

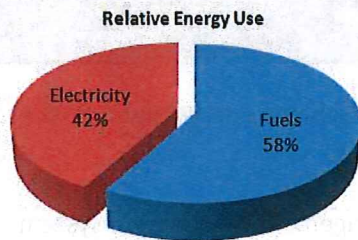
# ***Board of Education of School District No. 27 (Cariboo-Chilcotin)***

## ***2012 Carbon Neutral Action Report***

### ***Executive Summary***

The Board of Education of School District No. 27 continued to take positive action toward our goals of reducing greenhouse gas during the 2012 calendar year.

### ***2012 Greenhouse Gas Emissions***



At the close of 2012 we spent considerable time quantifying our annual energy use to begin our energy and emissions reduction plans. During the 2012 year our School District produced 4,921 tonnes of CO<sub>2</sub>e. Since the initial release of the Greenhouse Gas Targets Act in 2008, our District has monitored and aggressively and successfully reduced our overall carbon production.

### ***Offsets Applied to become Carbon Neutral in 2012***

As required by section 7 of the Carbon Neutral Government Regulation, we have purchased 3,467 tonnes of CO<sub>2</sub>e equivalent offsets from the Pacific Carbon Trust. This purchase fulfils our commitment to be Carbon Neutral during the 2012 year, and compliant with the Greenhouse Gas Targets Act.

As required by section 5 of the Carbon Neutral Government Regulation, 1,454 tonnes of CO<sub>2</sub>e emissions resulting from the operation of school buses were reported as part of our greenhouse gas emissions profile in 2012. However, they were not offset as they are out-of-scope under section 4(2) (c) of the Carbon Neutral Government Regulation.

### ***Emissions Reduction Activities***

Due to internal reconfigurations being undertaken in the District throughout 2012, energy reduction activities were very limited, however, steps were taken to fully engage in energy management in 2013, beginning as follows.

In winter of 2012 our District engaged Rede Energy Solutions to spearhead a district-wide energy management initiative. Rede's contributions included an Energy Management Assessment (EMA) workshop with the executive and departmental heads using ISO 50001-based questions to help identify gaps in the District's organizational structure. Followup in 2013 will include the formation of an executive-level energy conservation initiative team that will meet monthly under the guidance of Rede program managers. The team will focus on 5 critical areas of influence that will impact all areas of the District.



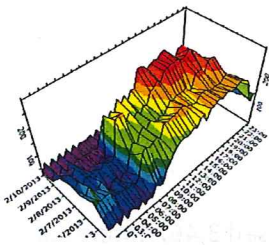
Parallel to the EMA initiative the facilities department began preliminary work on an exhaustive energy audit plan that included quantifying energy and emissions baselines for strategic facility optimization exercises.

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

One of our remote schools, Naghtaneq Elementary, is located at the far bounds of the District and out of range of BC Hydro's integrated power grid. This school depends on diesel generated heat and electricity year round. One project that we have initiated is to explore the integration of the school into the local First Nations grid and so eliminate 2,426 tonnes of greenhouse gases.



Concurrently, we are in the process of having our five largest energy intensive schools energy audited. These schools have combined total emissions of 300 tonnes CO<sub>2</sub>e.



We are also looking at implementing an energy management information system (EMIS) that will track our building electricity and gas usage in real time and make that interval data available for use in classrooms, reporting, troubleshooting, and tracking. Conservative estimates report a 5-15% savings resulting from diligent use of an EMIS. This would amount to approximately 600 tonnes CO<sub>2</sub>e after 2-4 years when the system is fully implemented.

School District No. 27 will continue in our efforts for years to come to find efficiencies in our buildings and operations. We are also excited to be in an era of student and staff awareness that will result in a direct impact on our overall reduction of greenhouse gases now, and for the future. The operational School District "Environmental Stewardship Committee" ensures that the decisions made for today will also include a detailed investigation of the environmental impacts for those generations that follow.

Social responsibility and experiential learning is a large part of the educational system today. School District No. 27 believes that we all have a global social responsibility to share with the Government of British Columbia to limit carbon production and be carbon neutral. Lifelong learning allows us to learn from our past and keep moving forward enabling us to leave our planet a better place for all. This global view and the leadership role we are taking now will allow for a brighter future. The students of today will become the citizens that tomorrow will think beyond the town, province, or country they live in and become stewards of the earth for generations to come.

