

# 2014

## CARBON NEUTRAL ACTION REPORT



**“Working Together for Student Success”**



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# Executive Summary

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School District No. 67 (Okanagan Skaha) serves the communities of Penticton, Summerland, Naramata, and Kaleden in the south Okanagan region of British Columbia. School District No. 67 is signatory to and supports the Climate Action Charter in the province of British Columbia. The School District supports and practices sustainable initiatives to conserve energy and resources with the goal to reduce carbon emissions; reduce utility costs; and promote a cleaner environment for all students and staff.

District schools continue to practice the sustainable principles introduced through the Destination Conservation program.

Themes for the three years of the program are: energy in year one; water in year two; and waste avoidance in year three.



## Overview

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This is the 2014 Carbon Neutral Action Report (CNAR) for School District No. 67. This report contains our 2014 emissions profile, offsets purchased, the actions we have taken in 2014 to reduce our GHG emissions and our plans to continue reducing emissions in 2014 and beyond.

By June 30, 2015, School District No. 67's final CNAR will be posted to our website at [www.sd67.bc.ca](http://www.sd67.bc.ca).

## 2014 Greenhouse Gas Emissions

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In 2014, operations in School District No. 67 (Okanagan Skaha) produced a total of 1701 carbon dioxide equivalent tonnes (CO<sub>2</sub>e) of emissions. The school bus fleet produced 70 tonnes of CO<sub>2</sub>e; however, those emissions do not require offset, leaving a total of 1631 tonnes of CO<sub>2</sub>e requiring purchase of offsets. The majority, 1411 tonnes of CO<sub>2</sub>e, were derived from heating and lights for school buildings. The remaining balance was derived from vehicle fleet fuel and paper supplies.

It was estimated that fugitive emissions from stationary cooling comprise less than 0.01% of School District No. 67 (Okanagan Skaha) total emissions. The ongoing effort to collect or estimate emissions from this source annually is disproportionately onerous, thus, for this reason, emissions from this source have been deemed out-of-scope and are not included in School District No. 67 (Okanagan Skaha) total greenhouse gas emissions profile or offset purchase.

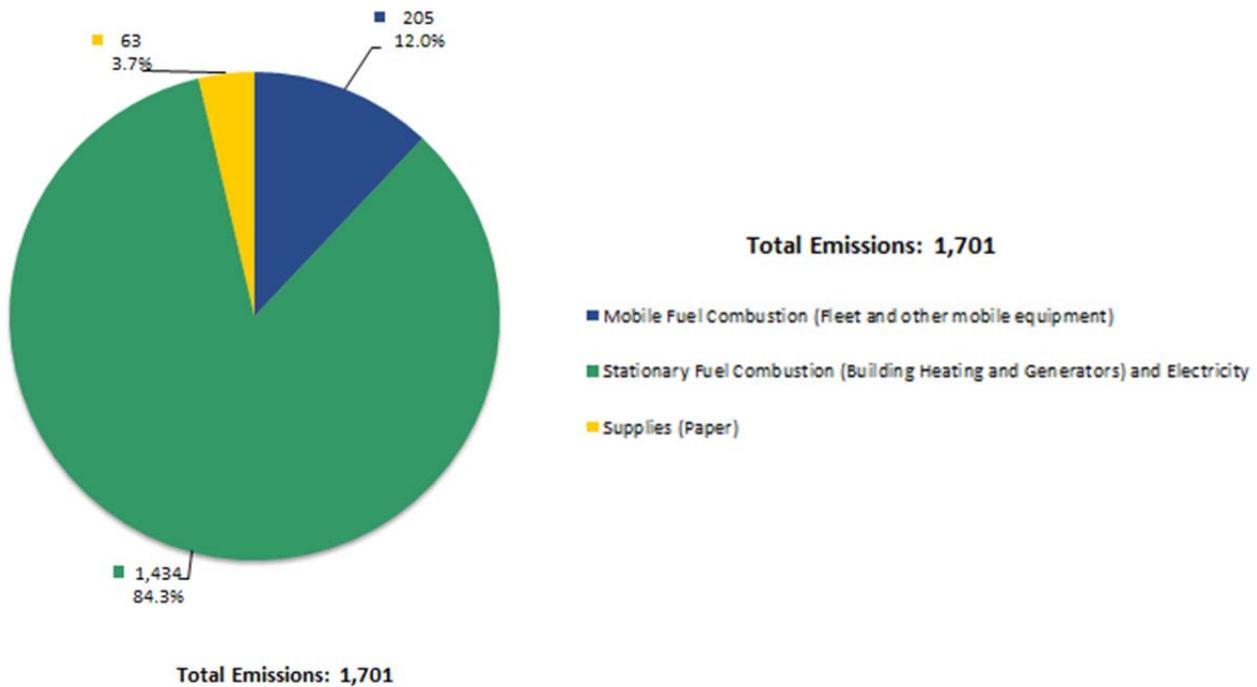
## Offsets Applied to Become Carbon Neutral in 2014

