



Chilliwack School District

2011 Carbon Neutral Action Report

Executive Summary

We recently hired a new Energy Manager whose role has had a significant impact in assisting the district to reduce greenhouse gas emissions. We implemented a number of projects and initiatives including upgrading our heating and lighting systems with high-efficiency models. Our "Green Team" will establish a number of projects aimed at reducing emissions and encouraging energy efficient behaviours.

Overviews

Actions Taken to Reduce Greenhouse Gas Emissions in 2011

- Continuing project of replacing metal halide fixtures with T-5 fixtures
- Continuing project of upgrading lighting from T-12 to T-8 fixtures
- Continued replacement of old furnaces with high-efficiency spark-ignition furnaces
- DDC upgrades in all schools and sites
- Encourage carpooling to meetings
- Provide behavioural change education/training to green teams in all schools and sites
- Establish a sustainability/green awards and recognition program
- Provide green tips to staff, students and parents, as well as members of the public, in websites and in newsletters
- Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models to reduce plastic
- Establish a practice of reusing materials wherever possible and diverting construction and demolition debris from landfills and incineration facilities
- Eliminating creation of paper documents wherever possible and replacing with electronic documents.
- Installing real time metering at all sites.

Plans to Continue Reducing Greenhouse Gas Emissions 2012-13

- Creating a low carbon travel policy and travel reduction goal
- Encourage staff to consider virtual attendance/presentations at events where possible
- Create green, sustainability, energy conservation or climate action teams with the support of senior school district staff
- Provide education to staff, students and parents about the science of climate change
- Provide education to staff about the conservation of water, energy and raw materials
- Continue with lighting, boiler and DDC upgrades throughout the district
- Installed real-time monitoring at all sites to promote energy awareness.

2011 Greenhouse Gas Emissions

Chilliwack School District #33 total emissions (2308) for 2011 include 45.2% Mobile Fuel Combustion from our fleet and other mobile equipment totalling 1638 tons of CO₂, 47.5% from Stationary Fuel Combustion and Electricity (1095 tons of CO₂), and 7.3% or 169 tons from paper supplies.

Changes to the previous year's data include an underpayment of 117 tonnes.

Total offsets purchased were 1638 with a total offset investment of \$40,950.00

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Maureen Carradice
Secretary-Treasurer

Chilliwack School District #33 - 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
Mobile Fuel Combustion (Fleet and other mobile equipment)							
Vehicle fuel efficiency							
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	15	% of vehicles are fuel- efficient models	Replaced aging service vans with late model units.	Transportaion manager will continue to order fuel efficient buses and other service vehicles used by the school district.	2012	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	10	% of vehicles down-sized since start year indicated	Replace management vehicles with GMC Canopy models.	Reduce the physical size of vehicles used be staff.	2012	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	District vehicles have regularly scheduled maintenance.	Continue with regular scheduled maintenance.	2012	No End Date (Continuous)
Behaviour change program							
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	100	% of current drivers are trained	Annual driver training as part of professional development for all district employees.	Continue with driver training.	2012	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress			Encourage car pooling whenever applicable.	Continue with car pooling where possible.	2012	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				Currently using ESC controls and monitoring.	2009	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	75	% of buildings have a real time metering system installed	Installation of ESC energy monitoring modules	Track energy consumption to promote awareness	2009	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	All buildings now have an established energy baseline as per BC Hydro.	Compare sites on a continuing basis to keep energy consumption at the lowest rate.	2009	No End Date (Continuous)
Register for performance labelling/certification for operations and maintenance of owned buildings (e.g., LEED EB:O&M)	Ongoing/In Progress	12	% of owned buildings have operations and maintenance labelling/certification	We currently have one building that is Leed Certified with 3 new buildings under construction.	3 new schools will be on line by 2013	2010	2013
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	In Development	24	% of owned buildings are certified LEED NC Gold or LEED NC Platinum		All new construction is slated to have Leed Gold Standards	2011	2013
Incorporate integrated design process into new construction or during renovations of owned buildings	Ongoing/In Progress	10	% of buildings built or renovated since start year indicated used the integrated design process	Integraded design process is recommended to engineers and contractors as part of new school mandate.	Incorporate more design process into our renovations and projects.	2011	No End Date (Continuous)

