

# School District No. 22 (Vernon) – 2010 Carbon Neutral Action Report

## Executive Summary

Our district promotes anti-idling, with 'anti-idling' signs and encourages recycling, composting and waste reduction programs expansion in schools and sites. In 2008 the Smart Driver Training program was presented to all school bus drivers. This program included participating in the 2009 federally sponsored school bus retro fit program to further update the diesel powered buses. (Note: our instruction is based on driving strategies and techniques to improve fuel economy and to reduce periods of idling.) Our district also participated in the 2006 federally sponsored retro fit program for school buses including diesel oxidation catalyst mufflers engine crankcase ventilation system upgrades) bus engine block heaters are controlled by programmable timers that only activate timers on school days and for a time period appropriate to the engine and the temperature. Items such as seat upholstery and sealed window panels are re-used from buses that are out of service. In 2010 our district purchased six new buses and continues the annual drivers training program.

For our school buildings, over the years we have been involved in an energy retro fit program like low flow, light sensors, temperature setbacks, water management, lighting, use of low E paint and use of recycled material where possible. The School District completed a major electrical retrofit at Fulton Secondary School to reduce energy costs. The district's plan pending budget restrictions is to complete energy retro-fits on one site per year. Sixty percent of our sites have metering systems and our new Coldstream Elementary School, nearing completion, is LEED Gold. Our operations supervisors have kept up to date through Pro D in attending workshops and conferences on related topics and we have made adjustments and changes on a continual basis. Of note is the computer based energy management system (Orca) with our district being one of the first districts on board with the energy management system. We have Co2 sensors in many locations that turn the fresh air flow on/off according to occupancy as well as door sensors (i.e. If gym doors are wide open, A/C will not come on). For ongoing initiatives appliance replacements will be with Energy Star rated appliances. For the past couple of years there has been carpooling between teachers to our rural school locations. Our grounds department supervisors are exploring the use of pesticides and continue to have system discussions. Our district is continually posting forms and printed material on-line that were previously printed with meeting agendas and attachments now being sent through e-mail for staff meetings or posted on the web-site for public meetings.

## Overviews

### Actions Taken to Reduce Greenhouse Gas Emissions in 2010

Our district has completed the 2009 federally sponsored school bus retro fit program to further update the diesel powered buses

For our school buildings, over the years we have been involved in an energy retro fit program like low flow, light sensors, temperature setbacks, water management, lighting, use of low E paint and use of recycled material where possible. We have a PC bin for hazardous waste disposal and re-use binders as well as re-cycle toner cartridges. The School District completed a major electrical retrofit at Fulton Secondary School to reduce energy costs. Our operations supervisors have kept up to date through Pro D in attending workshops and conferences on related topics and we have made adjustments and changes on a continual basis. Of note is the computer based energy management system (Orca) with our district being one of the first districts on board with the energy management system. We have Co2 sensors in many locations that turn the fresh air flow on/off according to occupancy as well as door sensors (i.e. If gym doors are wide

open, A/C will not come on). For ongoing initiatives appliance replacements will be with Energy Star rated appliances. For the past couple of years there has been carpooling between teachers to our rural school locations. Our grounds department supervisors are exploring the use of pesticides and continue to have system discussions. Coldstream Elementary School which is nearing completion is LEED Gold. Our district uses green products where applicable within the custodial department and district paper products and have incorporated low volatile organic compounds standards as part of our new construction practice.

