

SCHOOL DISTRICT 54 (Bulkley Valley)

2010 CARBON NEUTRAL ACTION REPORT

1. Executive Summary

In School District 54 (*Bulkley Valley*), efforts to reduce Greenhouse Gas emissions (GHG) are guided by the School District Facilities Plan and implemented with funds obtained from the Annual Facilities Grant (AFG). Wherever possible, district funds are used to leverage third party funding to maximize the scope and benefits of projects. Our efforts in 2010 continued to focus on high yield projects that provide significant reductions in both GHG emissions and in operational costs. As a rural school district in northwest British Columbia with 13 separate schools and facilities, it is not possible to eliminate our GHG emissions. Carbon neutrality can only be achieved through the purchase of carbon offsets from the Pacific Carbon Trust, a BC Crown Corporation.



2. 2010 Greenhouse Gas Emissions

The table below provides relevant information on the district's total Greenhouse Gas Emissions by source.

Source*	Emissions (t CO ₂ e)
Buildings	786.59
Fleet (<i>in scope</i>)	86.98
Fleet (<i>out of scope</i>)	378.47
Procurement	44.08
Total Gross Emissions	1,296.12
Less: Fleet out-of-scope	378.47
Total Emissions	917.65

SCHOOL DISTRICT 54 *(Bulkley Valley)*

** It was estimated that stationary fugitive emissions from cooling do not comprise more than 0.01% of School District 54 (Bulkley Valley) 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 School District 54 (Bulkley Valley) total greenhouse gas emissions profile.*

3. Offsets applied to become carbon neutral in 2010

As required by section 5 of the Carbon Neutral Government Regulation, 378.47 tonnes CO₂e of emissions resulting from the operation of school buses were reported as part of our greenhouse gas emissions profile in 2010. However, they were not offset as they are out-of-scope under section 4(2)(c) of the Carbon Neutral Government Regulation.

To achieve carbon neutrality in 2010, School District 54 (Bulkley Valley) purchased offset credits from the Pacific Carbon for a total of 917.65 tonnes of CO₂e emissions. The cost of those credits at \$25.00 per tonne was \$22,941.25. The purchase of the offsets is subject to the HST bringing the total cost to \$25,694.20.

4. Emissions Reduction Activities

Actions Taken to Reduce Greenhouse Gas Emissions

Examples from 2010 include a boiler upgrade in Houston Secondary School which netted an approximate 35% reduction in fuel consumption as well as upgrades in lighting and digital controls in several of our schools. Other initiatives, such as rigorous Air Handling Unit service programs, paperless meetings, network controlled 'sleep' programs for computers, occupancy sensors in classrooms, may not provide the same level of emission reduction but provide a direction and commitment to reducing GHG emissions.

Plans to Continue Reducing Greenhouse Gas Emissions

Generally, plans to continue reducing Greenhouse Gas Emissions focus on major mechanical and lighting upgrades. In 2011, a boiler upgrade at Smithers Secondary School is estimated to reduce Greenhouse Gas Emissions by 103.6 tonnes of CO₂e or 38.8% reduction in fuel consumption.

