

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

2015 Carbon Neutral Action Report

Title: "2015 Carbon Neutral Action Report"

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

Declaration statement: This Carbon Neutral Action Report for the period January 1st, 2015 to December 31st, 2015 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2015 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2016 and beyond.

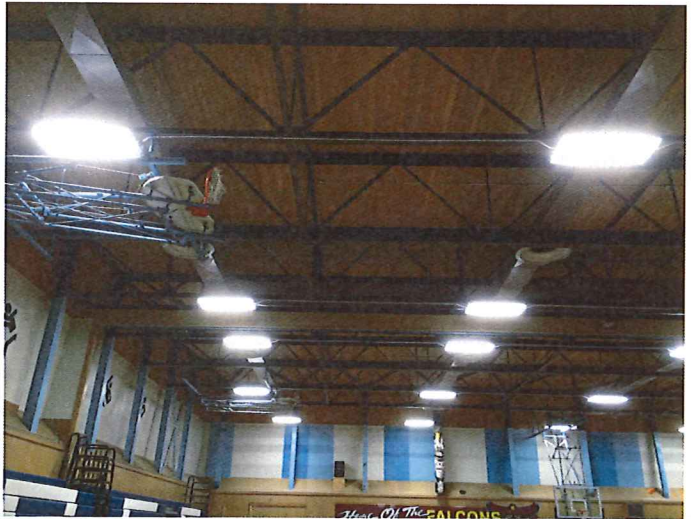
By June 30, 2016 School District No. 27's final *Carbon Neutral Action Report* will be posted to our website at www.sd27.bc.ca.

Overview: In 2015, School District No. 27 took the following actions to reduce GHG emissions:

Lighting Upgrades: various lighting upgrade projects were completed in 2015 at the following schools: Cataline Elementary and Mile 108 Elementary (completed in 2014); 150 Mile Elementary, Anahim Lake Elementary-Junior, Horse Lake Elementary, and Tatla Lake Elementary-Junior (completed in June 2015); Columneetza Secondary (completed Jan 2016). The savings achieved at Mile 108 Elementary School were 40,000 kWh (~\$4,000) from Sep 2014 - Sep 2015. Savings for the projects

completed in 2015 and early 2016 will be calculated and reported on in the next reporting cycle.

Lighting upgrades included upgrades from 32w T-8 fixtures to 25w T-8s, vacancy sensors and from T-8 32w gymnasium lighting to dimmable LED fixtures. Exterior lighting upgrades included all new LED fixtures and dark campus programing.



Peter Skene Ogden Secondary School Retro-commissioning through BC Hydro Continuous Optimization Program (2014-15): this school underwent an energy study to identify performance optimization opportunities. The study findings were implemented in the period of March to June 2015. The project achieved approximately 100,000 kWh in electricity and 280 GJ in natural gas savings from June until December 2015.



Gas Boiler Upgrade and Central Pellet Boiler Plant at Cataline Elementary School: the pellet boiler plant will be the primary heat source with 2 new gas fired boilers as secondary and back up heat. They will serve Cataline Elementary and the adjacent EJ Bare school district facility, and sell excess thermal energy to the neighboring Thompson Rivers University Campus. The project, which expects to offset 1,300 GJ of natural gas annually, will be completed in June 2016. Phase 2 of the project to be completed in the summer of 2016 will see the Cataline School Building get a complete mechanical upgrade.



Quantum Leadership Engagement: the school district is committed to energy conservation and GHG emissions reduction, as demonstrated by their enthusiastic participation in the Quantum Leadership program, facilitated by Rede Energy Solutions Ltd. Through this initiative, the leadership team at the school district are working on an energy policy, and support the ongoing energy management services contract (see below).

Student Engagement: through BC Hydro's Energy Ambassador Program, student leadership teams at Lake City Secondary Columneetza Campus and Peter Skene Ogden Secondary Schools are engaging in energy conservation efforts and the promotion of awareness amongst the student body and teaching staff. They have designed a week-long program for energy conservation and will use electrical sub-metering data to quantify the savings they achieve.

Building Automation System (BAS) Asset Assessment and Upgrade Schedule: in May 2015 the school district commissioned an assessment of the aging building automation system (BAS) infrastructure throughout the district. Many schools were found to have obsolete BAS technology, which compromise the facilities staff's ability to adequately manage building energy performance. The key deliverable, a report submitted in Feb 2016, provides the school district with a BAS upgrade schedule used during annual budget allocation to ensure that this critical system is renewed, and thereby contributes to GHG emissions reduction strategy.

