

Board of Education of School District No. 27 (Cariboo-Chilcotin)

2011 Carbon Neutral Action Report

Executive Summary



The Board of Education of School District No. 27 continued to take positive action toward our goals of reducing greenhouse gas during the 2011 calendar year. Unfortunately, due to job action the Environmental Stewardship Committee was unable to meet throughout the 2011 year. In spite of this the Board and management continued to encourage further actions that have gone towards the reduction of our effect on global warming and have continued the Committee's commitment of providing all stakeholder groups an opportunity to exchange and share ideas that not only reduce greenhouse gases (GHG), but also

produce more environmentally conscious and responsible students. The benefits of limiting our greenhouse gas production have also had a positive effect on our budget. Monitoring and limiting the consumption of the GHG's has allowed us to save dollars that can be put back into other efficiency projects or directly back into student education.

2011 Greenhouse Gas Emissions

During the 2011 year our School District produced 5,639 tonnes of CO₂e. Since the initial release of the Greenhouse Gas Targets Act in 2008, our District has monitored and aggressively attempted to reduce our overall Carbon production.

It was estimated that stationary fugitive emissions from cooling do not comprise more than 0.01% of our organization's 5,639 total emissions and an ongoing effort to collect or estimate emissions from this source would be disproportionately onerous. For this reason, emissions from this source have been deemed out-of-scope and have not been included in our organizations total greenhouse gas emissions profile.

Offsets Applied to become Carbon Neutral in 2011

As required by section 7 of the Carbon Neutral Government Regulation, we have purchased 4,193 tonnes of CO₂e equivalent offsets from the Pacific Carbon Trust. This purchase fulfils our commitment to be Carbon Neutral during the 2011 year, and compliant with the Greenhouse Gas Targets Act. Included in this total is 2 tonnes of offsets from 2010, this change in the 2010 purchase is due to credits and adjusted reporting from our energy resource vendors.

As required by section 5 of the Carbon Neutral Government Regulation, 1,446 tonnes of CO₂e emissions resulting from the operation of school buses were reported as part of our



"Learning, Growing and Belonging Together"

greenhouse gas emissions profile in 2011. However, they were not offset as they are out-of-scope under section 4(2) (c) of the Carbon Neutral Government Regulation.

Emissions Reduction Activities



In the fall of 2011 the District completed the installation of two Bio-Mass (pellet) boiler systems at Tatla Lake and Alexis Creek schools. These systems are the primary heat source for both buildings with the existing systems left in place as backup. The bio-mass boilers were aided by grants from the Public Sector Energy Conservation Agreement (PSECA) allowing the installation to be completed at minimal capital outlay by the District. Bio-Mass systems like these are carbon neutral. In addition, the biomass fuel will come from local sources further reducing the transportation carbon production and aiding the local forestry industry.

As well, our district has installed a solar wall at Williams Lake Secondary School. The solar wall preheats the outside fresh air being brought in to our gymnasium. The solar wall funding was aided by grants from the Public Sector Energy Conservation Agreement (PSECA) and Solar BC. Solar walls are best suited for buildings with large south facing walls.



School District No. 27 completed several other projects in 2011 including a HVAC upgrade to Naghtaneq School in Nemiah Valley which electricity continues to be powered by generator and completion of our Mile 108 Elementary School geothermal field upgrade.

The District continued its program of upgrading older inefficient lighting systems in portions of at least five buildings, substantially reducing the electrical consumption at our facilities. Our District has adopted an aggressive anti-idling program to reduce our carbon production across our entire fleet even though our school buses are considered out of scope.



Plans to Continue Reducing Greenhouse Gas Emissions 2012 - 2013

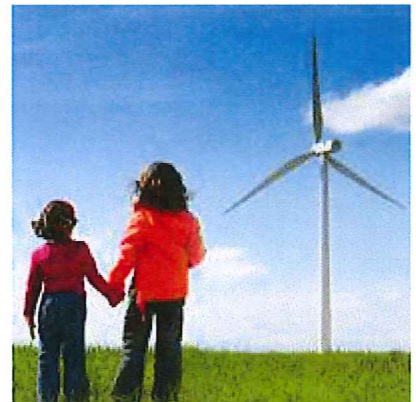
In 2012, School District No. 27 is looking to reduce its carbon foot print through improving existing infrastructure and more effectively controlling energy use in unused spaces. Due to declining enrolment we are finding that our building occupancy levels are nowhere near to what our buildings were designed for. By controlling heat, light and fresh air levels and using our existing equipment where possible, we hope to have measurable reductions in our carbon emissions.