On behalf of School District 54 (Bulkley Valley) Board of Education

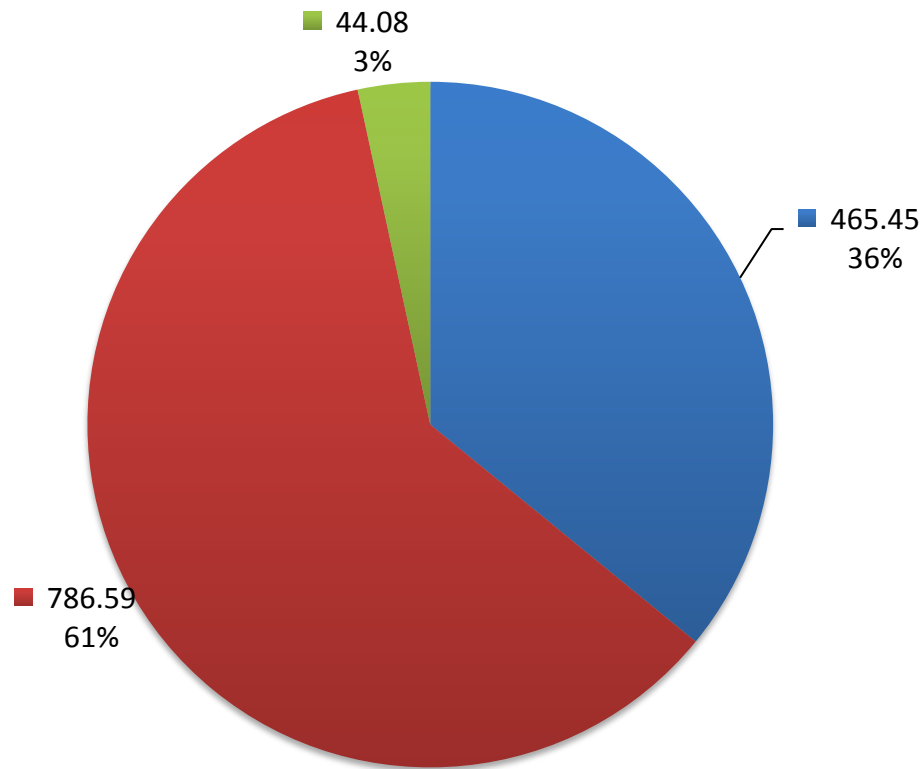
Dated: March 29, 2011

Chairperson
Les Kearns

Secretary Treasurer
Steven Richards

School District 54 (Bulkley Valley)

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



Total Emissions: 1296.12

- 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: **917.65**. Total offset investment: **\$22,941.25**. Emissions which do not require offsets: **378.47** **

*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.

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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 12/31/10)	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			Replaced 1 vehicle for use by itinerant technology employees with more fuel efficient type.	as budgets allow, continue with vehicle replacement plan	2006	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	75	% of vehicles down-sized since start year indicated	no action in 2010	budget dependent	2007	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	Preventative maintenance & regular programs on entire fleet	ongoing	Started before 1995	No End Date (Continuous)
Other Mobile Fuel Combustion Actions							
Annual review of school bus routes to achieve best efficiency	Ongoing/In Progress			eliminated 1 route	ongoing review	Started before 1995	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress	30	% of owned buildings have undergone energy retrofits since start year indicated	none	none	2009	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	8	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	replaced boilers at one school with condensing boilers	replace boilers at 2 schools	2008	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	90	% of retrofits since start year indicated had lighting systems upgrades	lighting upgrades at 5 schools	upgrade exterior lighting on 3 schools	2009	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	87	% of retrofits since start year indicated had control system upgrades or adjustments	Direct Digital Controls upgrade at Houston Secondary Boiler project	ongoing re-commissioning of existing systems	2009	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	2	% of retrofits since start year indicated had insulation improvements	insulated the upper 4 feet of the education wing, including ceiling deck flutes and sealed deck flutes in shop wing and insulated wall faces and overhangs in main foyer of Houston Secondary School	none	2010	No End Date (Continuous)
IT power management							
Implement server virtualization	In Development			replace 3 terminal servers with 1	Additional virtualization possible when increased bandwidth becomes available through PLNet. In 2011, replace 2 servers each at Muheim Elementary School and Walnut Park Elementary	2008	2012
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress			none	replace 1 copier	2008	2012

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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 computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	90	% of computers are ENERGY STAR rated	gradual replacement of units in computer labs throughout district	Ongoing replacement program	2005	2012
Behaviour change program							
Help staff reduce personal energy use through "workstation tune-ups"	Ongoing/In Progress			None	Identify opportunities to build awareness and energy conservation culture in secretarial and educational staff.	2009	No End Date (Continuous)
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	In Development				encouraging schools to change purchasing behaviour	2010	2013
Electronic media in place of paper							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress			growing use of Moodle platform for business & educational functions	continue with strategy	2008	No End Date (Continuous)
Use electronic document library for filing common documents	Ongoing/In Progress			common directories for policy, kurzweil & digital media	continue with strategy	2006	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress			expanded use of district website for publications	continue with strategy	2007	No End Date (Continuous)
Behaviour change program							
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress			expanded use of Moodle for Distributed Learning and governance functions	No specific plans but ongoing encouragement to other users / potential users that this is an option	2008	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress			no specific measurement criteria but growing acceptance and functionality of paperless meetings	Renovations in Board room to facilitate better use of technology to accommodate paperless meetings	2008	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 12/31/10)	Performance to Date (as of 12/31/10)	Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
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