Ongoing Energy Management Services contract: the school district has an energy management services contract with Rede Energy Solutions Ltd., on-going since May 2013. As an integral member of the school district's facility operations team, Rede collaborates with the Facilities Manager and key personnel to establish energy and GHG emissions reduction targets, identify improvement opportunities, conduct energy studies, obtain grants and incentive funding, and oversee the implementation of improvement projects. Annual evaluation of achievements and targets are key milestones of the strategic energy management plan, which aims to continue reducing emissions in 2016 and beyond.

Emissions and Offset Summary Table:

| School District No. 27 GHG Emissions and Offset for 2015 (TCO ₂ E) | |
|---|-------|
| GHG Emissions created in Calendar Year 2015: | |
| Total Emissions (tCO ₂ e) | 4,511 |
| Total Offsets (tCO ₂ e) | 3,146 |
| Adjustments to GHG Emissions Reported in Prior Years: | |
| Total Emissions (tCO ₂ e) | 258 |
| Total Offsets (tCO ₂ e) | 257 |
| Grand Total Offsets for the 2015 Reporting Year: | |
| Grand Total Offsets (tCO ₂ e) | 3,403 |

Retirement of Offsets:

In accordance with the requirements of the Greenhouse Gas Reduction Targets Act and Carbon Neutral Government Regulation, School District No. 27 (**the Organization**) is responsible for arranging for the retirement of the offsets obligation reported above for the 2015 calendar year, together with any adjustments reported for past calendar years. The Organization hereby agrees that, in exchange for the Ministry of Environment ensuring that these offsets are retired on the Organization's behalf, the Organization will pay the associated invoice to be issued by the Ministry in an amount equal to \$25 per tonne of offsets retired on its behalf plus GST.

Executive sign-off:



Signature

May 30, 2016

Date

Mark Thiessen

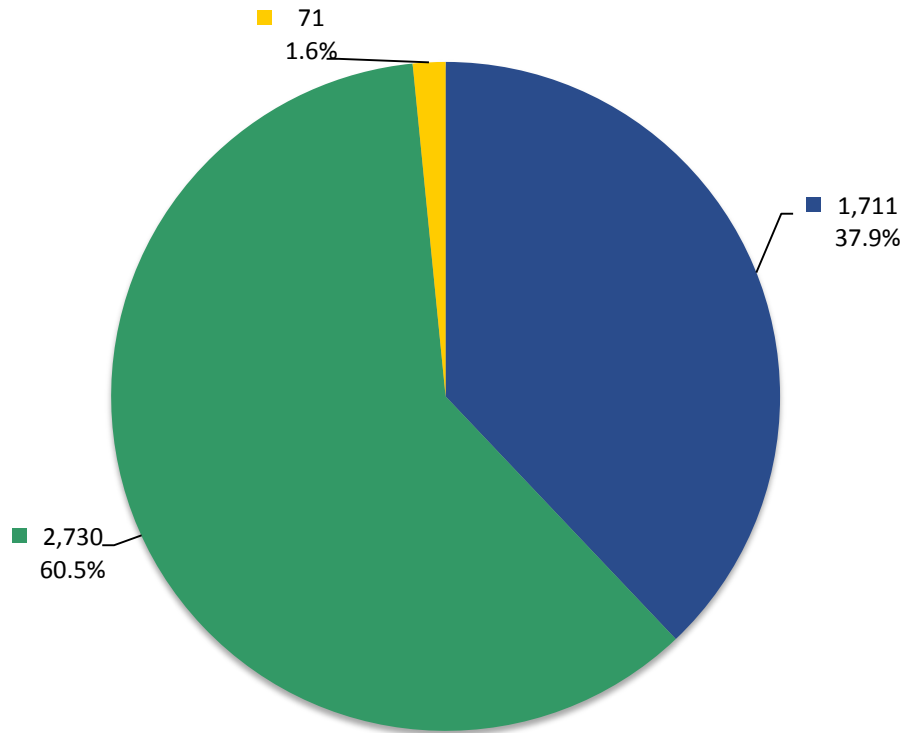
Name (please print)

Superintendent of Schools.