Our district has set aside funding to re-commission our Anahim Lake school. We will be using this project as a foundation building exercise to help build the skills within our maintenance department so we can further assess and implement energy improvements in the rest of our district facilities.

We will continue to aggressively take advantage of energy efficiencies through BC Hydro PowerSmart incentives program and we plan to have more employee and student involvement as keys in the coming year's success.

School District No. 27 will continue in our efforts for years to come to find efficiencies in our buildings and operations. We are also excited to be in an era of student and staff awareness that will result in a direct impact on our overall reduction of greenhouse gases now, and for the future. The operational School District "Environmental Stewardship Committee" ensures that the decisions made for today will also include a detailed investigation of the environmental impacts for those generations that follow.

Social responsibility and experiential learning is a large part of the educational system today. School District No. 27 believes that we all have a global social responsibility to share with the Government of British Columbia to limit carbon production and be carbon neutral. Lifelong learning allows us to learn from our past and keep moving forward enabling us to leave our planet a better place for all. This global view and the leadership role we are taking now will allow for a brighter future. The students of today will become the citizens that tomorrow will think beyond the town, province, or country they live in and become stewards of the earth for generations to come.




Bonnie Roller Routley – Secretary Treasurer
Board of Education of School District No 27



"Learning, Growing and Belonging Together"

Board of Education of School District #27(Cariboo-Chilcotin) - 2011 Carbon Neutral Action Report

Actions Towards Carbon Neutrality							
The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the <i>Greenhouse Gas Reduction Targets Act</i> .							
Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Mobile Fuel Combustion (Fleet and other mobile equipment)							
Vehicle fuel efficiency							
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	90	% of vehicles are fuel- efficient models	3 vehicles purchased to replace inefficient older ones	Continue to replace older inefficient vehicle with newer units	2006	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	15	% of vehicles down-sized since start year indicated	New vehicles were purchased with "right sizing " principals	Continue the "Right Sizing " principal for new vehicle purchases	2006	No End Date (Continuous)
Perform regular fleet maintenance specifically to improve fuel-efficiency	Ongoing/In Progress	100	% of vehicles are subject to regular maintenance for fuel efficiency	Preventive maintenance procedures of fleet continued	Continue preventive maintenance procedures of fleet	2000	No End Date (Continuous)
Behavior change program							
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Ongoing/In Progress			Anti-idling policy in place with district wide signage and awareness program	Continue to encourage our drivers to be aware	2011	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress			All staff are encouraged to carpool in district vehicles when possible	Work with district staff to encourage continued use of carpooling	2008	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							
Planning/management							
Enroll in a building energy benchmarking program (e.g., GREEN UP)	In Development				District would like to send staff to NRCAN's seminar on recomissioning	2012	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	In Development	0	% of buildings have a real time metering system installed		District would like to start implementing real time monitoring of buildings starting with largest facilities and fuel consumers first.	2014	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 consumption was collected and compiled into master database for all District sites.	Continue to monitor and compare school energy consumption	2011	No End Date (Continuous)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Ongoing/In Progress			Procedures are currently in place to try to prevent any fugitive emissions from escaping as well as annual equipment inspections.	Procedures are currently in place to try to prevent any fugitive emissions from escaping as well as annual equipment inspections.	2008	No End Date (Continuous)
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress			Retrofitted several buildings with more efficient lighting and HVAC systems. Installed heat pumps system, biomass boilers, solar wall	Continue to identify sites requiring efficiency upgrades. Recommissioning of several facilities	2006	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	36	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	Upgraded Naghtaneqed school with new mechanical system. Alexis Creek and Tatla Lake schools new bio-mass boilers. Williams Lake secondary new solar wall.	Continue to identify and complete mechanical upgrades.	2005	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	80	% of retrofits since start year indicated had lighting systems upgrades	Worked with BC Hydro's Power smart program to upgrade lighting in buildings.	Continue working with BC Hydro to upgrade lighting systems.	2003	No End Date (Continuous)