Chilliwack School District #33 - 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
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	30	% of owned buildings have undergone energy retrofits since start year indicated	Continue with lighting and heating upgrades to make our buildings more efficient.	Replace existing equipment with energy efficient devices.	2010	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	15	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	Replaced rooftop units, boilers and hot water tanks with energy efficient models.	Continue with Energy Efficient models as a District Standard.	2010	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	20	% of retrofits since start year indicated had lighting systems upgrades	Replace older technology lamps and fixtures with new energy efficient models.	Maintain up to date standards for energy efficient models such as LED etc.	2010	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	100	% of retrofits since start year indicated had control system upgrades or adjustments	upgrade DDC controls and lighting controls as part of the retrofits.	Continue to use occupancy sensors and CO2 sensors.	2010	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	100	% of retrofits since start year indicated had insulation improvements	Replaced single-pane windows with double-pane style.	Three sites to obtain new vinyl windows.	2011	No End Date (Continuous)
Install an on-site renewable energy demonstration project	Completed in 2011	3	% of retrofits since start year indicated had on-site renewable energy components	Installed display module for public viewing.		2010	2011
IT power management							
Install power management software which shuts down computers outside of regular business hours	Completed in 2011	90	% of computers shut down automatically outside of regular business hours	Installed power management software on remaining machines.		2009	2011
Implement server virtualization	Ongoing/In Progress	20	% of servers have been virtualized since start year indicated	Performed IBM audit and review and implementation process.	Once the new school is complete we will amalgamate District Education with the Senior Secondary School and virtualized the servers.	2010	2013
Apply auto-sleep settings on computer monitors and CPUs	Completed in 2011	90	% of computers have auto-sleep settings applied	Already in place		2009	2011
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Completed in 2011	40	% reduction in printers, copiers, and/or fax machines since start year indicated	Replaced photocopiers, fax machines and standalone printers with multi-function devices.		2010	2011
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	Ensured auto-sleep mode is enabled on all devices.		2010	2011
Replace computers with ENERGY STAR models during regular computer upgrades	Completed in 2011	100	% of computers are ENERGY STAR rated	All new computers to be purchased with Energy Star devices.		2010	2011
Appliances and electronic devices							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	5	% of fridges are ENERGY STAR rated	Encouraging schools to purchase energy star refrigerators.	Change purchasing policy to include "Energy Star" in purchasing requirements.	2010	No End Date (Continuous)

Chilliwack School District #33 - 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 other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases	In Development	15			Change purchasing policy to include "Energy Star" in purchasing replacement appliances.	2011	No End Date (Continuous)
Behaviour change program							
Help staff reduce personal energy use through "workstation tune-ups"	In Development	50	% of current staff have completed a workstation tune-up		Continue to promote energy awareness.	2010	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress			Workplace conservation awareness program in place	Promote more energy awareness.	2010	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress			Workplace conservation awareness program in place	Promote more energy awareness.	2010	No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	Ongoing/In Progress			Workplace conservation awareness program in place	Promote more energy awareness.	2010	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Ongoing/In Progress			Workplace conservation awareness program in place	Promote more energy awareness.	2010	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			Stickers and programs already in place.	Promote more energy awareness.	2010	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress			Program already in place.	Plan to install water saving aerating devices on district taps.	2010	No End Date (Continuous)
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	50	% of total paper purchased contains 30% recycled content	Increase purchase of 30% post-consumer recycled paper within district.	Continue to encourage purchase of 30% post-consumer recycled paper within district.	2010	No End Date (Continuous)
Purchase 40% post-consumer recycled paper	In Development	0	% of total paper purchased contains 40% recycled content		Encourage use of recycled paper wherever possible.	2011	No End Date (Continuous)
Printer/document settings							
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	10	% of network printers or photocopiers are set to automatic double-sided	Photocopier technician program all photo copiers for double siding as default.	Any new copiers purchased will have auto double sided function.	2010	No End Date (Continuous)
Apply "print and hold" settings to networked printers to eliminate unclaimed print jobs	Ongoing/In Progress	10	% of network printers have 'print and hold' settings applied	New multi-functional copiers purchased for all sites.	Print and hold settings are applied at the beginning of a school term.	2011	No End Date (Continuous)
Reduce default margin size in standard document templates (e.g., letters, briefing notes, forms, etc.)	Ongoing/In Progress	50		Applied in 2011-2012 school term.	Is now a standard setting	2011	2012
Electronic media in place of paper							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development	10	% of staff workstations with software installed		Educators will recommend which software to use after evaluation.	2011	No End Date (Continuous)