Mark Thiessen, Superintendent

Bonnie Roller Routley – 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	Not Yet Evaluated				No End Date (Continuous)
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Completed (in Previous Year)				No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress	all staff are encouraged to carpool in district vehicles when possible	continue to work with district staff to encourage continued use of carpooling	2008	No End Date (Continuous)
Vehicle fuel efficiency					
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	replaced several older vehicles with new more efficient models	continue to replace older vehicles with new more efficient models	2008	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	new vehicles were purchased with right sizing principals	continue to purchase new vehicles with right sizing principals in mind	2008	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	we maintain all our vehicles meeting or exceeding, manufacturers specifications	we will continue to maintain all our vehicles, meeting or exceeding manufacturers specifications	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	Not Yet Evaluated				No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Not Yet Evaluated				No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Not Yet Evaluated				No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	Not Yet Evaluated				No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Not Yet Evaluated				No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Not Yet Evaluated				No End Date (Continuous)
Promote hot water conservation	Not Yet Evaluated				No End Date (Continuous)
IT power management					
Install power management software which shuts down computers outside of regular business hours	Not Yet Evaluated				No End Date (Continuous)
Implement server virtualization	Completed (in Previous Year)				No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Completed (in Previous Year)				No End Date (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	Not Yet				No End Date

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
computer upgrades	Evaluated				(Continuous)
Leased buildings					
Develop a green lease policy that requires green features to conserve energy be included in all lease negotiations	Not Yet Evaluated				No End Date (Continuous)
Owned buildings					
Establish energy performance baseline for owned buildings	Completed (in Reporting Year)	Energy consumption was collected and compiled into a master database for all District sites		2010	2012
Register for performance labelling/certification for operations and maintenance of owned buildings (e.g., LEED EB:O&M)	Not Yet Evaluated				No End Date (Continuous)
Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI)	Not Yet Evaluated				No End Date (Continuous)
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	Retrofitted several buildings with more efficient lighting and exit lights. Upgraded 1 elementary school with new high efficiency boilers. Completed a continuous optimization program through BC hydro on Williams Lake Secondary School Completed mechanical upgrade at williams lake bus garage Replaced exterior lighting with LED lighting Installed occupancy controls on heating and lighting Recalibrated boiler performances on several systems	Major mechanical upgrade to Cataline Elementary Replacing older Inefficient generators at Naghtaneqed School with new more efficient models and possibly partnering with the local Native Band in their power project to gain additional savings.	2008	No End Date (Continuous)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Completed (in Previous Year)				No End Date (Continuous)
Planning/management					
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Not Yet Evaluated				No End Date (Continuous)
Retrofit details for owned buildings					
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	Completed boiler replacement project for Chilcotin Road Elementary upgraded heating system in the Williams Lake Bus Garage replaced 100 dorm boiler with high efficiency boiler	Boiler replacement at Marie Sharpe Elementary	2008	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	continued working with BC Hydro's powersmart program reduced fixtures in over lit areas installed occupancy sensors in many locations Completed dark campus on 2 facilities replaced exit lighting at several locations with LED packs rebulbed some high bay lighting 250w - 225w high efficiency bulbs	high bay lighting retro fits continued working with BC Hydro's powersmart program reduced fixtures in over lit areas installed occupancy sensors in many locations Completed dark campus on 2 facilities replaced exit lighting at several locations with LED packs	2008	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	adjusted boiler temperature reset controls on several buildings	recommissioning Anahim Lake School	2008	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	replaced all the windows and siding and installed role shutters at Mountview Elementary School Installed Role shutters at Nesika Elementary Upgraded insulation at 100 Mile Bus Garage, adding an additional R20 to part of the old building as well as our new bus bay received R20 to the outside of the masonry structure.	replace 40 year old windows at Chilcotin Road Elementary school	2008	No End Date (Continuous)
Supplies (Paper)					

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Behaviour change program					
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Completed (in Previous Year)				No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress	The board of Education conducts it's meetings paperless	continue to encourage staff to conduct paperless meetings	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	sharePoint used district wide	continue to use sharePoint district wide	2010	No End Date (Continuous)
Use electronic document library for filing common documents	Completed (in Previous Year)				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	continued purchasing minimum 30% recycled paper	continue purchasing minimum 30% recycled paper	2008	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	Completed (in Reporting Year)	all copiers in the district are default 2 sided		2012	2012