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In order to become carbon neutral in 2014, School District No. 67 (Okanagan Skaha) was required to purchase a total of 1631 tonnes of CO<sub>2</sub>e at a cost of \$25 per tonne of CO<sub>2</sub>e. Total cost for purchase of these carbon offsets for 2014 was \$40,775.00 for School District No. 67 (Okanagan Skaha).

As required by section 5 of the Carbon Neutral Government Regulation, 70 tonnes of CO<sub>2</sub>e emissions resulted from the operation of school buses and were reported as part of our greenhouse gas emissions profile in 2014. However, they were not offset as they are determined to be out-of-scope under section 4(2)(c) of the Carbon Neutral Government Regulations.

# 2014 Emissions Source Report (tCO<sub>2</sub>e)



## Offsets Applied to Become Carbon Neutral in 2014

Total offsets required: **1,631**. Total offset investment: **\$40,775**. Emissions which do not require offsets: **70\*\***

\*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.

## Emissions and Offsets Summary

| <b>School District 67 GHG Emissions and Offsets for 2014 (tCO<sub>2</sub>e)</b>                   |             |
|---|-------------|
| <b>GHG Emissions created in calendar year</b>   |             |
| Total Emissions   | 1701        |
| Total Emissions for Offsets   | 1631        |
| <b>Adjustments to GHG Emissions Reported in Previous Years</b>                                    |             |
| Total Emissions   | 0           |
| Total Emissions for Offsets   | 0           |
| <b>Credit owing from PCT at end of 2013 reporting year (if applicable – from May 15 Invoice):</b> |             |
| Credit Owing  | \$0.00      |
| Total Emissions for Offsets for the 2013 Reporting Year:  | \$40,775.00 |

# Actions Taken to Reduce Greenhouse Gas Emissions in 2014

The School District continued with their progressive stance in 2014. The District started a two year project to upgrade one of our largest elementary schools to a new high efficiency Geo-Exchange heating system. In 2014 the Geo-Exchange field was installed and tied into the existing mechanical systems. In addition, a new direct digital control system; complete with real time energy monitoring was installed to track and monitor energy use throughout the facility. In 2015, the second phase of the project will be completed enabling the terminal units full access to the Geothermal upgrade to increase the overall efficiency of the building. This will allow us to reduce our overall operating cost while further reducing our carbon output.



New direct digital control systems were installed at Kaleden Elementary and an upgrade was started at KVR Middle School to help operate the facility more efficiently. These systems replaced older ones that had reached the end of its life cycle. The new system takes advantage of up-to-date control algorithms to ensure the existing mechanical systems are running at their peak efficiency.

On a smaller scale, the District maintenance crews started a program to replace existing outside lighting with higher efficiency LED technologies and examined several of our schools to find areas where they could increase efficiency and occupant comfort at minimal costs. Several spaces were identified where classroom lighting upgrades could be completed with minimal disruption and low cost options.

