

ABBOTSFORD
SCHOOL DISTRICT
RESPECT OPPORTUNITY INNOVATION

SD34 (Abbotsford)

2014 Carbon Neutral Action Report

Executive Summary

Abbotsford School District has been diligently working for many years to conserve energy, reduce consumption, and improve the working environment for our staff and students. We are recognized as energy reduction leaders by BC Hydro and FortisBC, and as such, we get a lot of encouragement and support in the work we do.

We have retrofitted our properties to reflect the latest technologies in lighting, heating and building control systems. In late 2012, we were fortunate enough to obtain an "Energy Specialist" through a new association with FortisBC. The "Specialist" will be a tremendous help to the Energy Manager on the sustainable energy behavioural side of her work, as well as the preparation of programs that will reduce natural gas consumption.

We are committed to maintaining our position as one of the most energy efficient School Districts in BC, and will ensure that every reasonable effort is made to conserve energy and resources in order to reduce the School District's Carbon footprint and move towards Carbon neutrality.

Our Carbon Neutral Plan includes a Sustainable Energy Management Plan (SEMP) for electrical and natural gas initiatives. Our facilities upgrade plans continual move ahead, thanks to the continuation of our Annual Facilities Grant (AFG) by the Provincial Government, as well as support from grants under the CNCP program.

Integration of environmentally sustainable solutions into the School District's business decisions are related to: Lighting, HVAC, Controls upgrades, New and Renovation construction, and recycling programs.

We are continuing with our highly successful Green Team program, and along with the other initiatives we implemented, our electrical consumption *decreased* by 12.7%, and our natural gas consumption also *decreased* by almost 21% in calendar 2014, reducing our electrical and natural gas costs, even with the Utility increases.

2014 Greenhouse Gas (GHG) Emissions

Our total GHG Emissions for calendar 2014 was 4,128 tCO₂e. Part of this was for fuel for the bus fleet, which we don't need to purchase offsets for, so our total purchasable offset emissions were 3,308 tCO₂e.

SD34 GHG Emissions and Offsets for 2014 (TCO₂E)	
GHG Emissions created in Calendar Year 2014:	
Total Emissions (TCO ₂ E)	4,233
Total Offsets (TCO ₂ E)	3,348
Adjustments to GHG Emissions Reported in Prior Years:	
Total Emissions (TCO ₂ E)	22
Total Offsets (TCO ₂ E)	28
Total Emissions for Offset for the 2014 Reporting Year	
Total Offsets (TCO ₂ E)	3,376

Offsets Applied to become Carbon Neutral in 2014

The amount of offsets applied in 2014 was \$ 84,400.

Actions Taken to Reduce Greenhouse Gas Emissions in 2014

As described above, we increased this year's 'Green Team' program with the assistance of our Energy Specialist.

We continued to upgrade old boiler infrastructure at four of our schools. We noticed that even after a single Winter period (Dec 2014 - Mar 2015) these four upgrades reflected in a total reduction of 1,179 GJ, from 3,039 GJ in 2013/14 to 1,860 GJ in 2014/15, a value of 38.8 % !

Operational Changes in 2014

We have commenced with the final school under the BC Hydro Continuous Optimization (C.Op) program, after the completion of the work (Fall 2015) we are told that we will reduce our electrical consumption by 140,000 kWh and gas by 800 GJ, with resulting

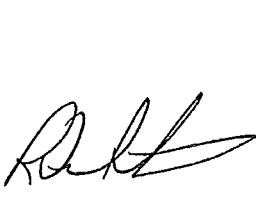
GHG savings. We are taking the knowledge gained in this program, and applying it to as many other schools (not in the C.Op program) as funding allows.

Plans to Continue Reducing Greenhouse Gas Emissions 2015 - 2016

Our 2015-16 AFG year will include 2 major projects. One is the replacement of 4 boiler rooms in a single school (Yale Senior Secondary) with a single room containing 8 high efficiency condensing boilers. The other is the replacement of boilers in 2 schools (Roberta Bondar and W J Mouat) and domestic hot water heaters to high efficiency condensing type. Both projects will cost close to a \$750,000 with an expected natural gas savings approaching 1,000 GJ, with corresponding GHG reductions.

We will also be completely cleaning the ductwork/coils in 5 (five) schools and DDC conversions for 2 (two) schools.

Signed:



Ray Velestuk, Secretary/Treasurer



Tom Louie, Director of Facilities and Transportation

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

Organization Name

SD34 (Abbotsford)

Actions Taken to Reduce Emissions

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

Performed energy retrofits on existing buildings

No

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

No

Undertook an evaluation of overall building energy use.

Yes

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

Removal and upgrade of boilers and domestic water tanks at 4 schools...

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)

No

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:

(No response)

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

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)

Page 3

Actions Taken to Reduce Emissions - continued

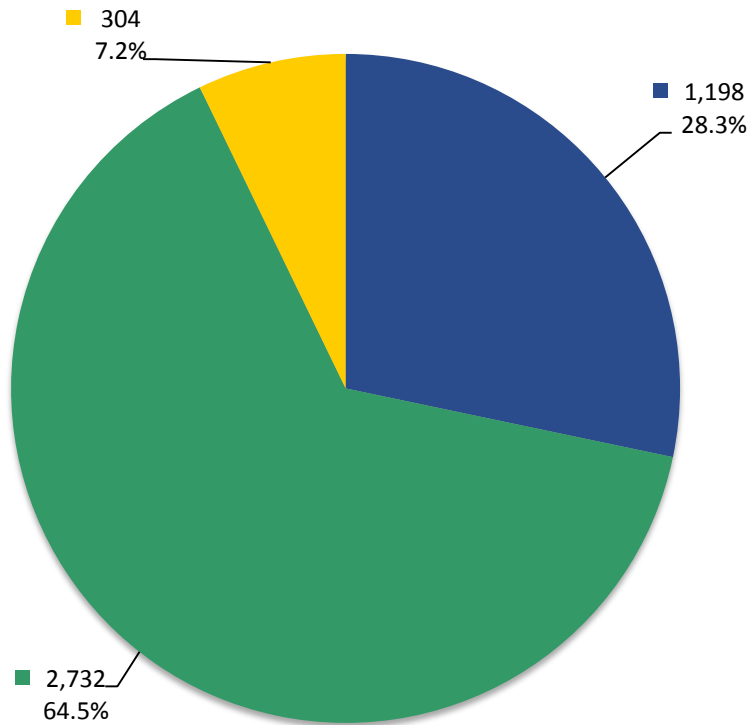
Explain how you plan to continue minimizing emissions in 2015 and future years:

Continuation of boiler infrastructure upgrades, and as well as implementation of Preventative Maintenance Program...

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 34 - Abbotsford
Greenhouse Gas Emissions by Source
for the 2014 Calendar Year (tCO₂e*)**



Total Emissions: 4,233

- 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 23, 2015 12:15 PM)

Total offsets required: **3,348**. Total offset investment: **\$83,700**. Emissions which do not require offsets: **885** **

*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.