Chilliwack School District #33 - 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
Use electronic document library for filing common documents	Ongoing/In Progress	90		Used shared drives and networking to eliminate replication.	Expand shared resources using Microsoft Outlook and shared drives.	2010	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress	100		Documents normally printed are now part of superintendent's memo on district website.	Expand existing website to become more user friendly.	2011	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Completed in 2011			All employees now on electronic payroll system.		2011	2011
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	Expanded collaborative software to include more sites.	Plans to train staff at Middle and Elementary School sites.	2011	2013
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress	20		Mandated paperless meetings where practical.	Encourage use of laptops and powerpoint.	2011	No End Date (Continuous)
Encourage re-use of scrap paper	Completed in 2011			Encourage all sites to send non-confidential scrap paper to the printing department for reuse.		2010	2011

Chilliwack School District #33 - 2011 Carbon Neutral Action Report

Actions to Reduce Provincial Emissions and Improve Sustainability

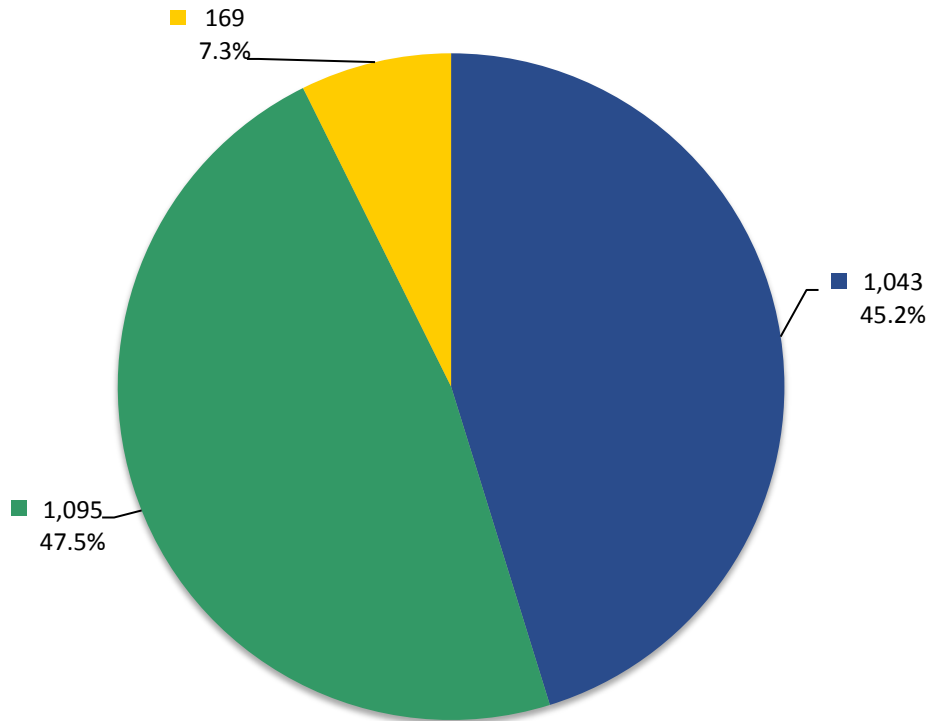
The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the *Greenhouse Gas Reduction Targets Act*. Public sector organizations can optionally use this section to 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 12/31/11)	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	In Development			In development	2010	No End Date (Continuous)
Virtual meeting technology						
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	In Development	5	% of computers have web-conferencing software installed	Live Meeting, Skype, Oovoo installed in video-conference-capable machines.	2010	No End Date (Continuous)
Make desktop web-cameras available to staff	In Development	10	% of staff have access to a desktop web-camera	Policy under development to implement web cams for staff.	2010	No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	In Development	5	% of meeting rooms have access to video-conferencing equipment	In progress as the need arises.	2010	No End Date (Continuous)
Behaviour change program						
Train staff in web-conferencing	In Development	10	% of staff are trained web-conferencing	New training facilities are now in place.	2010	No End Date (Continuous)
Train staff in video-conferencing or provide technical support for video-conferencing set-up	In Development	19	% of staff are trained in video-conferencing or have access to technical support	New training facilities are now in place.	2011	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	In Development			Superintendent's memo has reminders for staff to consider virtual attendance wherever practical.	2011	No End Date (Continuous)
Encourage carpooling to meetings	Completed in 2011			Superintendent recommends car-pooling when practical.	2010	2011
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	In Development			"Green" pages added to a new website to encourage car-pooling, etc.	2011	No End Date (Continuous)
Education, Awareness, and Engagement						
Team-building						
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	In Development			Started in 2009 and expanded in 2011 and 2012	2009	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress			Provided documentation, newsletters and links to valuable web-sites	2012	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress			Use resources such as BC Hydro and the in-house Energy Manager	2011	No End Date (Continuous)
Awards/Recognition						

