard province wide.	2009	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	2	% of buildings have a real time metering system installed	Installed Pulse metering at 1 site in 2010. Approved to install at 3 sites for 2011.	Pulse in 7 sites by 2012. BC Hydro mandated to install real time metering by 2013.	2009	2013
Owned buildings							
Establish energy performance baseline for owned buildings	Completed in 2010	100	% of owned buildings have an established energy performance baseline	All buildings now have an established baseline.		2009	No End Date (Continuous)

School District 79 Cowichan Valley - 2010 Carbon Neutral Action Report

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Ongoing/In Progress			Communicated with staff importance of keeping track refrigerant maintenance.	Establish a tracking protocol.	2010	2011
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress	29	% of owned buildings have undergone energy retrofits since start year indicated	Lighting upgrades undertaken at 3 sites. 3 Solar Hot Water systems installed.	Mechanical, control and lighting system upgrades scheduled for multiple sites for 2011 and 2012.	2009	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	3	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	Studies and engineering done for multiple HVAC projects.	Progress with replacement of old inefficient HVAC systems. Modulating burners are being added to heating systems at 5 sites.	2009	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	12	% of retrofits since start year indicated had lighting systems upgrades	Replaced some Metal Halide fixtures with T5 fluorescents. Replaced some T12 fluorescent fixtures with T8 fluorescents. Relamp many locations with 32 watt instead of 28 watt lamps.	Complete replacement of T12 fluorescent and incandescent fixtures in the last 2 of our active facilities. Continue replacing Metal Halide fixtures with T5 fluorescent fixtures.	1998	2013
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	3	% of retrofits since start year indicated had control system upgrades or adjustments	New front-end for district wide DDC being installed.	DDC upgrades to take place in conjunction with all HVAC retrofits.	1998	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	6	% of retrofits since start year indicated had insulation improvements	Sites requiring building envelope upgrades were identified for capital plan.	Begin scheduling building envelope projects.	2009	No End Date (Continuous)
Install an on-site renewable energy demonstration project	Ongoing/In Progress	9	% of retrofits since start year indicated had on-site renewable energy components	Solar Hot Water systems installed at 3 sites.	An application has gone in for a Photo Voltaic system for one of our sites.	2010	2012
IT power management							
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	20	% of computers shut down automatically outside of regular business hours	Project started to install power management software in middle and secondary schools.	Extend to elementary schools.	2009	2011
Implement server virtualization	In Development				Planning	2010	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress	90	% of computers have auto-sleep settings applied	Sleep settings are set when computers are added to system.	Sleep settings are set when computers are added to system.	1998	No End Date (Continuous)
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	Ongoing/In Progress	100	% of devices have auto-sleep settings applied	Sleep settings are set when computers are added to system.	Sleep settings are set when computers are added to system.	1998	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	90	% of computers are ENERGY STAR rated	All new computers are ENERGY STAR rated.	All new computers are ENERGY STAR rated.	2004	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	10	% of fridges are ENERGY STAR rated	All new refrigerators purchased have ENERGY STAR rating.	All new refrigerators purchased will have ENERGY STAR rating.	2000	No End Date (Continuous)

School District 79 Cowichan Valley - 2010 Carbon Neutral Action Report

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress			All new electronic purchases have ENERGY STAR rating.	All new electronic purchases will have ENERGY STAR rating.	2000	No End Date (Continuous)
Replace desk lamp incandescent bulbs with compact fluorescent (CFL) bulbs or source more efficient desk lamps for future purchases	Ongoing/In Progress			CFL lamps are standard replacement for all incandescent lamps.	CFL lamps are standard replacement for all incandescent lamps.	2006	No End Date (Continuous)
Behaviour change program							
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress			Green Tips distributed district wide on a regular basis.	Green Tips distributed district wide on a regular basis.	2009	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress			Green Tips distributed district wide on a regular basis.	Green Tips distributed district wide on a regular basis.	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			Green Tips distributed district wide on a regular basis.	Green Tips distributed district wide on a regular basis.	2009	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			Signs and stickers put by light switches at many sites.	Expand district wide campaign.	Started before 1995	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress			Turn down temperature on domestic hot water where ever possible.	Turn down temperature on domestic hot water where ever possible.	2007	No End Date (Continuous)
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	40	% of total paper purchased contains 30% recycled content	Staff are encouraged to purchase paper with recycled content.	Staff will continue to be encouraged to purchase paper with recycled content.	2009	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Ongoing/In Progress	10	% of total paper purchased contains 100% recycled content	Staff are encouraged to purchase paper with recycled content.	Staff will continue to be encouraged to purchase paper with recycled content.	2009	No End Date (Continuous)
Printer/document settings							
Switch networked printers and photocopiers to automatic double-sided	In Development				Develop district standard.	2010	2012
Apply "print and hold" settings to networked printers to eliminate unclaimed print jobs	Ongoing/In Progress	2	% of network printers have 'print and hold' settings applied	Utilized for confidential documents.	Develop district standard.	2009	No End Date (Continuous)
Electronic media in place of paper							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development	1	% of staff workstations with software installed		Develop district program.	2010	No End Date (Continuous)
Use electronic document library for filing common documents	In Development				Working on District Library.	2010	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress			Newsletters, notices and meeting information available online.	Continue expanding scope.	2009	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Ongoing/In Progress			Expanded to include CUPE employees.	Include the rest of unionized staff.	2009	2012