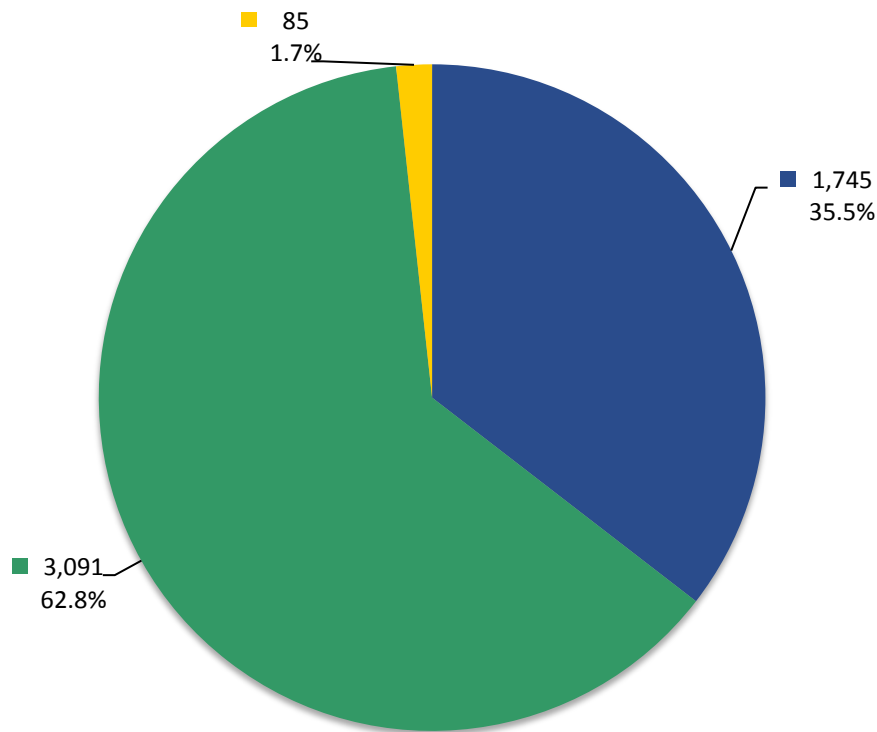
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Actions to Reduce Provincial Emissions and Improve Sustainability					
The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government 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	Completed (in Previous Year)				No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Completed (in Previous Year)				No End Date (Continuous)
Encourage carpooling to meetings	Completed (in Previous Year)				No End Date (Continuous)
Policy and budgeting					
Create a low-carbon travel policy or travel reduction goal	Completed (in Previous Year)				No End Date (Continuous)
Virtual meeting technology					
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Completed (in Previous Year)				No End Date (Continuous)
Make desktop web-cameras available to staff	Completed (in Previous Year)				No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Completed (in Previous Year)				No End Date (Continuous)
Education, Awareness, and Engagement					
Awards/Recognition					
Establish a sustainability/green awards or recognition program	Not Yet Evaluated				No End Date (Continuous)
Staff Professional Development					
Support green professional development (e.g., workshops, conferences, training)	Not Yet Evaluated				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	Not Yet Evaluated				No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Not Yet Evaluated				No End Date (Continuous)
Provide green tips on staff website or in newsletters	Not Yet Evaluated				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 Teams with executive endorsement	Not Yet Evaluated				No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Not Yet Evaluated				No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	In Development	our district has hired an energy consultant to help us lay the foundation for future planing and training	conducting an Energy Management Assessment with district executive in March	2012	No End Date (Continuous)
Other Sustainability Actions					

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
<b>Adaptation to Climate Change</b>					
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)
<b>Building construction, renovation</b>					
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	Completed (in Previous Year)				No End Date (Continuous)
Incorporate lifecycle costing into new construction or renovations	Completed (in Previous Year)				No End Date (Continuous)
<b>Commuting to and from home</b>					
Introduce telework/work from home policy	Not Yet Evaluated				No End Date (Continuous)
Offer staff a compressed work week	Not Yet Evaluated				No End Date (Continuous)
Encourage commuting by foot, bicycle, carpool or public transit	Completed (in Previous Year)				No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Completed (in Previous Year)				No End Date (Continuous)
Provide secure bicycle storage	Completed (in Previous Year)				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.)	Not Yet Evaluated				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	Completed (in Previous Year)				No End Date (Continuous)
<b>Waste reduction/diversion</b>					
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	Completed (in Reporting Year)	In cooperation with the Reginal district and our garbage disposal contractor we now have recycle, cardboard and garbage bins at our schools. Proper sorting and handling procedures have been provided		2012	2012
Implement a hazardous waste reduction and disposal strategy	Completed (in Previous Year)				No End Date (Continuous)
<b>Water conservation</b>					
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Not Yet Evaluated				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	Not Yet Evaluated				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 27 - Cariboo-Chilcoltin Greenhouse Gas Emissions by Source for the 2012 Calendar Year (tCO<sub>2</sub>e\*)



**Total Emissions: 4,921**

- 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 3:37 PM)

Total offsets required: **3,467**. Total offset investment: **\$86,675**. Emissions which do not require offsets: **1,454** \*\*

\*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.