Chilliwack School District #33 - 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 sustainability/green awards or recognition program	Ongoing/In Progress		Continue with the incentive program created last year.	Continue with rewards program for energy savings at each site.	2011	No End Date (Continuous)
Staff Professional Development						
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress		New Energy Manager to establish workshops and training.	Expand awareness to include green ideas for workshops and professional development.	2010	No End Date (Continuous)
Staff awareness/education						
Provide education to staff about the science of climate change	In Development			Involve science teachers as promoters of the impact of climate change and global warming	2010	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	In Development			Involve science teachers as promoters of the impact of climate change and global warming	2010	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress		Constantly update District website with Green ideas	Expand District website with additional "Green" pages and links.	2010	No End Date (Continuous)
Provide sustainability education during new staff orientation	In Development			Planned as part of the "new staff orientation" upon hiring.	2009	No End Date (Continuous)
Client/public awareness/education						
Provide education to clients/public about the science of climate change	In Development			Use District website and Middle-School and Secondary School science teachers to promote awareness.	2010	No End Date (Continuous)
Provide education to clients/public about the conservation of water, energy, and raw materials	In Development			Use District website and Middle-School and Secondary School science teachers to promote awareness.	2010	No End Date (Continuous)
Provide green tips on client/public website or in newsletters	Ongoing/In Progress		Implemented as part of the newly updated District website.	Expand green page on website to include multiple pages.	2011	No End Date (Continuous)
Other Sustainability Actions						
Waste reduction/diversion						
Implement a hazardous waste reduction and disposal strategy	In Development			Recycling program in effect for used batteries, ballasts, and other hazardous materials.	2009	No End Date (Continuous)
Procurement (non-paper supplies)						
Incorporate minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.)	Ongoing/In Progress		Purchase only recycled or refurbished toner cartridges, binders whenever available.	Make it a district standard or policy to purchase only products that have some recycled pieces or parts.	2012	No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress		Purchase "green" products that are environmentally friendly or recyclable.	Continue to purchase products that are environmentally friendly or recyclable.	2010	No End Date (Continuous)
Indoor air quality						
Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.)	Ongoing/In Progress		Signage placed in facilities indicating a "perfume-free" environment	Continue with signage.	2010	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		Informed suppliers of paints, flooring and contractors of procurement policy for low volatile organic compounds.	Enforce VOC standards as part of procurement.	2010	No End Date (Continuous)

**School District 33 - Chilliwack
Greenhouse Gas Emissions by Source
for the 2011 Calendar Year (tCO₂e*)**



Total Emissions: 2,307

- 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 12:02 PM)

Total offsets required: **1,638**. Total offset investment: **\$40,950**. Emissions which do not require offsets: **669** **

*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.