



2011 CARBON NEUTRAL ACTION REPORT

School District No. 78 (Fraser Cascade)

Natalie Lowe-Zucchet, CA

Secretary-Treasurer

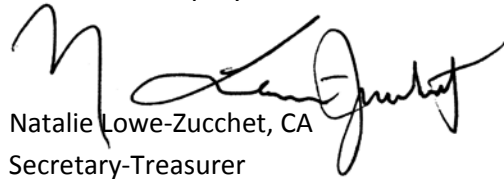
650 Kawkawa Lake Road

Hope, BC V0X 1L4

March 31, 2012

Executive Summary

School District No. 78 (Fraser Cascade) 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 with initiatives both at a facility level and at the employee and student level with further awareness training.



Natalie Lowe-Zucchet, CA
Secretary-Treasurer

Overviews

Actions Taken to Reduce Greenhouse Gas Emissions in 2011

In 2011, School District No. 78 (Fraser-Cascade) entered into an agreement with BC Hydro and our neighbour district, School District No. 33 (Chilliwack), to share an energy manager and professional expertise. This means that the Board will be adopting a continuous improvement approach to energy management.

With this approach, energy management moves beyond the traditional technical audit and integrates “best in class” practices to managing energy—becoming incorporated as part of the district’s business structure, just like other corporate programs such as safety programs and financial controls.

By adopting a continuous improvement approach, we can achieve significant and sustainable savings in energy use and cost. We will use an energy management assessment as the first step toward improving our district’s energy management practices and achieving these savings. It will involve regularly assessing our energy management performance so that we can develop action plans to guide improvement and monitor our progress.

The District has an Energy Management Assessment (EMA) scheduled for April 10, 2012 to begin the process. The EMA diagnostic workshop will bring together senior management from across the organization. This is a strategic management process review that will lay the groundwork for the energy plan.

In addition to this new initiative we once again we have also provided education to our bus drivers, on bus driving technologies to both reduce emissions and improve the performance of our buses. We are making this an annual event to maintain the awareness of these important changes.

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Last year the District purchased aerators for all of our faucets which have now (in the current year) been fully installed. We also purchased new water saving toilets to replace some of our older units in two of our washroom upgrades. As we continue to renovate we will continue to replace our older fixtures with new water saving devices.

In 2011, as part of our annual facility maintenance the District upgraded the inefficient gymnasium and hallway lighting at CE Barry Intermediate School to new, brighter, high-efficiency lighting. Emergency Exit lights were also improved at Coquihalla Elementary School with new, low-maintenance, LED Exit lights.

Last year, through our application to PSECA we were successful in having a solar wall at Agassiz Elementary-Secondary School approved. This work was completed in 2011 and will now start heating the gym and reduce our natural gas consumption by approximately 2,000 Gigajoules per year.



Solar Wall at Agassiz Elementary-Secondary School, Agassiz, BC

The District is in the process of replacing our maintenance shop. With this replacement, we are ensuring that we consider green alternatives in our build. We are hopeful that these upgrades will improve our operating efficiency.

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.

Finally, also of note is some work in the curricular area. We have a group from our school district and the broader community who are exploring a community garden on our property – an old school site, to teach sustainable farming methods and how to grow your own food.

Plans to Continue Reducing Greenhouse Gas Emissions 2012 – 2014

The School District is continuing with its organizational commitment to and practice of sustainability. The areas we are concentrating on are our curriculum, operations, staff development and capital projects. Energy management and energy efficiency are key elements 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, specifically, will be setting aside funding to implement the energy management plan.

We added 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. Over the next few years we will come up with a further plan for the rest of our heating systems.