## **Operational Changes in 2010**

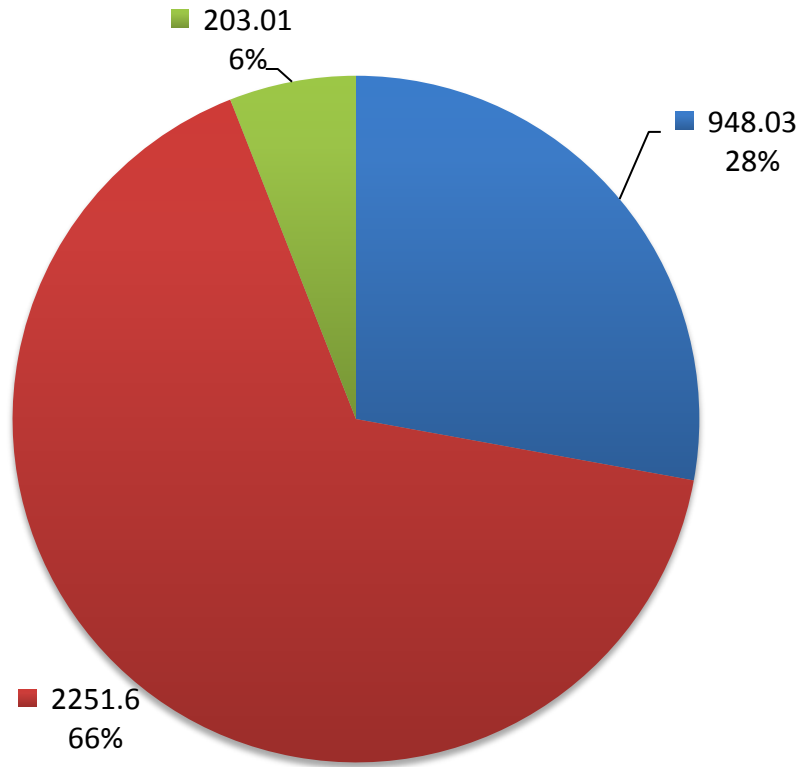
### **Plans to Continue Reducing Greenhouse Gas Emissions 2010 – 2012**

For ongoing initiatives appliance replacements will be with Energy Star rated appliances. We expect carpooling between teachers to our rural school locations will continue, and secure bicycle storage is provided at most sites in addition to shower or locker facilities to encourage commuting by foot and carpooling.

Our grounds department supervisors are exploring the use of pesticides and continue to have system discussions.

A new secondary school is under construction which will utilize LEED guidelines. Maintenance energy retro-fits will continue as budgets allow and we will continue to expand our web-site forms and other information to reduce photocopying. Our IT power management and employee behaviour programs to reduce usage will continue.

School District No. 22 (Vernon)  
Greenhouse Gas Emissions by Source  
for the 2010 Calendar Year (tCO<sub>2</sub>e\*)



**Total Emissions: 3402.64**

- 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: **2617.24**. Total offset investment: **\$65,431.00**. Emissions which do not require offsets: **785.4 \*\***

\*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.

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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
<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		six (6) new buses purchased, No other new vehicles purchased	budget dependant	2009	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress		use compact trucks for operations supervisors	budget dependant	2009	no End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress		part of maintenance program	maintain current practice	2006	No End Date (Continuous)
Replace small maintenance vehicles with more fuel-efficient models	Ongoing/In Progress		no new vehicles purchased	budget dependant	2006	No End Date (Continuous)
<b>Behaviour change program</b>						
Provide fleet driver training to reduce fuel use	Ongoing/In Progress		annual driver training	annual pro-d	2006	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		signage at all sites	maintain awareness	2008	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress		carpool when it makes sense	maintain current practice	2008	No End Date (Continuous)
<b>Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)</b>						
<b>Planning/management</b>						
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress		60% sites have metering systems	as budgets allow	2007	No End Date (Continuous)
<b>Owned buildings</b>						
Establish energy performance baseline for owned buildings	Ongoing/In Progress		energy audits done	ongoing	2011	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		new Coldstream Elementary School LEED Gold near completion and new Vernon Secondary School project LEED Gold	school completions	2009	2013
Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI)	Ongoing/In Progress		new Coldstream Elementary School LEED Gold near completion and new Vernon Secondary School project LEED Gold	school completions	2009	2013
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress		new schools: Coldstream Elementary and Vernon Secondary	school completions	2009	2013
Incorporate integrated design process into new construction or during renovations of owned buildings	Ongoing/In Progress		new Coldstream Elementary School LEED Gold near completion and new Vernon Secondary School project LEED Gold	school completions	2009	2013

