



2012 CARBON NEUTRAL ACTION REPORT

School District No. 78 (Fraser Cascade)

Natalie Lowe-Zucchet, CA

Secretary-Treasurer

650 Kawkawa Lake Road

Hope, BC V0X 1L4

March 31, 2013

Executive Summary

On behalf of School District No. 78 (Fraser Cascade), we are pleased to submit the 2012 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 facility upgrades and employee and student training to continue to raise awareness of the importance of sustainability.



Natalie Lowe-Zucchet, C.A.
Secretary Treasurer

Overviews

Actions Taken to Reduce Greenhouse Gas Emissions in 2012

In 2012 School District No. 78 (Fraser-Cascade) has continued with efforts to reduce our carbon footprint through education, retro-fitting facilities and professional development. The agreement that the District entered into with BC Hydro and 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 in class” practices to managing energy and incorporating them as part of the District’s business structure, just like other corporate programs such as safety programs and financial controls.

We underwent our first energy management assessment in April 2012 as the first step toward improving our District’s energy management practices and achieving power savings. Since then, we have been regularly assessing our energy management performance so that we can develop action plans to guide improvement and monitor our progress.

In addition to this, the District is once again participating in Destination Conservation at the elementary school level. Students have been very receptive of the initiative and are raising the awareness of conservation at the school level. One school has entered a video into the BC Green Games through Science World.

Through the Destination Conservation program, the District hosted a professional development day for custodians to provide awareness on how they can assist with our energy management efforts. This was a very informative day for all.

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Once again we provided education to our bus drivers, on bus driving technologies to both reduce emissions and improve the performance of our buses. This is now an annual event to maintain the awareness and remind people of good practice.

In 2012, as part of our annual facility maintenance the District upgraded the gymnasiums at Agassiz Elementary-Secondary School and Harrison Hot Springs Elementary School. There were also some lighting upgrades at Kent Elementary School to new, brighter, high-efficiency lighting. We plan on finishing the rest of the lighting upgrades in the next year.



Destination Conservation Team, Agassiz, BC

The District has made further strides in going paperless. 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.

Plans to Continue Reducing Greenhouse Gas Emissions 2013 – 2015

The School District is continuing with its organizational commitment to and practice of sustainability. We will continue with the Destination Conservation initiative, concentrating on our curriculum, and continue with our facility upgrades to reduce our energy and water consumption. Energy management through continuous 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.

In 2013 the District was successful in obtaining funding through the Carbon Neutral Capital Program to complete the lighting upgrades at Agassiz Elementary-Secondary School. This work will be undertaken in the summer of 2013. We also want to undertake a lighting upgrade at Boston Bar Elementary-Secondary to remove the rest of the T-12 technology and take advantage of the BC Hydro rebates that are still available.

We included replacement of our oldest and least efficient heating system to our minor capital plan and hope to obtain funding for an upgrade to a greener more energy efficient heating system. The replacements have been ranked as High priority by the Ministry of Education. We will likely undertake the replacement of one boiler that is nearing the end of its useful life either in the summer of 2013 or 2014 that wasn't included in our capital plan.

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 2012. The District will be sharing this information with our partner groups to work on education and hopefully come up with new sustainable practices that will be embraced by all.

Offsets Applied to Become Carbon Neutral in 2012

The School District's total emissions for the 2012 calendar year are 1154 tonnes of CO_{2e}.

As required by Section 5 of the Carbon Neutral Regulation, 198 tonnes of CO_{2e} emissions resulting from the operation of school buses were reported as part of our greenhouse gas emissions profile in 2012. However, they were not offset as they are out-of-scope under Section 4(2)c of the Carbon Neutral Regulation.

