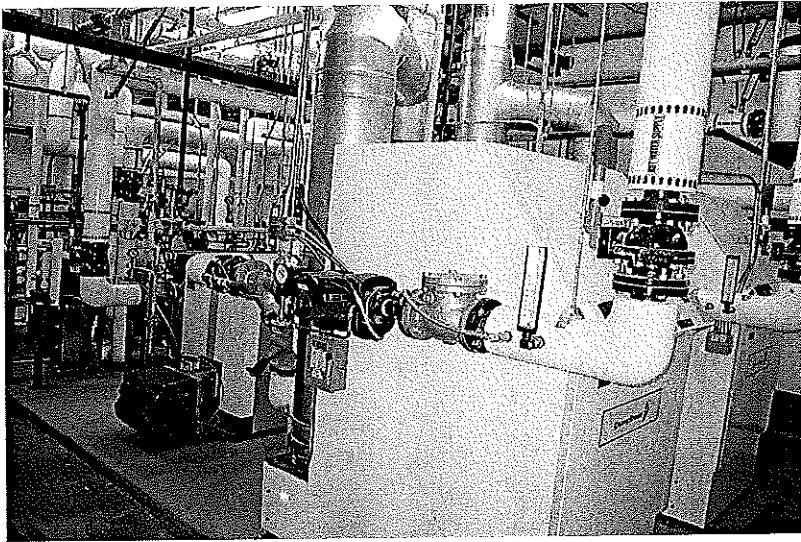


# SCHOOL DISTRICT 54 (Bulkley Valley)

## 2011 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 2011 continued to focus on high yield projects that provide significant reductions in both GHG emissions and in operational costs.



In July 2011, the 1978 boiler system at Smithers Secondary was removed and replaced with 2 Cleaver Brooks condensing boilers and 1 atmospheric DeDiedrich boiler to be used as a top-up system on the coldest days. We estimate a 35% reduction in fuel consumption and 58.9 tCO<sub>2</sub>e reduction in GHG. Additionally, variable frequency drive pumps have been installed for improved zone control, better night setbacks and reduced consumption during 'shoulder' seasons.

### 2. 2011 Greenhouse Gas Emissions

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

Source*	Emissions (t CO <sub>2</sub> e)
Buildings	994.08
Fleet ( <i>in scope</i> )	85.25
Fleet ( <i>out of scope</i> )	386.99
Procurement	31.15
<b>Total Gross Emissions</b>	<b>1,497.50</b>
<b>Less: Fleet out-of-scope</b>	<b>386.99</b>
<b>Total Emissions</b>	<b>1,110.51</b>

*\* 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.*

**SCHOOL DISTRICT 54**  
*(Bulkley Valley)*

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**3. Offsets applied to become carbon neutral in 2011**

As required by section 5 of the Carbon Neutral Government Regulation, 386.99 tonnes CO<sub>2</sub>e of emissions resulting from the operation of school buses were reported as part of our 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.

To achieve carbon neutrality in 2010, School District 54 (Bulkley Valley) purchased offset credits from the Pacific Carbon for a total of 1,110.51 tonnes of CO<sub>2</sub>e emissions. The cost of those credits at \$25.00 per tonne was \$27,762.75. The purchase of the offsets is subject to the HST bringing the total cost to \$31,094.28.

**4. Emissions Reduction Activities**

**Actions Taken to Reduce Greenhouse Gas Emissions**

Examples from 2011 include a boiler upgrade in Smithers Secondary School which netted an approximate 35% reduction in fuel consumption as well as upgrades in lighting and digital controls in 5 schools and digital controls in several other 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**

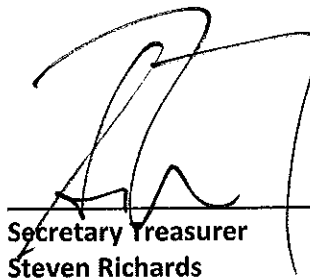
Generally, plans to continue reducing Greenhouse Gas Emissions focus on major mechanical and lighting upgrades. Lighting upgrades for 2012 are estimated to save 135,031 kWh of electricity and 2.9 tCO<sub>2</sub>e

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

Dated: March 29, 2012



Chairperson  
Les Kearns



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Secretary Treasurer  
Steven Richards

