



Chilliwack School District

2012 Carbon Neutral Action Report

Executive Summary

Our Energy Management team 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" has established a number of projects aimed at reducing emissions and encouraging energy efficient behaviours.

Overviews

Actions Taken to Reduce Greenhouse Gas Emissions in 2012

- Continuing project of replacing metal halide fixtures with T-8 fixtures
- Replacing T12 fluorescent fixtures with T-8
- Continued replacement of old furnaces with high-efficiency spark-ignition furnaces
- DDC upgrades continuing
- Encourage carpooling to meetings
- Working with Destination/Conservation student based Green Teams on behavioural changes
- 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 Superintendent's Memo.
- Establish a water conservation strategy which includes a plan or policy for replacing water fixtures and equipment with efficient models to reduce water use.
- 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.
- Installed real time metering at most sites.
- Working with City of Chilliwack and disposal companies to encourage and increase the use of recycle bins at all sites.

Plans to Continue Reducing Greenhouse Gas Emissions 2013-14

- Creating a low carbon travel policy and travel reduction goal
- Encourage staff to consider virtual attendance/presentations at events where possible.
- Incorporate the use of SharePoint and Powerpoint to reduce paper waste.
- Continue to support 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 and students about the conservation of water, energy and raw materials.
- Continue with lighting, boiler and DDC upgrades throughout the district, including the use of heat pump technology to replace existing roof top units in order to reduce Greenhouse Gas emissions.
- Explore possibility of LED replacements of certain lighting fixtures.
- Work at creating a benchmark for energy consumption for district with new Enercan benchmarking tool.

2012 Greenhouse Gas Emissions

Chilliwack School District #33 total emissions for 2011 include 54.5% Mobile Fuel Combustion from our fleet and other mobile equipment totalling 1540 tons of CO₂, 39.4% from Stationary Fuel Combustion and Electricity (1112 tons of CO₂) and 6.1% or 173 tons from paper supplies.

Total offsets purchased were 2036 with a total offset investment of \$50,900.00.

Emissions that do not require offsets is 790, for a Total Emissions count of 2825.

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Maureen Carradice
Secretary-Treasurer

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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	Steps Taken	Steps Planned	Start Year	End Year
Mobile Fuel Combustion (Fleet and other)					
Behaviour change program					
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	Annual driver training as part of professional development for all district employees using our fleet.	Driver training will continue.	2008	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	Anti-idling policy in place and signs displayed at district sites.	Continuation of anti-idling awareness program.	2008	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)
Vehicle fuel efficiency					
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	Replacement of aging service vans with late model units.	Transportation manager will continue to order fuel efficient buses and replace older service vehicles used by school district.	2008	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	New vehicles purchased to replace management vehicles with smaller GMC Canopy models.	Reduce the physical size of service vehicles where possible	2012	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	District vehicles have always had regularly scheduled maintenance provided by our Transportaion Dept.	Continues with regular scheduled maint. program.	2008	No End Date (Continuous)
Stationary Fuel Combustion, Electricity					
Behaviour change program					
Help staff reduce personal energy use through ""workstation tune-ups""	Not Yet Evaluated				No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress	Workplace energy conservation awareness in place.	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 energy conservation awareness in place. Custodians have been made aware.	Continue to promote 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 energy conservation awareness in place. Custodians have been made aware.	Continue to promote Energy Awareness	2010	No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	Ongoing/In Progress	Workplace energy conservation awareness in place.	Continue to promote 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 energy conservation awareness in place.	Continue to promote 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. D/C green teams also putting up posters, signs, etc.	Continue to promote Energy Awareness	2010	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress	Installation of water saving aerating devices on district taps.	Continue to install water saving aerating devices on taps.	2010	No End Date (Continuous)
IT power management					
Install power management software which shuts down computers outside of regular business hours	Completed (in Reporting Year)	90% of computers installed with power management software in 2011.		2009	2011
Implement server virtualization	In Development	Approved IT audit to take place in 2013/14.	IT audit currently underway.	2013	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Completed (in				No End Date