Bonnie Roller-Routley  
Secretary-Treasurer

Wendy Hyer  
Superintendent of Schools

# 2014 Carbon Neutral Action Report (CNAR) - Part 2 ACTIONS

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## Organization Name

School District No. 67 (Okanagan Skaha)

## Actions Taken to Reduce Emissions

### 1) Stationary Fuel Combustion, Electricity (Buildings): Indicate which actions were taken in 2014:

Performed energy retrofits on existing buildings

Yes

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

No

Undertook an evaluation of overall building energy use.

No

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

In 2014 we completed Phase 1 of a two year project to install a Geo-Exchange system at Wiltse Elementary. In addition to the mechanical upgrade we have also upgraded several HVAC control systems at other facilities to increase occupant comfort and offer better access for maintenance staff. On the electrical side of carbon output, we upgraded several lighting systems in gymnasiums to new high efficiency LED technology. All three of these projects allow us to increase our overall efficiency while reducing utility and our overall carbon footprint.

**2) Mobile Fleet Combustion (Fleet and other vehicles):Indicate which actions were taken in 2014:**

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

No

Please list any other actions taken to reduce emission from fleet:

None

**3) Supplies (Paper):Indicate which actions were taken in 2014:**

Used less paper than previous year

No

Used only 100% recycled paper

No

Used some recycled paper

No

Used alternate source paper (Bamboo, hemp, etc.)

No

Please list any other actions taken to reduce emissions from paper use:

none

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### **Actions Taken to Reduce Emissions - continued**

Explain how you plan to continue minimizing emissions in 2015 and future years:

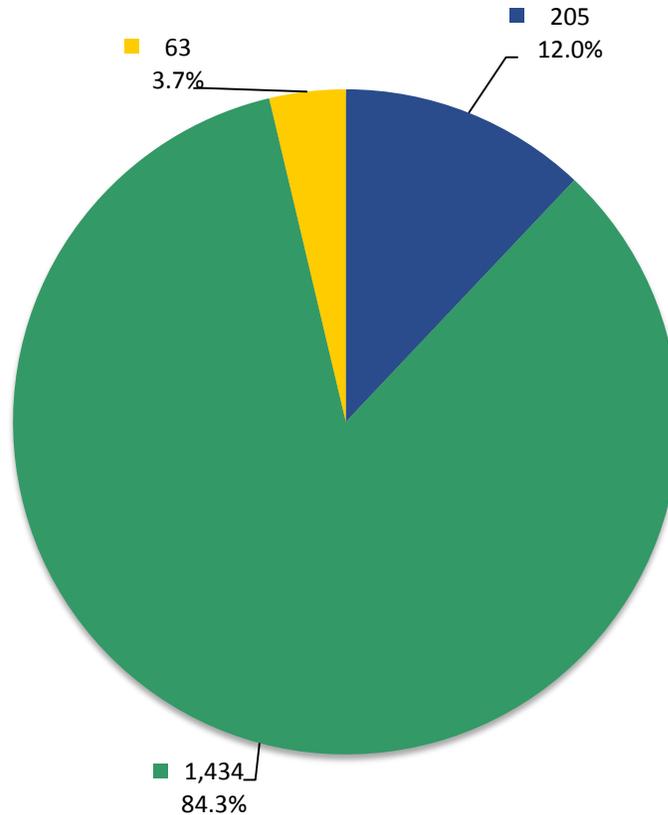
School District # 67 is very active in upgrading existing mechanical and electrical systems to increase efficiency and reduce carbon output. We are continuing on with Phase 2 of the Wiltse Geo-Exchange system to increase our efficiency and overall occupant comfort within the school.

We will also continue our lighting upgrade program to replace older inefficient lighting with newer high efficiency options.

If you wish to list any other "sustainability actions" outside of buildings, fleet, paper and travel check "yes". This reporting is optional.

No

**School District 67 - Okanagan Skaha (Penticton)  
Greenhouse Gas Emissions by Source  
for the 2014 Calendar Year (tCO<sub>2</sub>e\*)**



**Total Emissions: 1,701**

- 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 2014 (Generated June 25, 2015 11:00 AM)**

Total offsets required: **1,631**. Total offset investment: **\$40,775**. Emissions which do not require offsets: **70** \*\*

\*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.