# School District 54 (Bulkeley Valley) - 2011 Carbon Neutral Action Report

## Actions Towards Carbon Neutrality

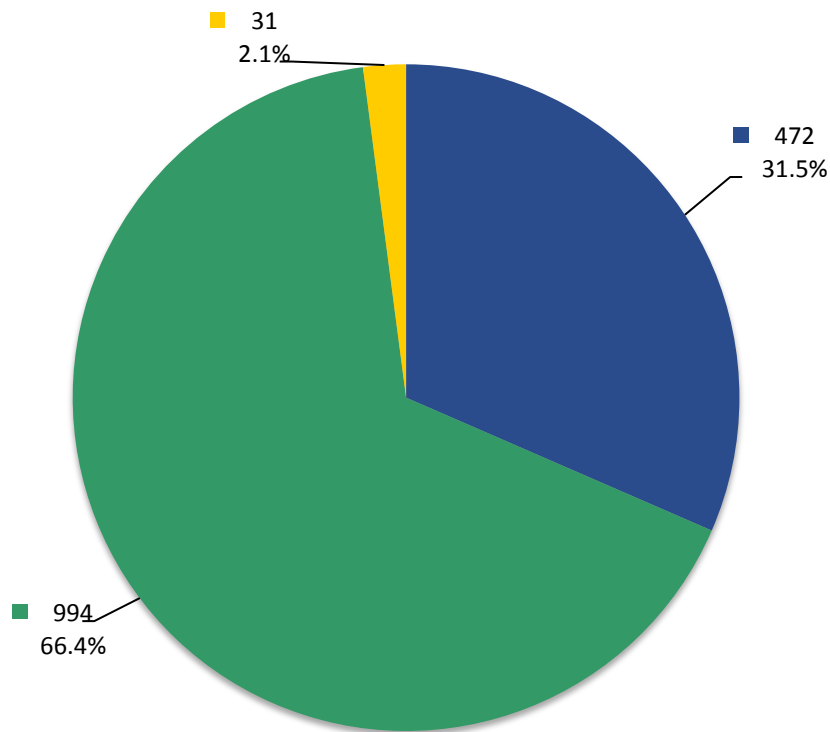
The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the *Greenhouse Gas Reduction Targets Act*.

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
<b>Mobile Fuel Combustion (Fleet and other mobile equipment)</b>							
<b>Vehicle fuel efficiency</b>							
Replace vehicles with more fuel-efficient models	Ongoing/In Progress			purchased 1 vehicle replacing less fuel efficient vehicle	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 2011	budget dependent	2007	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	Preventative maintenance program on entire fleet	ongoing	Started before 1995	No End Date (Continuous)
<b>Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)</b>							
<b>Retrofitting owned buildings</b>							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	40	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	Boiler upgrade at Smithers Secondary	HVAC upgrade at Telkwa Elementary	2013	2013
Upgrade lighting systems during retrofits	Ongoing/In Progress	100	% of retrofits since start year indicated had lighting systems upgrades	Upgraded parking lot lighting at Smithers Secondary. Lighting upgrades at 3 elementary schools and the Learner Support Centre.	Review of exterior lighting on all district facilities	2013	2013
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	88	% of retrofits since start year indicated had control system upgrades or adjustments	Installed motion sensors for HVAC in gymnasiums.	Continue evaluating and upgrading Direct Digital Control Systems.	2013	2013
<b>IT power management</b>							
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	Re-evaluated and installed improved power management software.	To install power management software on all desktop computers	2013	No End Date (Continuous)
Implement server virtualization	Ongoing/In Progress	75	% of servers have been virtualized since start year indicated	Eliminated 11 servers by virtualization.	Continue with replacement program as funds are made available.	2010	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress	58	% of computers have auto-sleep settings applied	Implemented FOG sleep management program on all lab desktops.	Continue with replacement program as newer, more compatible computers are purchased.	2010	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress	30	% reduction in printers, copiers, and/or fax machines since start year indicated	Eliminated 5 devices.	Continue with replacement program as funds are made available.	2008	No End Date (Continuous)
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	Completed in 2011	75	% of devices have auto-sleep settings applied	Purchased 3 new, Energy Star copiers with power management.	Continue with annual replacement cycle.	2005	No End Date (Continuous)

## School District 54 (Bulkley Valley) - 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
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress			Purchased high efficiency desktops for all school secretaries in district.	Ongoing replacement program for computers as more energy efficeint models become available.	2005	No End Date (Continuous)
<b>Supplies (Paper)</b>							
<b>Paper Type</b>							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	86	% of total paper purchased contains 30% recycled content	Encouraging behavioural change at all schools.	Continue communications with school administrators encouraging the use of recycled paper. Work with local suppliers with respect to desired products and pricing.	2010	2014

**School District 54 - Bulkley Valley  
Greenhouse Gas Emissions by Source  
for the 2011 Calendar Year (tCO<sub>2</sub>e\*)**



**Total Emissions: 1,497**

- 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 12:19 PM)**

Total offsets required: **1,120**. Total offset investment: **\$28,000**. Emissions which do not require offsets: **377** \*\*

\*Tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e) 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.