

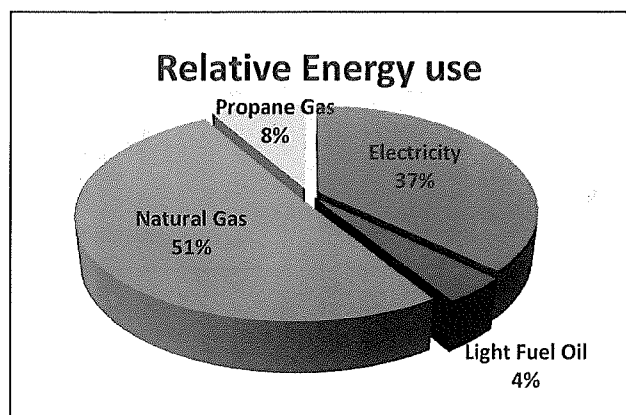
Board of Education of School District No. 27 (Cariboo-Chilcotin)

2013 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 2013 calendar year and beyond. Projects are based around system upgrades, behavioral change through collaboration between facility personal, teachers, and students and creating a future project pipeline ensuring that improvements are under constant development.

2013 Greenhouse Gas Emissions



At the close of 2013 we spent considerable time quantifying our annual energy use to begin our energy and emissions reduction plans. During the 2013 year our School District produced 4,152 tonnes of CO₂e. Since the initial release of the Greenhouse Gas Targets Act in 2008, our District has monitored and aggressively attempted to reduce our overall Carbon production.

Offsets Applied to become Carbon Neutral in 2013

As required by section 7 of the Carbon Neutral Government Regulation, we have purchased 2,896 tonnes of CO₂e equivalent offsets from the Pacific Carbon Trust. Included in this total is 2,888 tonnes for 2013 and 8 tonnes for prior year adjustments. This purchase fulfils our commitment to be Carbon Neutral during the 2013 year, and compliant with the Greenhouse Gas Targets Act.

As required by section 5 of the Carbon Neutral Government Regulation, 1,264 tonnes of CO₂e emissions resulting from the operation of school buses were reported as part of our greenhouse gas emissions profile in 2013. 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

School District No. 27 has partnered with Rede Energy Solutions in order to work towards a detailed district-wide energy management initiative including continuous involvement and monitoring of projects and planning. Rede's continued and constant involvement surpasses the gains from a standard energy management



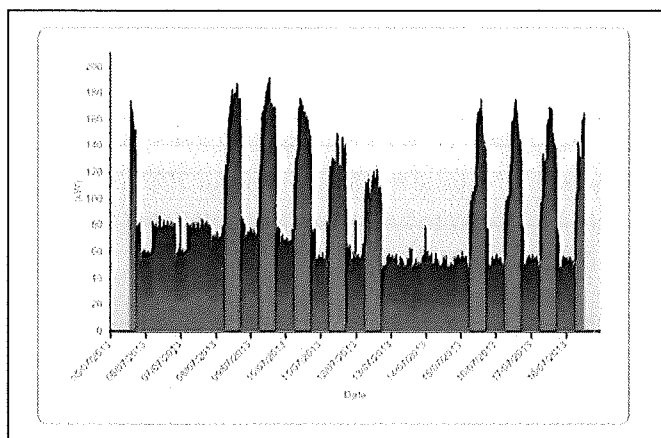
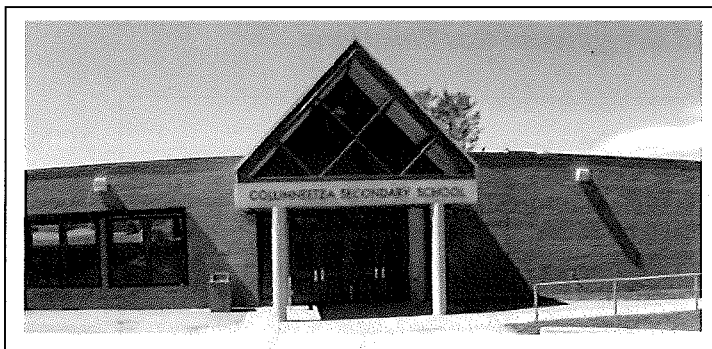
"Learning, Growing and Belonging Together"

involvement by providing a coherent overview of all levels of energy management and facilitating inter-tiered collaboration throughout the school district.

Reducing Greenhouse Gas Emissions Projects of 2013

System upgrades through furnace and boiler replacements have been implemented, resulting in a projected annual reduction of 588 CO₂e. Projects include a gas fired furnace replacement at the maintenance shop improving efficiency from 60% to 90%, replacing the single stage maintenance shop furnace with a two stage system, and retrofitting the Marie Sharp Elementary gas burner system with a new dual Vitoden hydronic system.