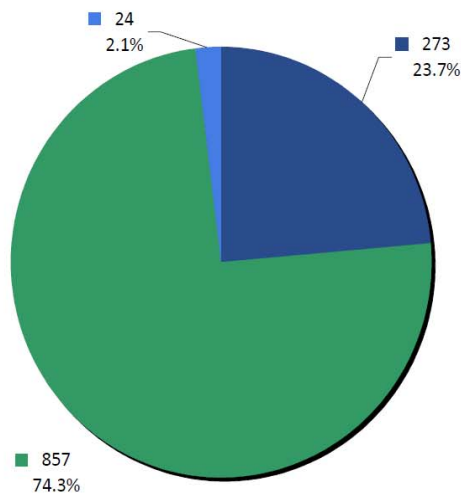
The resulting payment to the Pacific Carbon Trust for 2012 amounted to \$23,900 plus GST.

Changes to Greenhouse Gas Emissions and Offsets Reporting from Previous Years

Following the public release of School District No. 78's 2011 Carbon Neutral Action Report, it was determined that the total emissions for 2011 calendar year were under-reported by 1 tonne of CO₂e and offsets required to become carbon neutral in 2011 were under-reported by 1 tonne of CO₂e.

The difference in offsets required has been purchased and applied against our 2012 emissions.

**School District 78 - Fraser - Cascade
Greenhouse Gas Emissions by Source
for the 2012 Calendar Year (tCO₂e*)**



Total Emissions: 1,154

- 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 2012 (Generated March 27, 2013 12:51 PM)

Total offsets required: 956. Total offset investment: \$23,900. Emissions which do not require offsets: 198 **

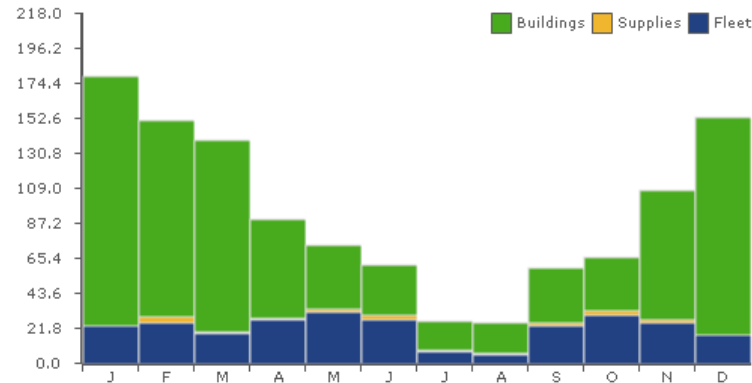
*Tonnes of carbon dioxide equivalent (tCO₂e) is a standard unit of measure in which all types of greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.

** 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.

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Total Emissions Calendar Year 2012 School District 78 - Fraser - Cascade

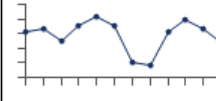
Metric tonnes
CO₂ equivalent (tCO₂e)



Click on the bars to view data for each month

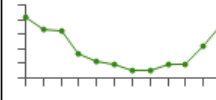
Fleet

GHG Emissions
(Metric Tonnes CO₂e)



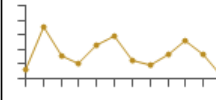
Buildings

GHG Emissions
(Metric Tonnes CO₂e)



Supplies

GHG Emissions
(Metric Tonnes CO₂e)



Totals Calendar Year 2012, 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	103,069.33	254.66	9.56	0.01	0.03	273.06
Stationary Combustion, Reported ³	GigaJoules	15,770.84	802.35	0.00	0.02	0.02	808.81
Scope 2 (Indirect) Emissions							
Purchased Energy, Reported ³	GigaJoules	7,054.75	48.68	0.00	0.00	0.00	48.68
Scope 3 (Business Travel and Office Paper) Emissions							
Office Paper	Packages	4,126.00	23.63	0.00	0.00	0.00	23.63
Total Emissions, Calendar Year 2012			1,129.32	9.56	0.03	0.05	1,154
Carbon Neutral or Offset Exempt			184.78	9.56	0.01	0.01	198
Total for Offsets⁴			944.54	0.00	0.02	0.04	956

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 21, and nitrous oxide (N₂O) is 310. 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. Report the tCO₂e value from the "Total for Offsets" line, to the Pacific Carbon Trust.

