

2011
CARBON NEUTRAL
ACTION REPORT



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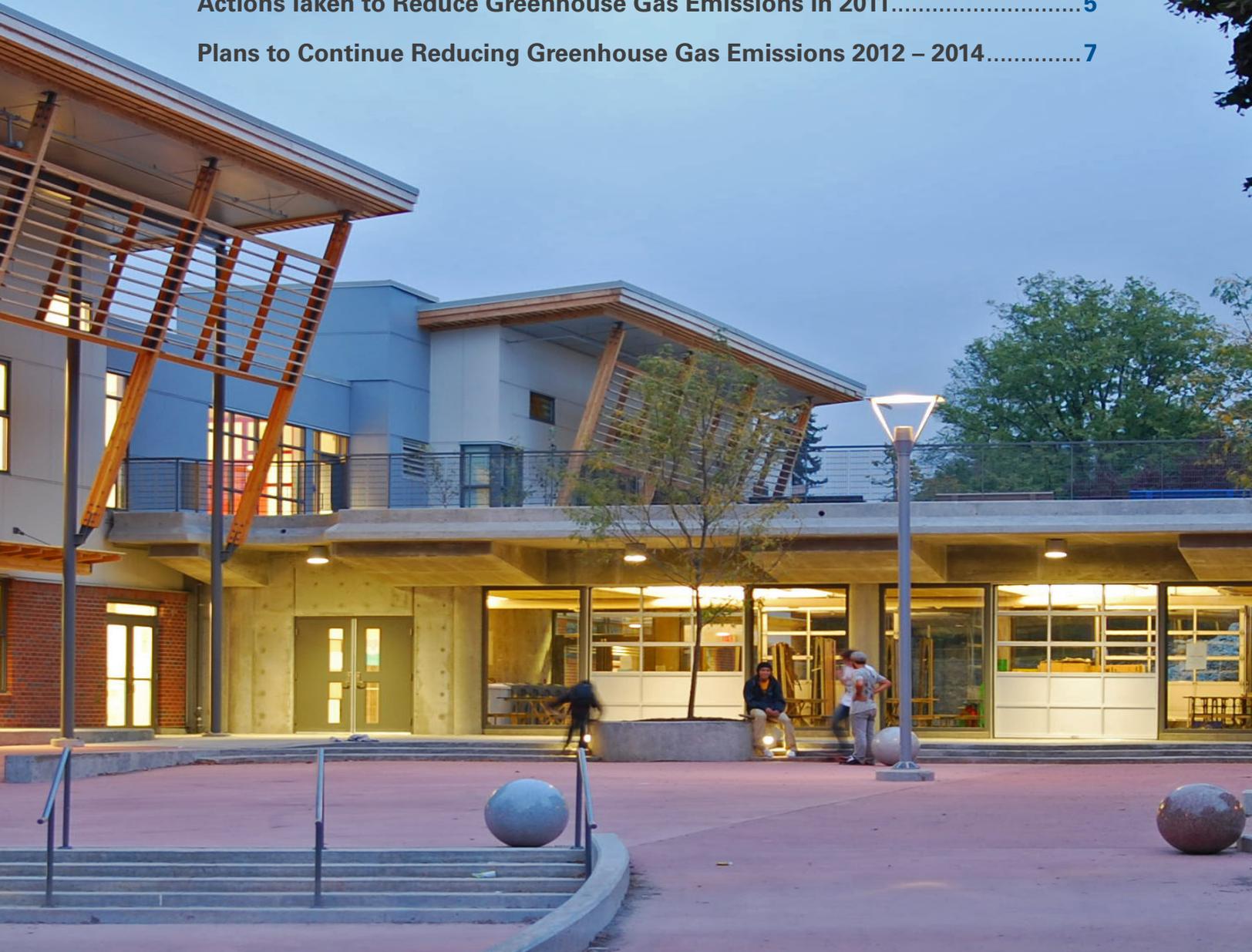
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Executive Summary

The **Vancouver School District (SD39)** is proud to present its **2011 Carbon Neutral Action Report**. Our actions toward the Carbon Neutral commitment and other efforts to reduce our overall environmental and societal impact, including opportunities created for students and staff to participate in advancing sustainability has surpassed our efforts from the previous year in scope, breadth and number of programs delivered.