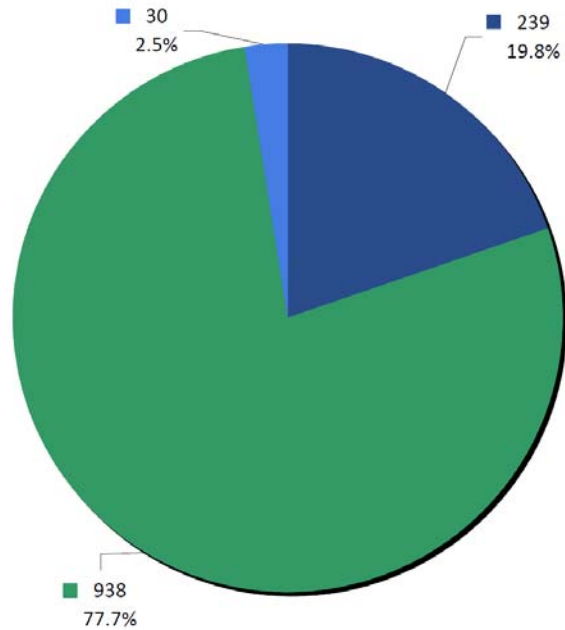
The District will be a key contributor in leading through teaching our students about the importance of environmental sustainability and resource management. These efforts will be enhanced by adding professional development sessions on sustainability to our District Professional Development day.

We have seen an increase in the total offsets we are required to purchase in 2011. 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 2011

As required by Section 5 of the Carbon Neutral Regulation, 176 tonnes of CO_{2e} emissions resulting from the operation of school buses were reported as part of our greenhouse gas emissions profile in 2011. However, they were not offset as they are out-of-scope under Section 4(2)c of the Carbon Neutral Regulation.

School District 78 - Fraser - Cascade Greenhouse Gas Emissions by Source for the 2011 Calendar Year (tCO₂e*)



Total Emissions: 1,207

- 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 2011 (Generated March 29, 2012 12:34 PM)

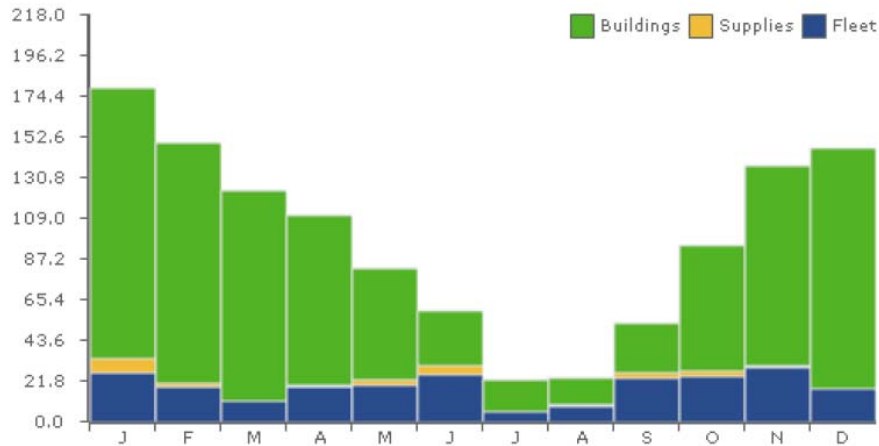
Total offsets required: **1,031**. Total offset investment: **\$25,775**. Emissions which do not require offsets: **176** **

*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.

Total Emissions Calendar Year 2011 School District 78 - Fraser - Cascade

Metric tonnes
CO2 equivalent (tCO2e)



Click on the bars to view data for each month

Totals Calendar Year 2011, School District 78 - Fraser - Cascade

	Measure	Quantity	Greenhouse Gases in Tonnes				tCO2e ¹
			CO ₂	BioCO ₂	CH ₄	N ₂ O	
Scope 1 (Direct) Emissions							
Mobile Combustion (Fleet)	Litres	90,385.79	222.74	8.35	0.01	0.02	238.75
Stationary Combustion, Reported ³	GigaJoules	17,271.85	878.01	0.00	0.02	0.02	885.00
Scope 2 (Indirect) Emissions							
Purchased Energy, Reported ³	GigaJoules	7,728.10	53.32	0.00	0.00	0.00	53.32
Scope 3 (Business Travel and Office Paper) Emissions							
Office Paper	Packages	4,581.00	30.26	0.00	0.00	0.00	30.26
Total Emissions, Calendar Year 2011			1,184.32	8.35	0.03	0.05	1,207
Carbon Neutral or Offset Exempt			164.65	8.35	0.01	0.01	176
Total for Offsets⁴			1,019.68	0.00	0.02	0.04	1,031