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Actions Towards Carbon Neutrality

The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the Greenhouse Gas Reduction Targets Act.

Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Mobile Fuel Combustion (Fleet and other)					
Behaviour change program					
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	The district provides annual training to new drivers and reminds our experienced drivers about proper driving techniques to avoid idling and warming vehicles too long.	Education will be on-going.	2009	No End Date (Continuous)
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Ongoing/In Progress	We have checked to ensure our anti-idling signs are still erect at all schools reminding motorists to turn off vehicles when not in use. We also explain how long buses need to run prior to leaving the yard.	Will continue with bus driver pro-d.	2009	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress	This is not easily accomplished as we are a small dispersed district. We have had much more car-pooling amongst trustees and to conferences, it is encouraged.	Will continue to encourage car-pooling when feasible.	2008	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Ongoing/In Progress	Bussing to the city is encouraged as is car-pooling to meetings and conferences.	Will continue to promote car-pooling when feasible.	2008	No End Date (Continuous)
Vehicle fuel efficiency					
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	We replaced on small Aveo with a Vibe. This is a vehicle for our technology department.	We are considering a small car purchase for the Board office staff to reduce fuel consumption of privately used vehicles.	2008	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	We purchased a small bobcat for snow removal so that we could be self sufficient in meeting our snow removal needs, which is actually an increase in our overall fleet. We saw this as a requirement as we were relying on outside agencies which wasn't working.	As leases come due we will determine whether to move to a smaller van size as we have done in past to become more fuel efficient.	2008	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	All vehicles are maintained on a bi-weekly basis in-house.	Will continue with this bi-weekly inspection practice. We will also continue to send out one vehicle for inspection to ensure our standards are sufficient.	2008	No End Date (Continuous)
Stationary Fuel Combustion, Electricity					
Behaviour change program					
Help staff reduce personal energy use through ""workstation tune-ups""	Ongoing/In Progress	we are moving to smaller more energy efficient hard drives with every upgrade	will continue retro-fitting with smaller hard driers as we replace them	2008	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress	Sent out requests from the Board office to remind staff to turn off equipment when not in use and unplug chargers.	Continue to educate in power consumption using our energy manager. Providing financial incentives for schools doing Destination Conservation.	2008	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress	Continue to encourage this behaviou	Continue to encourage staff to turn off equipment when not in use	2008	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress	Custodians asked to ensur blinds are closed at days end	Will continue to eduate staff on importance of using blinds	2008	No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	Ongoing/In Progress	Staff are encouraged to check setting before running	Will continue to educate staff on importance	2011	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Ongoing/In Progress	Continuing to review when to turn heat down at end of day. Had schools checked for "darkness" at night to ensure most lights are off	Will look at a black campus in future through our operations committee.	2011	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress	Schools have put signs up to remind people to turn lights off. The teachers have also encouraged students to make sure room is dark when they leave.	planning on installing sensors to some areas - particularly gyms to automatically turn lights off. This will begin at AESS.	2008	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress	Have turned down water heater settings. We reviewed water loss at BBESS and have made adjustments to reduce all water consumption there.	Plumber will continue to monitor leaks to ensure no unnecessary water loss.	2009	No End Date (Continuous)
IT power management					