Board of Education of School District #27(Cariboo-Chilcotin) - 2011 Carbon Neutral Action Report

Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	36	% of retrofits since start year indicated had control system upgrades or adjustments	Worked with control contractor to ensure retrofits operate as efficiently as possible.	Continue to examine and re-commission HVAC control systems to operate as efficiently as possible.	2008	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress			All new construction and renovations get improved insulation	Continue to assess and upgrade our building envelopes	2006	No End Date (Continuous)
Install an on-site renewable energy demonstration project	Ongoing/In Progress	13	% of retrofits since start year indicated had on-site renewable energy components	no new projects this year	Continue to identify opportunities to install solar and other renewable energy projects.	2010	No End Date (Continuous)
IT power management							
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	60	% of computers shut down automatically outside of regular business hours	currently using windows software or manual computer lab shut offs	Looking into stand alone software	2011	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	moving towards multi function copiers, not many stand alone printers left	Continue to remove stand alone printers where possible	2011	No End Date (Continuous)
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	Completed in 2011	100	% of devices have auto-sleep settings applied	all devices with auto sleep setting have it applied		2011	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	60	% of computers are ENERGY STAR rated	all new systems are energy star rated	Continue with purchasing practice	2010	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	38	% of fridges are ENERGY STAR rated	All new appliances purchased had Energy Star Rating	Continue purchasing appliances with the Energy Star Rating	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			All new appliances purchased had Energy Star Rating	Continue purchasing appliances with the Energy Star Rating	2008	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			no incandescent bulbs been purchased	All incandescent bulbs are being replaced with CFL Bulbs	2008	No End Date (Continuous)
Behavior change program							
Ask staff to unplug electrical equipment or switch off power bars when not in use	In Development				Set up awareness campaign to help inform our staff	2012	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	In Development				Set up awareness campaign to help inform our staff	2012	No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	In Development				Set up awareness campaign to help inform our staff	2012	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	In Development				Set up awareness campaign to help inform our staff	2012	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			currently use several different signs and stickers	Continue the use of signage to promote energy conservation	2010	No End Date (Continuous)
Promote hot water conservation	In Development				Set up awareness campaign to help inform our staff	2012	No End Date (Continuous)
Supplies (Paper)							

Board of Education of School District #27(Cariboo-Chilcotin) - 2011 Carbon Neutral Action Report

Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	100	% of total paper purchased contains 30% recycled content	continued purchasing minimum 30% recycled paper	Continued purchasing minimum 30% recycled paper		
Electronic media in place of paper							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress	100	% of staff workstations with software installed	Share point access available to all employees	New web page been developed, will provide easier access to posted information	2006	No End Date (Continuous)
Use electronic document library for filing common documents	Ongoing/In Progress						
Post materials online that were previously printed	Ongoing/In Progress						
Behavior change program							
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress						
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress						
Encourage re-use of scrap paper	Ongoing/In Progress						

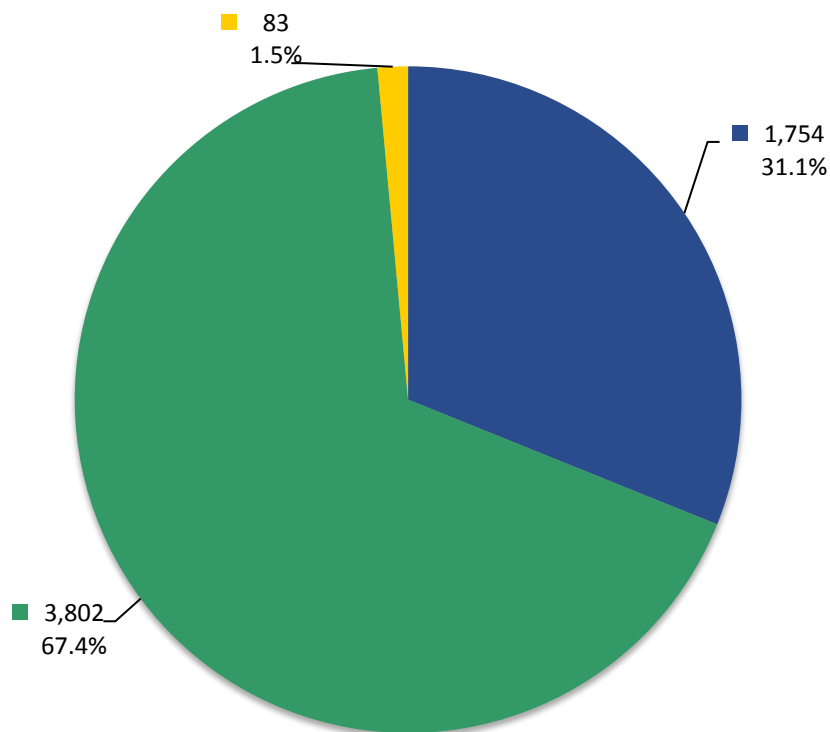
Board of Education of School District #27(Cariboo-Chilcotin) - 2011 Carbon Neutral Action Report

