



2014 CARBON NEUTRAL ACTION REPORT

School District No. 78 (Fraser Cascade)

Natalie Lowe-Zucchett, CA

Secretary-Treasurer

650 Kawkawa Lake Road

Hope, BC V0X 1L4

May, 2015

2014 CARBON NEUTRAL ACTION REPORT

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 2015 and beyond.

Executive Summary

On behalf of School District No. 78 (Fraser Cascade), we are pleased to submit the 2014 Carbon Neutral Action Report. The District is committed to continuing to provide environmental leadership by sharing knowledge and best practices around environmental sustainability with our staff, students and public. The District is continuing to provide resources for energy efficient facility upgrades and employee and student training to continue to raise awareness of the importance of sustainability.

Energy savings and emissions reductions continue to be a focus in our commitment toward carbon neutrality. All decisions made on building improvements are made through the lens of energy savings. We continue to upgrade our facilities through window/cladding replacement projects, heating control upgrades and further lighting upgrades.

As part of our 2014 energy savings program the District completed the upgrade to the entire lighting system including sensors for one of our high schools. In June 2014 due to a need for a seismic upgrade and low enrolment, the District closed a school. The light fixtures from the school have been used to replace older fixtures in one of our high schools and elementary school. We are currently also reviewing all of our outdoor lighting. We have made a number of projects for mechanical upgrades a high priority on our capital plan and they have been recognized as high priority by the Ministry.

For 2014, the School District's total emissions are 839 tonnes of CO₂e (2013-1075, 2012- 1154 tonnes), which has meant providing an offset of \$20,975 plus GST to the Pacific Carbon Trust.

The Board of Education for School District No. 78 (Fraser Cascade) recognizes the importance of carbon neutrality and continues to endorse all work toward reduction in energy consumption.



Natalie Lowe-Zucchet, CPA C.A.

Secretary-Treasurer

2014 CARBON NEUTRAL ACTION REPORT

Overview

Actions Taken to Reduce Greenhouse Gas Emissions in 2014

In 2014 School District No. 78 (Fraser-Cascade) has continued with efforts to reduce our carbon footprint through retro-fitting facilities. The agreement that the District entered into with our neighbour district, School District No. 33 (Chilliwack), to share an energy manager and professional expertise, has helped to focus our efforts and maintain a higher profile for environmental initiatives. This approach to energy management has helped coordinate our work to ensure we are using best practices to manage energy.

We continue to provide education to our bus drivers, on bus driving technologies to both reduce emissions and improve the performance of our buses. This is an annual event to maintain the awareness and remind people of good practice.

As part of our annual facility maintenance the District changed out the remaining single paned windows, upgraded the lighting at Hope Secondary School with newer lights from CE Barry Intermediate, a recently closed school. We also reclad a building to improve energy efficiency and waterproofing.

The District has continued to make strides in going paperless. Our paper consumption dropped 35% over the prior year. Although we do not use 100% recycled paper, we have moved to purchasing paper that is harvested through sustainable forestry practices and meets the global forest management standards of the Forest Stewardship Council (FSC). We are also not providing paper copies at meetings and this has been well received by our partner groups. All of our agendas can now be found on Google Calendar for review and therefore can be stored in this format as well.

We are continuing to encourage car-pooling when feasible and have seen the Trustees take on a leading role in this area. We are also encouraging the same behaviour with staff when possible.

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Plans to Continue Reducing Greenhouse Gas Emissions

The School District is continuing with its organizational commitment to and practice of sustainability. We will continue with our facility upgrades to reduce our energy and water consumption. Our agenda for the upcoming year includes all new exterior lighting with a reduction in the number of fixtures, a new DDC system at Kent Elementary to control heating, as well as light sensors at Kent Elementary. We are also looking at replacement of the boiler at Boston Bar Elementary Secondary to an energy efficient model. Energy management through on-going evaluation is a key element in our operations goal to reduce our carbon emissions, as well as staff commitment and student involvement. We are working on all these areas. The District has specifically set aside funding to implement the energy management plan. We have set aside Annual Facility Grant funding to undertake the work required to upgrade our most pressing electrical and mechanical work.