The report highlights actions such as a district-wide review of our heating plants which contribute significantly to our carbon footprint. Going forward this information will inform decision making with respect to opportunities for integrating low carbon technologies and renewable energy systems into our school district. In 2011 we also completed lighting system upgrades at three secondary and three elementary schools which contributed toward our Top-10 BC Hydro ranking of Power Smart customers in the Province; began installations of two solar energy systems; we developed pilot programs to test innovative nano-technology based carbon reduction technologies; continued with the improvement of fleet vehicles and power equipment efficiency, including GPS based anti-idling alarms and the use of ethanol blended gasoline in addition to bio-diesel; the removal of old copiers and fax machines and their replacement with networked multi-function machines and we more than tripled the recycled paper content in our paper use.

In terms of education, awareness and behavioural change we have launched an online 'green board' or portal to communicate and share successes and raise awareness of the various sustainability activities across the school district. In order to encourage a modal shift from personal vehicles to public transport an incentive based pilot program was launched in the district office which resulted in 12 staff members switching from automobiles to public transportation. We also had students from eight secondary schools attend a Sustainability Conference during the opening of the greenest building in North America (Centre for Interactive Research on Sustainability – CIRS) where students had an opportunity to learn from some of the leading sustainability researchers about green buildings and renewable energy technologies and to get a glimpse into the opportunities that may arise for them in BC's 'green economy'.

Looking into 2012 and beyond, we are considering implications of the school district heating plant review and opportunities to reduce our largest source of carbon footprint (natural gas for heating), and continue construction of high-performance buildings and our school lighting upgrade program. In 2012 we will be moving to an electronic payroll notification system avoiding 10,000 paystubs bi-weekly, and saving 4,000 printed copies by taking our Ready Reference Manual online. We are currently exploring opportunities to pilot a car-sharing program and continue expanding the existing pilot program to encourage staff to consider switching from automobiles to public transport. We also intend on exploring partnership opportunities with urban farmers to grow food on our land and develop a pilot program to divert organic material from the waste stream.

As demonstrated above the Vancouver School District continues to integrate energy, carbon reduction and sustainability initiatives into our district operations and we strive to improve on this next year. Through our ongoing efforts we expect to continue fostering an environment of environmental awareness, social responsibility and overall sustainability while enhancing the learning and working environment for our students and staff.



Steve Cardwell
Superintendent/CEO

2011 Greenhouse Gas Emissions

The total Greenhouse Gas (GHG) Emissions for the Vancouver School District for calendar year 2011, for all sources covered under the Greenhouse Gas Reduction Targets Act (GGRTA), is approximately 18,354 tonnes of carbon dioxide equivalent (tCO₂e).

It was estimated that fugitive emissions from stationary cooling comprises less than 1% of the Vancouver School District's total emissions, and the ongoing effort to collect or estimate emissions from this source annually is disproportionately onerous. Thus, these emissions meet both the requirement to be below 1% of the Vancouver School District's total emissions and the requirement to be onerous to collect. For this reason, emissions from this source have been deemed out-of-scope and are not included in the Vancouver School District's total greenhouse gas emissions profile or offset purchase.



Offsets applied to become Carbon Neutral in 2011

The Vancouver School District will submit payment to purchase Carbon Offsets from the Pacific Carbon Trust (PCT), for the 18,354 tCO₂e emissions. This excludes 18.14 tCO₂e from bio-diesel consumption in our fleet vehicles due to its inherent carbon neutrality. The carbon dioxide emissions resulting from the combustion of biogenic fuel sources require reporting but do not require offsets, as per the *Methodology for Reporting B.C. Public Sector Greenhouse Gas Emissions Version 2.0*. The total Carbon Offsets purchase for 2011 is valued at \$458,850, excluding HST.



Changes to Greenhouse Gas Emissions and Offsets Reporting from Previous Years

As a result of adjustments and corrections of utility data received through utility bills after the final offset calculations for calendar 2010, SD39 emissions were determined to be understated by 84 tCO₂e.