Title



**School District 27 - Cariboo-Chilcoltin
Greenhouse Gas Emissions by Source
for the 2015 Calendar Year (tCO₂e*)**



Total Emissions: 4,511

- 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 2015 (Generated May 25, 2016 9:54 AM)

Total offsets required: **3,146**. Total offset investment: **\$78,650**. Emissions which do not require offsets: **1,365** **

*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.

2015 Carbon Neutral Action Report Survey

Organization Name:

School District #27

Please select your sector:

- School District

1) Stationary Sources (Buildings, Power Generators, Ext. Lighting) Fuel Combustion, Electricity use, Fugitive Emissions:

Please indicate which actions your PSO took in 2015:

Have developed an overall strategy/plan to reduce energy use in your organization's buildings inventory:

Yes

If Yes, please describe:

We have been working with Rede Energy Solutions and have developed a long term plan that includes a full analyses of our energy consumption, a look at what infrastructure needs replacing and what new products are available. We have also completed an analyses of our building automation systems and have set future priorities to add and replace systems.

Undertook evaluations of building energy use:

Yes

Performed energy retrofits on existing buildings:

Yes

Built or are building new LEED Gold or other "Green" buildings:

No

Please list any other actions, programs or initiatives that your organization has introduced that support emissions reductions from buildings:

We have completed 3 full interior lighting upgrades, 5 exterior lighting upgrades that included automatically going dark after the school alarm is set at night, a full re-commissioning of Peter Skene Ogden Secondary School and we started a large boiler replacement project that includes the addition of a bio-mass boiler. We will be providing heat to Thompson Rivers University as well

as our Cataline Elementary School.

2) Mobile Sources (Fleet, Off-road/Portable Equipment) Fuel Combustion:

Indicate which actions your PSO took in 2015:

Have put in place an operations policy/program to support systematic reductions in fleet related emissions:

(e.g., program to convert fleet to renewable fuels)

No

If Yes, please describe:

(No response)

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

Yes

Replaced existing vehicles with hybrid or electric vehicles:

No

Took steps to drive less than previous years:

Yes

Please list any other actions, programs or initiatives that your organization has introduced that support emissions reductions from fleet combustion:

in 2015 several of our large meetings have taken place via phone conferencing and Skype.

We continue to enforce our anti idling policy and are encouraging more students to walk to school where it is safe to do so.

3) Supplies (Paper):

Indicate which actions your PSO took in 2015:

Have put in place an operations policy/program to facilitate a systematic reduction in paper-related emissions:

(e.g., policy to purchase 100% Recycled Content; default to double-sided printing)

Yes

If yes, please describe:

all district printers default to 2 sided printing,

Have put in place an operations policy/program to facilitate behavioural changes from paper use:

(e.g. awareness campaign to reduce paper use):

No

If yes, please describe:

(No response)

Used only 100% recycled paper:

No

Used some recycled paper:

Yes

Used alternate source paper:

(e.g., bamboo, hemp, wheat etc.)

No

Please list any other actions, programs or initiatives that your organization has introduced that support emissions reductions from paper supplies:

(No response)

4) Other Sustainability Actions:

Please note that this section is optional

Business Travel

Created a low-carbon travel policy or travel reduction goal:

(low-carbon = lowest emission of greenhouse gas per kilometer per passenger)

Yes

Encouraged alternative travel for business:

(e.g. bicycles, public transit, walking)

Yes

Encouraged or allow telework/working from home:

No

Other:

(No response)

Education Awareness

Have a Green/Sustainability/Climate Action Team:

Yes

Supported green professional development:

(e.g. workshops, conferences, training)

Yes

Supported or provided education to staff about the science of climate change, conservation of water, energy and/or raw materials:

Yes

Other:

(No response)

Adaptation Planning for Climate Risks

Have assessed whether increased frequency of extreme weather events and/or long term changes in climate will affect your organization's infrastructure, its employees and/or its clients:

No

Have incorporated these anticipated changes in climate into your organization's planning and decision making:

No

Other:

(No response)

Other Sustainability Actions

Established a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models:

Yes

Have put in place an operations policy/program to facilitate the reduction and diversion of building occupant waste stream from landfills or incineration facilities:

(e.g., composting, collection of plastics, batteries)

Yes

Established green standards for goods that are replaced infrequently and/or may require capital funds to purchase:

(e.g., office furniture, carpeting, etc.)

Yes

Incorporated lifecycle costing into new construction or renovations:

Yes

Please list any other sustainability actions your organization has taken not listed above:

(No response)