Actions to Reduce Provincial Emissions and Improve Sustainability							
The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the <i>Greenhouse Gas Reduction Targets Act</i> . Public sector organizations can optionally use this section to report on actions that will help British Columbia meet its provincial greenhouse gas reduction targets, engage the public, and improve environmental sustainability across all aspects of their organization.							
Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Business Travel							
Policy and budgeting							
Create a low-carbon travel policy or travel reduction goal	Completed in 2011			Wherever possible the use of web conferencing and virtual meetings			
Virtual meeting technology							
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Ongoing/In Progress	20	% of computers have web-conferencing software installed	Various software in use throughout district	Continue to encourage the use of paperless technology	2008	No End Date (Continuous)
Make desktop web-cameras available to staff	Completed in 2011	100	% of staff have access to a desktop web-camera	Available to all staff		2008	No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Completed in 2011	100	% of meeting rooms have access to video-conferencing equipment	Available to all staff		2009	No End Date (Continuous)
Behavior change program							
Train staff in web-conferencing	Ongoing/In Progress	25	% of staff are trained web-conferencing	Part of our IT departments pro-D training	Continue to provide access to technical help and training	2010	No End Date (Continuous)
Train staff in video-conferencing or provide technical support for video-conferencing set-up	Ongoing/In Progress	100	% of staff are trained in video-conferencing or have access to technical support	Software, help files and active support made available	Continue to provide access to technical help and training	2010	No End Date (Continuous)
Education, Awareness, and Engagement							
Team-building							
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress			Addition of 2 FTE positions for lighting and control upgrades. Providing the necessary time for in house energy champion	Continue to provide resources to upgrade our facilities	2011	No End Date (Continuous)
Staff Professional Development							
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress			Staff attending energy management seminars	Provide training to staff to enable them to assess and complete recommissioning projects in house	2011	No End Date (Continuous)
Staff awareness/education							
Provide education to staff about the conservation of water, energy, and raw materials	In Development				Seek direction from our envirmental stewardship committee	2012	No End Date (Continuous)
Provide green tips on staff website or in newsletters	In Development				Seek direction from our envirmental stewardship committee	2012	No End Date (Continuous)
Other Sustainability Actions							
Waste reduction/diversion							
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress						
Building construction, renovation, and leasing							

Board of Education of School District #27(Cariboo-Chilcotin) - 2011 Carbon Neutral Action Report

Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	Ongoing/In Progress			All reusable materials and recycle materials are removed in all renovations	Continue to be enviromentaly aware in all renovations and construction	2006	No End Date (Continuous)
Incorporate lifecycle costing into new construction or renovations	In Development						
Commuting to and from home							
Provide secure bicycle storage	Ongoing/In Progress			All facilities have bike storage available	Continue to provide bike storage	Started before 1995	No End Date (Continuous)

School District 27 - Cariboo-Chilcoltin Greenhouse Gas Emissions by Source for the 2011 Calendar Year (tCO₂e*)



Total Emissions: 5,639

- 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 2011 (Generated May 18, 2012 12:00 PM)

Total offsets required: **4,193**. Total offset investment: **\$104,825**. Emissions which do not require offsets: **1,446** **

*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.