Detailed Energy Studies were performed at three schools; Columneetza Senior Secondary, 108 Mile Elementary, and Cataline Elementary. These studies outline future energy conservation projects resulting in a CO₂e reduction of 168 tonnes once implemented. Implementation of projects is underway and led by Rede Energy Solutions. Concurrent investigations are underway in identifying the sites to be included in further audits to be completed in 2014. These identified projects form the baseline of energy reduction projects.



Energy management information system (EMIS) implementation has been completed in three facilities. Current tracking of electricity consumption of sub-sections in real time are functioning and being integrated into meetings with teachers and support staff. This interval data is in the process of becoming 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 50 additional tonnes CO₂e after 2-4 years of operation.

Dark campus control strategies have been implemented Nesika, Anahim Lake, 150 Mile House and Chilcotin Road facilities. These controls, while having a large impact on electricity savings but not necessarily on a carbon reduction, contribute to an overall energy conservation awareness by the visibility of the program.

Transportation emissions have been reduced by introducing programing to our fleet of 66 buses to turn off the engines after an idle time of 5 minutes.



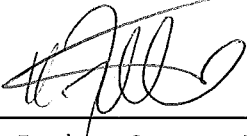
Future Carbon reduction projects include complete mechanical upgrades at facilities, such as Cataline elementary, where older units are targeted due to passed “end of life” equipment. Solar domestic hot water system implementations are also in planning at sites such as Peter Skene Ogden Secondary after a previous success of a similar system at Mile 108 elementary.

The large number of potential natural gas conservation projects has called for a new position which overlooks the project pipeline. In order to fill this void the district has applied for a FortisBC full time Energy Specialist position. This position would focus on the efficient implementation of projects alongside a detailed target verification.

Energy Optimization

In order to ensure that energy consumed in our schools is not wasted but also to account for the need to expend energy to create the right learning environments we have created a team of energy managers know as the “Quantum Team”. The team, comprised of internal staff from across the district and external experts, maintains an overview of the energy consumption in our buildings and reviews opportunities to reduce waste. Meeting monthly it constantly updates a prioritized list of current and future projects that will gradually reduce our energy consumption without adversely impacting the learning and working environments. Through the Quantum team we are able to rapidly adopt new or developing technologies as the business cases for each become viable.

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.



Kevin Fitcher – Secretary Treasurer
Board of Education of School District No 27



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-Part 2 ACTIONS

Filled Wednesday, February 12, 2014

Please complete the following sections of the 2013 Carbon Neutral Action Report form. Save your work frequently to prevent it from being lost. You can also save a copy for your own use as either a WORD or PDF file using the buttons at the bottom of each page. This is Part 2 of the Carbon Neutral Action Report form. This section reports on actions taken to reduce emissions during the 2013 calendar year. This information will be included in your final Carbon Neutral Action Report posted on the Ministry of Environment website. When the form is complete press the submit button on the last page to automatically submit the information to the Climate Action Secretariat (CAS). Do not press submit before you are ready – this may result in a loss of work. In addition to completing this survey (Part 1 & 2), you are required to submit your completed Overview (Executive Summary) and Self-Certification Checklist. The 2013 Overview template was included in the email sent and can also be found on the LiveSmart leaders Community. Please ensure you meet the following reporting deadlines: A DRAFT 2013 CNAR is due to CAS by March 31, 2014. The draft is comprised of the Overview ONLY (no executive sign-off required). The FINAL 2013 CNAR is due to CAS by May 30, 2014. The final 2013 CNAR includes Part 1 & Part 2 survey form and Overview. The Self-Certification Checklist is due to CAS by May 15, 2014. For more information about the Carbon Neutral Government process, please refer to Becoming Carbon Neutral 2013, or should you have any questions please contact climateactionsecretariat@gov.bc.ca.

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Actions Taken to Reduce Emissions

1) Stationary Fuel Combustion, Electricity (Buildings): Indicate which actions were taken in 2013:

Performed energy retrofits on existing buildings

Yes

Undertook an evaluation of overall building energy use.

Yes

Please list any other actions taken to reduce emissions from
Buildings:

(No response)

2) Mobile Fleet Combustion (Fleet and other vehicles): Indicate which actions were taken in 2013:

Do you have a fleet?

Yes

Replaced existing vehicles with more fuel efficient vehicles
(gas/diesel)

Yes

Replaced existing vehicles with hybrid or
electric vehicles

No

Reduced the overall number of fleet
vehicles

No

Took steps to drive less than last
year

Yes

Please list any other actions taken to reduce emission
from fleet

We have programmed most of our bus fleet to
automatically shut down after 5 minutes of idling

3) Supplies (Paper): Indicate which actions were taken in 2013:

Used less paper than previous year

yes

Used only 100% recycled

paper

No

Used some recycled paper

Yes

Used alternate source paper (Bamboo, hemp, etc.) No

Please list any other actions taken to reduce emissions from paper use:
(No response)

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Actions Taken to Reduce Emissions -continued

Explain how you plan to continue minimizing emissions in 2014 and future years:

We are currently working with Redi Energy in optimizing our facilities for both our electrical usage and natural gas usage

This year we are working on one major mechanical upgrade and several small mechanical upgrades as well as implementing the findings from 3 energy audits. We are also looking at the installation of a 3rd bio-fuel boiler

Actions to Promote Sustainability and Conservation -Optional The following are actions that fall outside the scope of the Carbon Neutral Government Regulation, but which many organizations still undertake and may wish to report on. This section is optional for reporting.