We included replacement of our oldest and least efficient heating system in our capital plan as well as our CNCP submission and hope to obtain funding for an upgrade to a more energy efficient heating system. The replacements have been ranked as High priority by the Ministry of Education. We also plan on upgrading the entire lighting at Hope Secondary School as we have done at AESS in 2013 using the lighting study from Quantum Lighting Inc.

We will also be looking at a power management plan implementation for all of computer labs in the next year. This was identified as an area where we could see additional power savings.

We have seen a decrease in the total offsets we are required to purchase in 2014. The District will be sharing this information with our partner.



Recycling Team, Hope B.C.

2014 CARBON NEUTRAL ACTION REPORT

Emissions and Offsets Summary:

Totals Calendar Year 2014, School District 78 - Fraser - Cascade

	Measure	Quantity	Greenhouse Gases in Tonnes				
			CO ₂	BioCO ₂	CH ₄	N ₂ O	tCO ₂ e ¹
Scope 1 (Direct) Emissions							
Mobile Combustion (Fleet)	Litres	112,535.71	279.68	10.54	0.02	0.03	298.73
Stationary Combustion, Reported ³	GigaJoules	14,389.77	727.76	0.00	0.01	0.02	733.69
Scope 2 (Indirect) Emissions							
Purchased Energy, Reported ³	GigaJoules	6,969.37	19.51	0.00	0.00	0.00	19.51
Scope 3 (Business Travel and Office Paper) Emissions							
Office Paper	Packages	3,231.00	19.69	0.00	0.00	0.00	19.69
Total Emissions, Calendar Year 2014			1,046.64	10.54	0.03	0.05	1,072
Carbon Neutral or Offset Exempt			234.02	10.54	0.01	0.01	249
Total for Offsets⁴			812.63	0.00	0.02	0.03	823

1. Each greenhouse gas has been converted to a standard measurement (tCO₂e) by multiplying its emissions by its global warming potential (GWP). The GWP of carbon dioxide (CO₂) from both anthropogenic and biogenic sources is 1; methane (CH₄) is 25, and nitrous oxide (N₂O) is 298. The Totals for tCO₂e are shown here rounded to the nearest whole metric tonne as only whole tonnes of tCO₂e can be purchased for offsets.

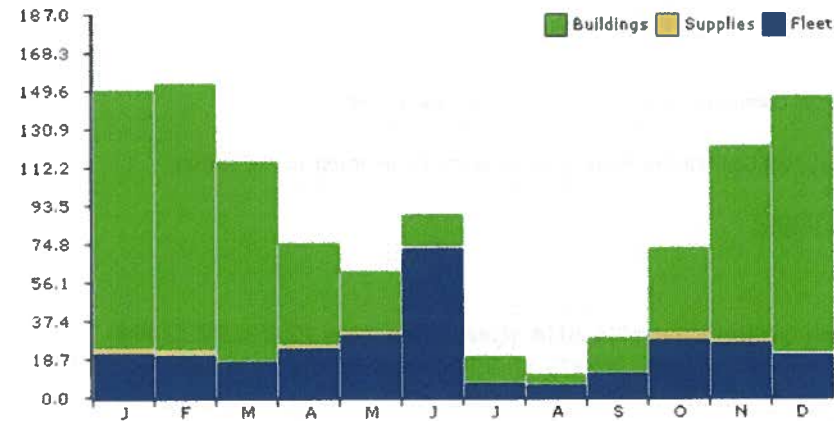
2. Estimated data has been calculated based on the methods described in the Methodology Document.

3. Reported data refers to consumption which has been directly billed to the organization.

4. The tCO₂e value from the "Total for Offsets" line represents the quantity of offset purchases required to become carbon neutral.