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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
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Ongoing/In Progress		new sites are 410A	as budgets allow	2009	No End Date (Continuous)
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress		new Coldstream site is done	plan for one (1) site per year	2010	No End Date (Continuous)
<b>Retrofitting owned buildings</b>						
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Completed in 2010		JW Inglis and Kidston Elementary schools		2008	2010
Upgrade lighting systems during retrofits	Ongoing/In Progress		replacing ballasts to T-8 type	part of our maintenance program	2007	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress		new Coldstream site is done	plan for one (1) site per year	2010	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress		new Coldstream site is done	as budgets allow	2010	No End Date (Continuous)
<b>IT power management</b>						
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress		part of technology plan	ongoing	2008	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress		part of technology plan	ongoing	2008	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress		part of technology plan	ongoing	2008	No End Date (Continuous)
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	Ongoing/In Progress		part of technology plan	ongoing	2008	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress		part of technology plan	ongoing	2008	No End Date (Continuous)
<b>Appliances and electronic devices</b>						
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress		as budgets are approved	ongoing	2007	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		part of our purchasing practice	ongoing	2007	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		part of our purchasing practice	ongoing	2007	No End Date (Continuous)
<b>Behaviour change program</b>						
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress		part of employee awareness	ongoing	2007	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress		part of employee awareness	ongoing	2007	No End Date (Continuous)

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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
Encourage staff to use air dry setting on dishwashers	Ongoing/In Progress		part of employee awareness	ongoing	2007	No End Date (Continuous)
Encourage use of stairs instead of elevators	Ongoing/In Progress		part of employee awareness	ongoing	2007	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress		part of employee awareness	ongoing	2007	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress		part of employee awareness	ongoing	2008	No End Date (Continuous)
<b>Supplies (Paper)</b>						
<b>Paper Type</b>						
Purchase 30% post-consumer recycled paper	Ongoing/In Progress		in 2009 our paper use dropped 20%	continue to assess	2008	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Ongoing/In Progress		this is an ongoing strategy	continue to assess	2008	No End Date (Continuous)
<b>Printer/document settings</b>						
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress		part of staff awareness, and is becoming more of a strategy	continue to assess	2008	No End Date (Continuous)
<b>Electronic media in place of paper</b>						
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development		part of employee awareness	as budgets are approved	2008	No End Date (Continuous)
Use electronic document library for filing common documents	In Development			continue to assess	2008	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress		district web-site with forms, etc. with adding more and more information	continue to add to web-site	2008	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Ongoing/In Progress		have used this for a few years now. Also send staff memos from payroll out with pay stubs.	ongoing	2008	No End Date (Continuous)
<b>Behaviour change program</b>						
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development			continue to assess	2008	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress		meeting agendas and attachments send through e-mail with no hard copies at meetings. Public board meetings are also posted on the district web-site to encourage attendees to only print what they require.	continue with current practice	2008	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress		reminders to staff	continue	2008	No End Date (Continuous)

## School District No. 22 (Vernon) - 2010 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 12/31/10)	Performance to Date (as of 12/31/10)	Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
<b>Business Travel</b>						
<b>Virtual meeting technology</b>						
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	In Development			continue	2010	No End Date (Continuous)
<b>Behaviour change program</b>						
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress		where available this is utilized	continue	2008	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress		encouraged	continue to encourage	Started before 1995	No End Date (Continuous)
<b>Other Sustainability Actions</b>						
<b>Water conservation</b>						
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Ongoing/In Progress		part of our maintenance program	continue with replacement that is more efficient as part of our maintenance program	2008	No End Date (Continuous)
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	In Development		as part of our new Coldstream Elementary school project	Will use this for this new school	2011	No End Date (Continuous)
<b>Waste reduction/diversion</b>						
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress		we have PC bin, hazardous waste disposal	annual maintenance procedure	2007	No End Date (Continuous)
<b>Procurement (non-paper supplies)</b>						
Incorporate minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.)	Ongoing/In Progress		re-use binders, re-cycle toner cartridges	district practice	2005	No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress		use of green products where applicable with the custodial department and district paper products	continue with district practice	2008	No End Date (Continuous)
Require a minimum purchase of sustainable, and organic food and beverages supplied by contracted food suppliers or caterers	Ongoing/In Progress		Teaching cafeteria at Vernon Secondary and all schools have implemented Healthy Living	continue with district practice	2009	No End Date (Continuous)
<b>Indoor air quality</b>						
Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.)	In Development			development	2009	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		new construction practice	continue with practice	2009	No End Date (Continuous)
<b>Commuting to and from home</b>						

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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
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress		staff awareness	staff awareness	2010	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Ongoing/In Progress		available at most sites	as budgets allow	Started before 1995	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In Progress		at most sites	continue	2007	No End Date (Continuous)