Business Travel Created a low-carbon travel policy or travel reduction goal (Low carbon: Lowest emission of greenhouse gases per kilometre per passenger)

(No response)

Virtual Meeting Technology Installed web-conferencing software (e.g., Live Meeting, Elluminate, etc.)

Installed and used frequently

Made desktop web-cameras available to staff

yes

Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)

Very difficult due to the vast distances within our district

Encourage carpooling to meetings

yes

Education and Awareness Have created Green, Sustainability, Energy Conservation, or Climate Action Teams.

Yes we have an executive energy management team (Quantum Team)

Provided behavior change education/training for these teams (e.g., community-based social marketing)

Not it but working towards this

Established a sustainability/green awards or recognition program

Not yet

Support green professional development (e.g., workshops, conferences, training)

yes

Planning for Climate Change Have assessed whether extreme weather events and/or long term changes in climate will affect our organization's business areas

no

Long term changes in climate have been incorporated into our organization's decision making.

no

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Actions to Promote Sustainability and Conservation -Optional (continued)

Staff Awareness and Education Provided education to staff about the science of climate change

no

Provided green tips on staff website or in newsletters

yes

Alternate Work/Commuting Options Allow for telework/working from home

no

Staff have the option of a compressed work week

Several locations do this

Commuting by foot, bicycle, carpool or public transit is encouraged

yes

Shower or locker facilities are provided for staff/students who commute by foot or by bicycle

yes

Secure bicycle storage is provided

yes

Other Sustainability Actions Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models

no

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

yes

Have implemented a hazardous waste reduction and disposal strategy (Hazardous Waste: E.g., electronics including computer parts and monitors, batteries, paints, fluorescent bulbs)

yes

Have incorporated minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.)

no

Established green standards for goods that are replaced infrequently and/or may require capital funds to purchase (e.g., office furniture, carpeting, etc.)

no

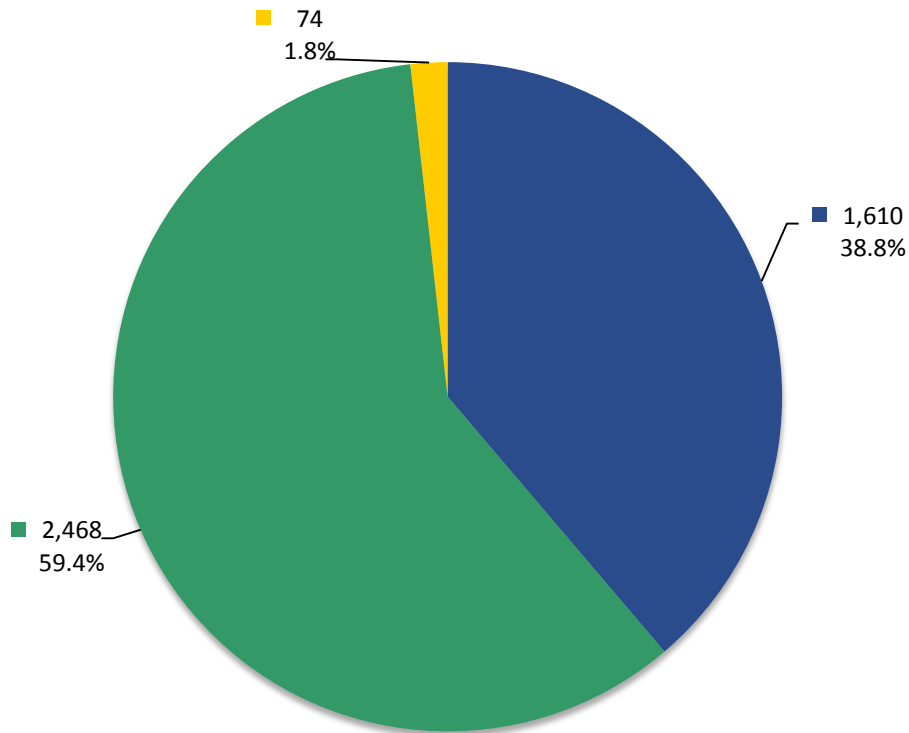
Incorporated lifecycle costing into new construction or renovations

yes

Please list and other sustainability actions you wish to report not included in the previous list.

(No response)

School District 27 - Cariboo-Chilcoltin Greenhouse Gas Emissions by Source for the 2013 Calendar Year (tCO₂e*)



Total Emissions: 4,152

- 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 2013 (Generated May 21, 2014 3:28 PM)

Total offsets required: **2,888**. Total offset investment: **\$72,200**. Emissions which do not require offsets: **1,264** **

*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.