School District 79 Cowichan Valley - 2010 Carbon Neutral Action Report

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Behaviour change program							
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development	1	% of staff currently have received collaborative software training		Develop district program.	2010	2011
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress			Most committees hold paperless meetings	All committees will continue to be encouraged to hold paperless meetings.	2009	No End Date (Continuous)

School District 79 Cowichan Valley - 2010 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 *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 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	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	Software loaded when required.	Software available to all staff as required.	2007	No End Date (Continuous)
Make desktop web-cameras available to staff	Ongoing/In Progress	5	% of staff have access to a desktop web-camera	All staff have access to web cam when needed.	All staff have access to web cam when needed.	2007	No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Ongoing/In Progress	100	% of meeting rooms have access to video-conferencing equipment	Meeting rooms with video conference capabilities available at all sites.	Meeting rooms with video conference capabilities available at all sites.	2007	No End Date (Continuous)
Behaviour change program							
Train staff in web-conferencing	Ongoing/In Progress	10	% of staff are trained web-conferencing	I.T. staff have been trained and are available for meeting set-up.	Continue to have I.T. staff available for meeting set-up.	2008	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress			Staff encouraged to access video conferencing when ever possible.	Continue to encourage staff to access video conferencing when ever possible.	2009	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress			Carpooling encouraged when ever possible.	Continue to encourage carpooling.	2009	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress			Alternative travel encouraged when ever possible.	Continue to encourage alternative travel.	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			BC Hydro Behavioural Pilot program undertaken at 10 sites.	Expand program to include all sites.	2009	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress			Sustainability committee, Energy Manager and BC Hydro programs.	Sustainability committee, Energy Manager and BC Hydro programs.	2009	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress			BC Hydro Behavioural Pilot program undertaken at 10 sites.	Expand program to include all sites.	2010	No End Date (Continuous)
Awards/Recognition							
Establish a sustainability/green awards or recognition program	Ongoing/In Progress			Done through Behavioural Pilot program.	Expand program to include all sites.	2010	No End Date (Continuous)
Staff Professional Development							
Support green professional development (e.g., workshops, conferences, training)	In Development				Address in Sustainability committee.	2010	No End Date (Continuous)
Staff awareness/education							

School District 79 Cowichan Valley - 2010 Carbon Neutral Action Report

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)	Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Provide education to staff about the science of climate change	Ongoing/In Progress		Information available through BC Hydro Education programs.	Continue participating in BC Hydro programs.	2002	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress		Solar Hot Water systems added at 3 sites. Education information provided to staff at these sites.	Have information available district wide.	2010	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress		Green Tips distributed through district e-mail.	Continue to distribute Green Tips through district e-mail.	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		Low flow fixtures used during renovations and retrofits.	Low flow fixtures used during renovations and retrofits.	2004	No End Date (Continuous)
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		Many sites have developed composting programs.	Expand composting programs.	2005	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress		Hazardous waste disposed of through environmental contractors.	Hazardous waste disposed of through environmental contractors.	Started before 1995	No End Date (Continuous)
Procurement (non-paper supplies)						
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress		Majority of cleaning products are eco-seal rated.	Majority of cleaning products are eco-seal rated.	2007	No End Date (Continuous)
Building construction, renovation, and leasing						
Incorporate lifecycle costing into new construction or renovations	In Development			Ministry Capital Asset Management program in development.	2010	No End Date (Continuous)
Indoor air quality						
Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.)	Ongoing/In Progress		Scent awareness information distributed throughout district.	Keep scent awareness information available.	2009	No End Date (Continuous)
Commuting to and from home						
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress		Staff are encouraged to carpool or use alternative transportation.	Staff will continue to be encouraged to carpool or use alternative transportation.	1995	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Ongoing/In Progress		Showers and lockers available at many sites.	Showers and lockers available at many sites.	1995	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In Progress		Bicycle storage available at all sites.	Bicycle storage available at all sites.	1995	No End Date (Continuous)