Emission Reduction Activities

Actions Taken to Reduce Greenhouse Gas Emissions in 2011

- Commissioned and completed a review of heating plants across the entire school district to inform decision making on opportunities to integrate low carbon/high efficiency heating plants and renewable energy systems.
- Completed lighting system upgrades at three secondary and three elementary schools that reduced electricity consumption by over 750,000 kWh. Lighting system upgrades began at six additional schools.
- Completed the 'Refrigerator Energy Conservation Pilot Program' at four secondary schools; the program focused on reducing any excess



- Initiated and deployed a pilot program to test the effectiveness of an innovative nano-technology based window coating and thermal-paint for walls, as a retrofit solution to reduce heat loss in buildings.
- Provided training to an additional 30 Building Operators through Natural Resources Canada's (NRCan) 'Spot the Energy Savings' program. The program focuses on how to operate our schools in a manner consistent with the school district's energy conservation and carbon reduction programs.
- The annual 'Energy Bulletin' was distributed to all building operators and custodians and administrators in the school district. This publication raises awareness of energy and carbon reduction actions taken across the school district and the role of building operators in maintaining our schools to support our carbon neutral commitment.

refrigerator capacity in our schools. With support from the school community the school district retired 23 refrigerator/freezer units and replaced 19 with high-efficiency 'Energy Star' units. The estimated district wide electricity conservation potential from refrigerators/freezers alone (~ 250,000 – 450,000 kWh/yr) is enough to effectively remove two to three elementary schools from the BC Hydro electricity-grid.



Emission Reduction Activities *continued*

Actions Taken to Reduce Greenhouse Gas Emissions in 2011

- Improved the efficiency of fleet vehicles and power equipment at the Maintenance Department; fleet efficiency was improved through the acquisition of hybrid vehicles, driver training and optimization of driving patterns and logistics. GPS units in all fleet vehicles have built-in anti-idling alarms. In addition to the 5% bio-diesel used for fleet vehicles all gasoline vehicles used 10% ethanol in fuel.
- The printing needs were surveyed at 34 schools. 37 old copiers and 9 fax machines were removed as printing was consolidated with networked multi-function print devices.
- Almost 80% of all paper consumed in 2011 in the school district had 30% or more recycled paper content. This is a marked improvement compared to just over 20% for the same figure in 2010.
- An online sustainability Portal/Green-board was developed to share and exchange information on energy, resource conservation and sustainability.
- Began solar energy system installations at two secondary schools – one solar-thermal and one solar-photovoltaic.



- Introduced an incentive based pilot program at the Board office to encourage staff to switch from personal automobiles to public transportation.
- 16 students from 7 secondary schools participated in an international conference “Accelerating Sustainability” during the opening of the Centre for Interactive Research on Sustainability (CIRS) – the greenest building in North America.





Students at VSB – CIRS Sustainability Workshop (April 2012) photographer, Ann Campbell

Plans to Continue Reducing Greenhouse Gas Emissions 2012 – 2014

- Based on the district-wide heating plant review, explore opportunities to integrate low carbon and high efficiency heating plants and renewable energy systems across the district.
- Incorporate green design features in new construction and build high-performance buildings.
- Switch over to electronic payroll notification in 2012 instead of paper pay-stubs – this will avoid printing approximately 10,000 pay-stubs every two weeks.
- Move to an electronic version of the school district’s ‘Ready Reference Manual’ – this will avoid printing approximately 4,000 copies annually.
- Develop a pilot program to divert organic material from the waste stream.
- Exploring partnerships with urban-farmers to grow food on school district land.
- Expand the pilot program to encourage more staff across the district to consider Public Transportation instead of driving to work.
- Develop and introduce a ‘car-sharing’ pilot program for employees.
- Support youth initiatives to advance Climate Action and Sustainability in the school district.

Through the above actions, behavioural change programs and education the Vancouver School Board is working toward the reduction of its overall energy and carbon footprint, as it is consistent with our long-term vision for sustainability.