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 (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Mobile Fuel Combustion (Fleet and other mobile equipment)							
Vehicle fuel efficiency							
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	20	% of vehicles are fuel- efficient models	Replaced a leased vehicle with a smaller leased car	As leases come up will replace larger vans with smaller vans and cars where appropriate	2006	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	15	% of vehicles down-sized since start year indicated	new small car leased for IT department in place of older vehicle	As leases come up will replace larger vans with smaller vans and cars where appropriate	2007	No End Date (Continuous)
Perform regular fleet maintenance specifically to improve fuel-efficiency	Ongoing/In Progress	100	% of vehicles are subject to regular maintenance for fuel efficiency	All vehicles are maintained on a bi-weekly basis in-house	Will continue with this practice. We will also continue to send out one vehicle for inspection to ensure our standards are sufficient	1995	No End Date (Continuous)
Replace small maintenance vehicles with more fuel-efficient models	Ongoing/In Progress	20	% of small maintenance vehicles are fuel-efficient	none	As we replace maintenance vans will look at more fuel efficient options based on operational needs	2006	No End Date (Continuous)
Behaviour change program							
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	100	% of current drivers are trained	Annual provision of training to provide information to new drivers and remind experienced drivers about proper driving techniques to avoid idling and warming vehicles up for 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			Pro-d for our drivers annually	Education will be on-going	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	Will continue to promote car-pooling when feasible.	2006	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Ongoing/In Progress			Busing to the city encouraged as is car-pooling to meetings	Will continue to promote car-pooling when feasible.	2006	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							
Owned buildings							
Establish energy performance baseline for owned buildings	In Development			Have partnered with SD 33 to share an energy manager through BC Hydro	Will identify projects to cut energy consumption	2011	No End Date (Continuous)
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	20	% of owned buildings have undergone energy retrofits since start year indicated	New solar wall installed at AES. New control panel installed at BBES.	Will have our energy manager review what upgrades may be required and put a plan together to address the upgrades	2011	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	In Development	0	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	No new installations other than one solar wall. Applied for other PSECA funds but none forthcoming	Will include upgrades in our capital plan	2011	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress			Have been changing out fixtures on an annual basis	Will continue with our lighting upgrades. Have hired consultants to review what work needs to take place	2006	No End Date (Continuous)