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
	Previous Year)				(Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices as part of a print management strategy	Completed (in Previous Year)				No End Date (Continuous)
Apply auto-sleep settings on printers, fax machines, and/or multi-function devices	Completed (in Previous Year)				No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Completed (in Previous Year)				No End Date (Continuous)
Owned buildings					
Establish energy performance baseline for owned buildings	Ongoing/In Progress	Electricity baseline has been established through BC Hydro.	Plan to work with new energy baseline proposed by EnerCan.	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	Opening of 2 new schools that have Leed Certification	1 new school will be on line in 2013.	2010	2013
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress	Opened 2 new schools with LEED NC Gold certification.	Planned opening of 1 new high school with LEED NC Gold certification	2011	2013
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	Lighting, DDC, boiler and RTU upgrades at various sites.	Continue to upgrade existing heating and lighting systems with new energy efficient design.	2008	No End Date (Continuous)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Not Yet Evaluated				No End Date (Continuous)
Planning/management					
Reduce office space (square meters) per employee	Not Yet Evaluated				No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	Real time monitoring has been installed at all sites with DDC controls.	Track energy consumption to promote awareness.	2009	No End Date (Continuous)
Retrofit details for owned buildings					
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	Replacement of existing out-dated HVAC equipment with modern higher energy efficient models.	New boiler and RTU's replacement.	2008	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	Lighting upgrades at several sites completed.	4 lighting upgrades underway.	2008	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	DDC upgrades at numerous sites.	Upgrade DDC controls as equipment is replaced.	2008	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	All windows requiring replacement are replaced with new technology.	Continue to replace older windows with new energy efficient models.	2008	No End Date (Continuous)
Supplies (Paper)					
Behaviour change program					
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress	Ongoing training at Middle and Elementary School sites.	Continue training.	2011	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress	Encouraging use of laptop and powerpoint presentations.	Continue to encourage staff to use Powerpoint presentations.	2011	No End Date (Continuous)
Electronic media in place of paper					
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress	District has selected to SharePoint for electronic editing.	Continue to develop and utilize SharePoint.	2011	No End Date (Continuous)

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Use electronic document library for filing common documents	Ongoing/In Progress	Starting to use Share Point for shared library.	Continue to develop.	2011	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Completed (in Previous Year)				No End Date (Continuous)
Paper Type					
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	District working towards increasing use of 30% recycled paper products.	Continue to encourage purchase of 30% post-consumer recycled paper within district.	2010	No End Date (Continuous)
Purchase 40% post-consumer recycled paper	Not Yet Evaluated				No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Not Yet Evaluated				No End Date (Continuous)
Printer/document settings					
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	New photo copiers purchased have double-sided function.	Photocopiers to be programmed for double siding as default.	2010	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

Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Business Travel					
Behaviour change program					
Train staff in web-conferencing	Not Yet Evaluated				No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress	Use of webcam in newer laptops to create a virtual meeting.	Superintendent's memo has reminders for staff to consider virtual attendance wherever practical.	2011	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress	Superintendent recommends car-pooling when practical.	Superintendent recommends car-pooling when practical.	2010	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	In Development	"Green" pages added to new website to encourage car-pooling, etc.	"Green" pages added to new website to encourage car-pooling, etc.	2012	No End Date (Continuous)
Policy and budgeting					
Create a low-carbon travel policy or travel reduction goal	In Development	In development	In development	2013	No End Date (Continuous)
Virtual meeting technology					
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Ongoing/In Progress	Gotoo Meeting and team viewer used for conferences where applicable	Continue to use Gotoo and Team Viewer where possible	2010	No End Date (Continuous)
Make desktop web-cameras available to staff	Ongoing/In Progress	New laptops purchased have built in web cams.	Continue to deploy laptops.	2010	No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	In Development	In development	In development	2013	No End Date (Continuous)
Education, Awareness, and Engagement					
Awards/Recognition					
Establish a sustainability/green awards or recognition program	Ongoing/In Progress	Working with D/C Green Teams and providing an incentive program created 2 years previous.	Continue with Rewards Program.	2011	No End Date (Continuous)
Staff Professional Development					
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress	Energy Manager attended numerous workshops and training.	Expand awareness to include green ideas for workshop and professional development.	2010	No End Date (Continuous)
Include green options in employee performance measurement system	Not Yet Evaluated				No End Date (Continuous)
Staff awareness/education					
Provide education to staff about the science of climate change	In Development	Destination/Conservation and teachers at certain sites involved with students and education about climate change.	Involving science teachers as promoters of the impact of climate change and global warming.	2011	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress	Workshop with D/C and custodial staff on pro-d day.	Continue with D/C and BC Hydro programs	2010	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress	Green ideas updated on monthly district website newsletter.	Continue to update website newsletter.	2012	No End Date (Continuous)
Provide sustainability education during new staff orientation	Not Yet Evaluated				No End Date (Continuous)
Team-building					
Create Green, Sustainability, Energy Conservation, or Climate Action	Ongoing/In Progress	Created Green Teams at 9 Elementary Schools working with	Continue work with D/C, as well as BC Hydro.	2009	No End Date