Total Emissions Calendar Year 2014 School District 78 - Fraser - Cascade

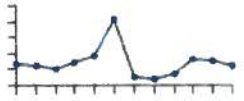
Metric tonnes
CO₂ equivalent (tCO₂e)



Click on the bars to view data for each month

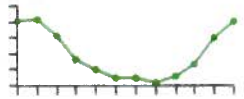
Fleet

GHG Emissions
(Metric Tonnes CO₂e)



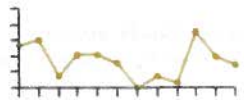
Buildings

GHG Emissions
(Metric Tonnes CO₂e)

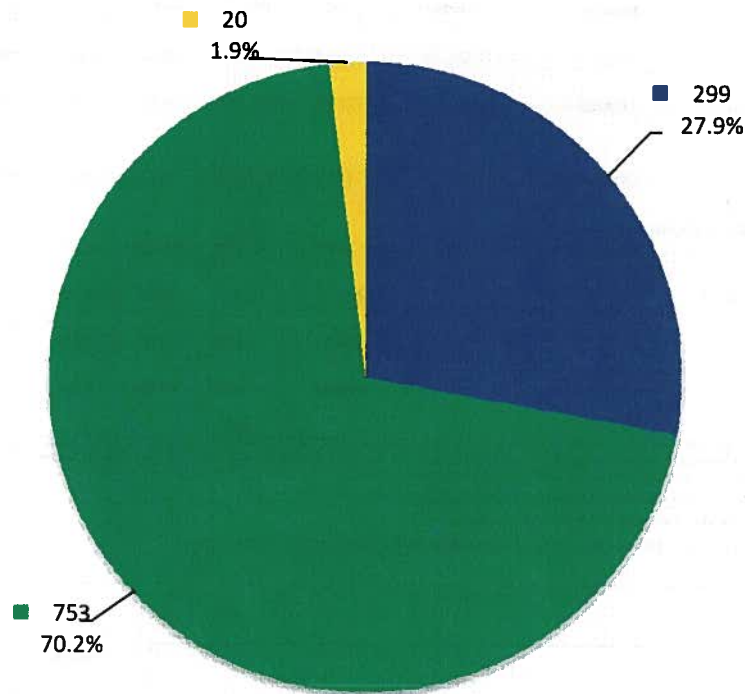


Supplies

GHG Emissions
(Metric Tonnes CO₂e)



School District 78 - Fraser - Cascade Greenhouse Gas Emissions by Source for the 2014 Calendar Year (tCO₂e*)



Total Emissions: 1,072

- 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 May 12, 2015 2:11 PM)

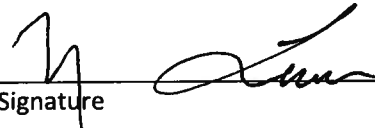
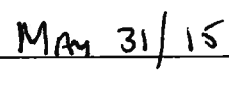
Total offsets required: **823**. Total offset investment: **\$20,575**. Emissions which do not require offsets: **249 ****

*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.

2014 CARBON NEUTRAL ACTION REPORT

School District No. 78 GHG Emissions and Offsets for 2014 (TCO2E)	
GHG Emissions created in calendar year 2014 (from SMARTTool Homepage)	
Total Emissions	1072
Total Emissions for Offsets	823
Adjustments to GHG Emissions Reported in Previous Years (from SMARTTool Homepage)	
Total Emissions	17
Total Emissions for Offsets	16
Credit owing from PCT at end of 2013 reporting year (if applicable – from May 15 Invoice):	
Credit Owing	0
Total Emissions for Offsets for the 2013 Reporting Year (from Offset Invoice):	839