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Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Upgrade/adjust control systems during retrofits	In Development	10	% of retrofits since start year indicated had control system upgrades or adjustments	due to power surge old equipment had to be replaced at BBES	New controls will be evaluated as upgrades to HVAC systems contemplated	2006	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress			Scheduled upgrade for 2012 for BBES	Planning on replacing old single pane windows at BBES in 2012	2007	No End Date (Continuous)
Install an on-site renewable energy demonstration project	Ongoing/In Progress			AESS solar wall funded by PSECA	will continue to apply for projects that use renewable energy	2011	No End Date (Continuous)
IT power management							
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	100	% of computers shut down automatically outside of regular business hours	Two new labs had software installed	As we upgrade our labs we will continue to install the software	2007	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress	70	% of computers have auto-sleep settings applied	With new labs they are set to shut down at 4:00 p.m.	will continue to upgrade as labs updated	2006	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress	30	% reduction in printers, copiers, and/or fax machines since start year indicated	We will be using Xerox to analyze our use of stand-alone equipment to try and reduce use of stand-alone printers. They are scheduled to meet with our technology committee to move forward. Connecting students to copier now	We will be using Xerox to analyze our use of stand-alone equipment to try and reduce use of stand-alone printers. They are scheduled to meet with our technology committee to move forward	2007	No End Date (Continuous)
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	Ongoing/In Progress	100	% of devices have auto-sleep settings applied	all on econo mode	Maintenance staff continues to check this is happening	2010	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	80	% of computers are ENERGY STAR rated	two new labs replacing less energy efficient technology	Will continue to eliminate higher energy equipment as we make upgrades	2008	No End Date (Continuous)
Appliances and electronic devices							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	95	% of fridges are ENERGY STAR rated	purchased three new energy star fridges to replace non-energy star rated ones	will continue to only purchase low energy models	2008	No End Date (Continuous)
Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress			Encouraging replacement of old equipment with energy rated equipment	will continue to purchase energy rated models	2008	No End Date (Continuous)
Replace desk lamp incandescent bulbs with compact fluorescent (CFL) bulbs or source more efficient desk lamps for future purchases	Ongoing/In Progress			none	buy compact fluorescent bulbs	2010	No End Date (Continuous)
Behaviour change program							
Help staff reduce personal energy use through "workstation tune-ups"	Ongoing/In Progress	75	% of current staff have completed a workstation tune-up	Replacing large harddrives with the smaller more energy efficient hard drives.	will continue retro-fitting with smaller hard drives as we replace them	2005	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 Board office to remind staff to trun off equipment when not in use.	Continue to educate in power consumption using our energy manager. Look at financial incentives for power saved	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 ensure blinds are closed at days end	Will continue to educate staff on importance	2011	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)

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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 for follow-up	Will look at a black campus in future through our operations committee	2008	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.	Will look at sensors fro some areas to automatically trun lights out.	2005	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress			Turned down water heater setting	Plumber will continue to monitro leaks to ensure no unnecessary water loss	2006	No End Date (Continuous)
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	35	% of total paper purchased contains 30% recycled content	Raised awareness of use of recycled paper. Stumbling block is cost	Will continue to encourage people to buy recycled paper	2003	No End Date (Continuous)
Purchase 40% post-consumer recycled paper	In Development	4	% of total paper purchased contains 40% recycled content	None	This is an expensive option therefore is not undertaken to a large degree yet	2011	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	In Development	1	% of total paper purchased contains 100% recycled content	None	This is an expensive option therefore is not undertaken to a large degree yet	2011	No End Date (Continuous)
Printer/document settings							
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	50	% of network printers or photocopiers are set to automatic double-sided	all new photocopiers have double sided copying engaged	all new photocopiers have double sided copying engaged	2010	No End Date (Continuous)
Apply "print and hold" settings to networked printers to eliminate unclaimed print jobs	In Development	0	% of network printers have 'print and hold' settings applied		Have asked clerical staff to review this.	2011	No End Date (Continuous)
Reduce default margin size in standard document templates (e.g., letters, briefing notes, forms, etc.)	In Development				Have asked clerical staff to review this.	2011	No End Date (Continuous)
Electronic media in place of paper							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development	5	% of staff workstations with software installed	Are using doodle and drop box for TOC call-outs.	Continue to train staff on some educational tools for special needs students.	2010	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress			using twitter and blogs more and more. Moving toward posting all agendas on Google calendar. More apps being used to provide info to the public	Part of strategic plan to increase on-line communication	2010	No End Date (Continuous)
Behaviour change program							
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development	5	% of staff currently have received collaborative software training		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			Send our all meeting agendas electronically. Providing only one or two paper copies per meeting now	Will continue to encourage people to come with computer or show information on screen.	2009	No End Date (Continuous)

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Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)	Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Encourage re-use of scrap paper	Ongoing/In Progress		Continuing to happen	Will encourage recycling and cutting down on waste	2006	No End Date (Continuous)