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Teams with executive endorsement	Progress	Destination/Conservation from Fortis BC.			(Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress	Providing rewards and teacher support with D/C , Energy Manager, and Education Liasons.	Continue to provide support to District Green Teams.	2012	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress	Working with D/C, BC Hydro and in-house Energy Manager.	Work closely with BC Hydro, Fortis, and Workplace Conservation Awareness committee.	2011	No End Date (Continuous)
Other Sustainability Actions					
Adaptation to Climate Change					
Assessed whether extreme weather events and/or long term changes in climate will affect the organization's business areas	Not Yet Evaluated				No End Date (Continuous)
Integrated considerations of extreme weather events and/or long term changes in climate into the organization's decision making.	Not Yet Evaluated				No End Date (Continuous)
Building construction, renovation					
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	Ongoing/In Progress	Two new replacement buildings built to LEED Gold standards.	New replacement building to be built and old to be demolished under LEED gold standard.	2011	No End Date (Continuous)
Incorporate lifecycle costing into new construction or renovations	Ongoing/In Progress	Two new replacement buildings built to LEED Gold standards.	New replacement building to be built and old to be demolished under LEED gold standard.	2011	No End Date (Continuous)
Commuting to and from home					
Introduce telework/work from home policy	Not Yet Evaluated				No End Date (Continuous)
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress	Staff encouraged to walk, bicycle or carpool where applicable.	Continue to encourage staff.	2009	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Ongoing/In Progress	Shower and locker facilities provided at most sites.	Shower and locker facilities provided at most sites.	2008	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In Progress	Bike racks provided at most sites, as well indoor secure bicycle storage.	Continue with program.	2008	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)
Establish green standards for goods that are replaced infrequently and/or may require capital funds to purchase (e.g., office furniture, carpeting, etc.)	Not Yet Evaluated				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 with program.	2010	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	Working with City and Waste Removal company to provide more recycling bins for schools and other sites.	Continue with program.	2012	No End Date (Continuous)

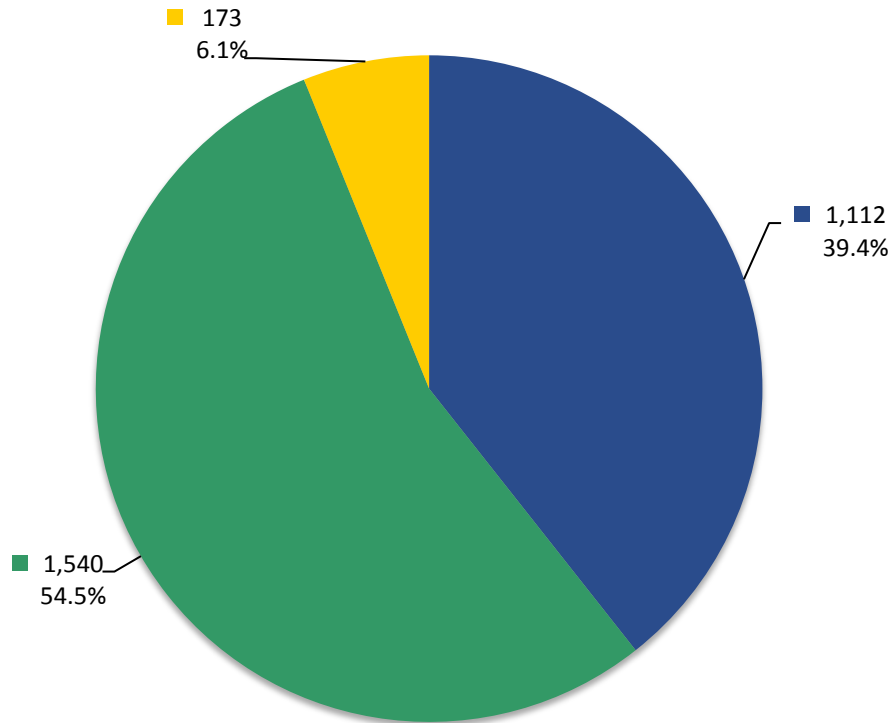
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Actions to Reduce Provincial Emissions and Improve Sustainability

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

Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress	Working with hazardous waste disposal company to safely remove waste from all sites.	Continue with program.	2009	No End Date (Continuous)
Water conservation					
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Ongoing/In Progress	Ongoing replacement of water fixtures with new efficient models, as well as installation of water conserving aerators on taps.	Continue with replacement program.	2010	No End Date (Continuous)
Put in place a potable water management strategy to reduce potable water demand of building-level uses such as cooling tower equipment, toilet fixtures, etc. and landscape features	Ongoing/In Progress	Installation of low flow toilets in new and existing buildings. Use of DDC controls to shut down cooling towers when building not occupied. Replacement of 2 water cooled compressors with non-water cooled models.	Continue with finding new water saving techniques.	2011	No End Date (Continuous)
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	Not Yet Evaluated				No End Date (Continuous)

**School District 33 - Chilliwack
Greenhouse Gas Emissions by Source
for the 2012 Calendar Year (tCO₂e*)**



Total Emissions: 2,825

- 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 2012 (Generated May 28, 2013 3:39 PM)

Total offsets required: **2,036**. Total offset investment: **\$50,900**. Emissions which do not require offsets: **790** **

*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.