<div style="text-align: center; margin-bottom: 10px;">  </div> <div style="display: flex; justify-content: space-between;"> Signature Date </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> Narmie Lowe SEC. TREASURER </div> <div style="display: flex; justify-content: space-between;"> Name (please print) Title </div>	<div style="text-align: center; margin-bottom: 10px;">  </div> <div style="display: flex; justify-content: space-between;"> Date </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> SEC. TREASURER </div> <div style="display: flex; justify-content: space-between;"> Title </div>
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Signature Karen Nelson Date May 26, 2015
 Name (please print) Karen Nelson Title Superintendent of Schools

2014 Carbon Neutral Action Report (CNAR)

- Part 2 ACTIONS

Organization Name

School District No. 78 (Fraser Cascade)

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:

The District, due to declining enrollment and the need for a seismic upgrade closed a school which will have a positive impact on our energy consumption. We are taking the lights from that school - T-8s and moving them to Hope Secondary School which are currently T-12. the gym lights from CE Barry are 6 lamp T-5's will be going to Coquihalla Elementary to replace the high output T-12's/

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

Yes

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

We are continuing to encourage car pooling whenever possible.

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:

Continuing to try to encourage people to use their portable devices for agendas and minutes rather than a hard copy.

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Actions Taken to Reduce Emissions - continued

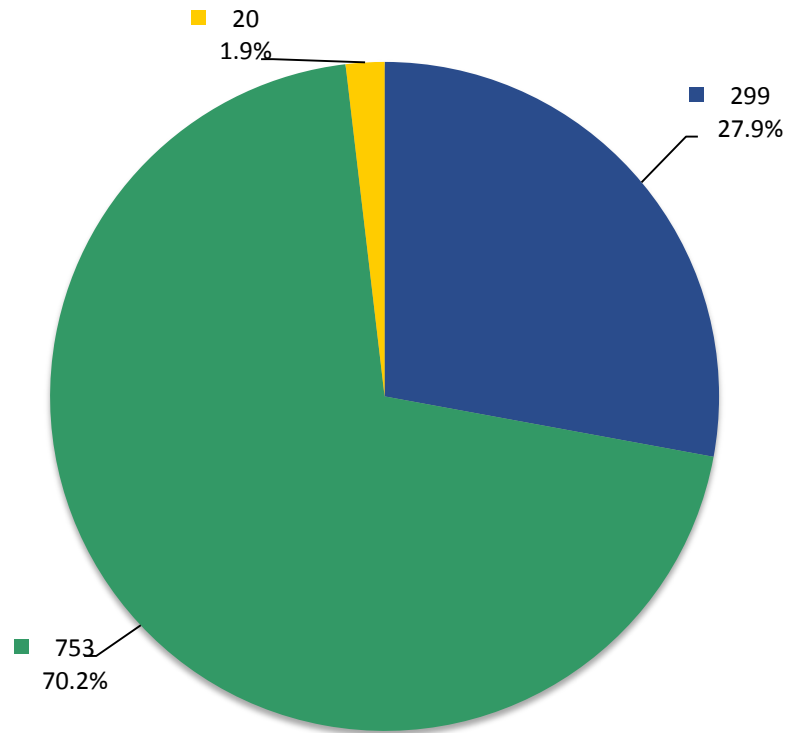
Explain how you plan to continue minimizing emissions in 2015 and future years:

The District plans on finishing the lighting upgrade at Hope Secondary School including installation of motion sensors. We will finish replacing all high pressure sodium wall packs with LED lights and putting fewer in. We also plan on testing the dark campus by piloting it at one school to see the results. In addition, we are looking at replacing some of our aging roof top units with more energy efficient units at Kent Elementary School. We are also putting DDC system in place at Kent Elementary School this summer.

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 78 - Fraser - Cascade
Greenhouse Gas Emissions by Source
for the 2014 Calendar Year (tCO₂e*)**



Total Emissions: 1,072

- 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 3:32 PM)

Total offsets required: **823**. Total offset investment: \$**20,575**. Emissions which do not require offsets: **249** **

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