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	Had Blue Curl do a Green IT energy study for the District	Will begin by implementing some of their recommendations particularly around ensuring appropriate software is in place to power down labs.	2008	No End Date (Continuous)
Implement server virtualization	Not Yet Evaluated				No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress	ensure that all new equipment is set to power down when not in use	Maintenance staff continues to check that this is happening	2008	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices as part of a print management strategy	Ongoing/In Progress	Xerox is working with the District to track all our stand-alone devices and assist in ridding the District of expensive and inefficient equipment.	Will continue to work with Xerox on this initiative	2011	No End Date (Continuous)
Apply auto-sleep settings on printers, fax machines, and/or multi-function devices	Ongoing/In Progress	all on econo mode setting	Maintenance staff continues to check this is happening. Our destination conservation team also monitors this	2010	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	Each school is responsible for their own equipment purchases and have been moving from the lab setting to more energy efficient lap tops and ipads.	Will continue to encourage purchase of more energy efficient equipment.	2008	No End Date (Continuous)
Owned buildings					
Establish energy performance baseline for owned buildings	Ongoing/In Progress	Have continued our partnership with SD 33 to share an energy manager through BC Hydro who is monitoring our performance and establishing our baselines. Have established and undertaken some energy retro-fits.	will continue to identify projects to cut energy consumption	2011	No End Date (Continuous)
Register for performance labelling/certification for operations and maintenance of owned buildings (e.g., LEED EB:O&M)	Not Yet Evaluated				No End Date (Continuous)
Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI)	Not Yet Evaluated				No End Date (Continuous)
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	Did lighting upgrades in three gyms and changed out ballasts and bulbs in Kent elementary school.	We received funing from the capital program to upgrade Agassiz Elementary Secondary school electrical infrastructure and will be getting rid of the end of the rest of our T-12 technology which remains at Boston Bar Elementary/Secondary School	2011	No End Date (Continuous)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Ongoing/In Progress	Replaced one old fridge with an energy star model.	Will continue to only purchase energy star appliances as we replace equipment.	2008	No End Date (Continuous)
Planning/management					
Reduce office space (square meters) per employee	Ongoing/In Progress	We moved our maintenance shop into a smaller facility and put our old larger shop on the market	Plan on selling old maintenance shop and potentially sell old McCaffery school building and site.	2008	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Not Yet Evaluated				No End Date (Continuous)
Retrofit details for owned buildings					
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	included two upgrades which were rated as high priority by the MOE in our capital plan	Will replace the boiler at Boston Bar Elementary/Secondary School in 2013 with a new model	2008	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	upgrades three gyms with new lighting and replaced all ballasts and lights in hallway and primary classrooms at Kent Elementary	Upgrade of all lighting at Agassiz Elementary/Secondary School using capital money from the Carbon Neutral funds. Upgrade rest of Boston Bar removing the rest of the T-12 lighting there.	2008	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	upgraded the DDC system at Agassiz elementary Secondary School.	no further plans currently	2008	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	Replaced half the windows at Boston Bar Elementary Secondary with energy efficient windows	Will replace rest of windows at Boston Bar Elementary Secondary School in 2013	2008	No End Date (Continuous)

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Supplies (Paper)					
Behaviour change program					
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development	Are using drop box to coordinate TOC call-outs.	will continue to train staff on some educational tools for special needs students.	2010	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress	Sending out our meeting agendas electronically only. Providing only one or two paper copies per meeting now.	Will continue to encourage people to come with computer or show information digitally.	2009	No End Date (Continuous)
Electronic media in place of paper					
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress	We are using Google calendar to provide all agenda information. We use SharePoint for data sharing for Special ed. We are using doodle and drop box for TOC call-outs.	Continue to train staff on some educational tools for special needs students.	2011	No End Date (Continuous)
Use electronic document library for filing common documents	Not Yet Evaluated				No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Completed (in Previous Year)				No End Date (Continuous)
Paper Type					
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	69% 8.5x11 was 30% recycled content 100% of 8.5x14 was 30% recycled content 89% of 11x17 was 30% recycled content	continue with this trend even though it is more expensive	2008	No End Date (Continuous)
Purchase 40% post-consumer recycled paper	Ongoing/In Progress	31% of 8.5x11 is 50% recycled 11% of 11x17 is 50% recycled	will continue to encourage higher recycled content paper useage.	2011	No End Date (Continuous)
Printer/document settings					
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	all new photocopiers have double sided copying engaged	all new photocopiers have double sided copying engaged.	2010	No End Date (Continuous)