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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	96	% of vehicles are fuel- efficient models	Replacement of 1995 tractor with new Tier 4 emission model; introduction of new high efficiency grass cutting equipment.	Projected Fleet Rotation replacements of older less efficient vehicles and equipment.	2002	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	12	% of vehicles down-sized since start year indicated	Introduction of Hybrid vehicles; reallocation of replaced vehicles and removing larger less efficient vehicles from fleet.	Reallocation of vehicles promoting "Right Usage" principles.	2002	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	Scheduled Preventative Maintenance Program in place. All required vehicles passed AirCare testing without adjustments or modification.	Ongoing scheduled Preventative Maintenance/Safety Inspection program in place.	Started before 1995	No End Date (Continuous)
Replace small maintenance vehicles with more fuel-efficient models	Ongoing/In Progress			Introduction of larger tractor driven equipment and reducing usage of smaller multiple units. New Tier 4 emission model grass equipment replacing older equipment.	Continue to upgrade as funding permits	2003	No End Date (Continuous)
Behaviour change program							
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	100	% of current drivers are trained	Continued training of all new drivers.	It is policy that all drivers are VSB trained before they start driving School Board vehicles.	Started before 1995	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	100	% of fleet vehicles are GPS equipped	GPS/Monitoring units in all fleet vehicles. Idling can be monitored in all GPS units. New GPS units have non-adjustable (by driver) idling alarms incorporated.	This will continue in the future.	2007	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress	45	% of Grounds Department trucks are Crew Trucks	1 additional Crew Cab style truck added to the fleet.	Utilization of Crew Cab trucks to reduce use of individual vehicle transportation.	2009	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	In Development			Utilization of Crew trucks to reduce use of personal vehicles.	Promote alternative modes of transportation to and from work.	2009	No End Date (Continuous)
Other Mobile Fuel Combustion Actions							
BioDiesel Fuel use in Fleet	Ongoing/In Progress	100	% of diesel fuelled vehicles use bio fuel	All diesel engines use 5% bio-diesel as dictated by availability at fuelling depot. Have limited use of service station supplied non-bio fuel to emergency fuelling only.	Planned Fleet rotation is to replace older gasoline burning trucks with diesel fuelled units.	2008	No End Date (Continuous)
Ethanol blended fuel use in Fleet	Ongoing/In Progress	100	% of gasoline fuelled vehicles use ethanol blend fuel	As of March 1st, 2011 the fuel depot started supplying 10% ethanol blended gasoline, which is now included in our fuel consumption.	Continue to use ethanol in gasoline.	2011	No End Date (Continuous)
Upgrade of 2 stroke power equipment	Ongoing/In Progress			As power equipments are replaced, the replacement model "MUST" be an improvement for the environment (i.e. 2 Cycle/4 stroke, Tier 4 certified).	Proposed acquisition of deisel machine mounted turbine leaf blower replacing use of multiple back-pack blowers.	2009	No End Date (Continuous)
CNG Motor Fuel	In Development			None.	Exploration of Ford Motor Co. CNG motor fuel technology.	2011	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							

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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
Planning/management							
Reduce office space (square meters) per employee	In Development			We are presently reviewing district space.	None.	2010	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress			Installed at one site (Britannia Complex).	High costs are a barrier; however, considering on a case by case basis with new construction.	2011	No End Date (Continuous)
Owned buildings							
Establish energy performance baseline for owned buildings	Ongoing/In Progress			Evaluating and benchmarking building performance on an ongoing basis.	Evaluating and benchmarking building performance on an ongoing basis.	2009	No End Date (Continuous)
Incorporate integrated design process into new construction or during renovations of owned buildings	Ongoing/In Progress			This is now standard practice.	This is now standard practice.	2005	No End Date (Continuous)
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress			Began lighting upgrades to 3 of our schools (Prince of Wales, Gladstone and Univ. Hill Secondary).	Expect to begin partial lighting upgrades in 6-10 schools, in 2012.	1990	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress			When feasible and if timing is right for capital turnover.	When feasible and if timing is right for capital turnover.	1990	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress			[1] Lighting system re-design work was completed at 3 Secondary and 3 Elementary Schools (Point Grey, Templeton, Tupper, Champlain Heights, Quesnel, Secord); [2] Lighting system re-design work began at 3 additional Secondary Schools (Prince of Wales, Gladstone and Univ. Hill Secondary).	Lighting system re-design will begin for Kitchener, Douglas and Sexsmith Elementary. Lighting system re-design and upgrades will be continued with other schools when feasible, cost-effective and if timing is right for capital turnover.	1990	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress			This was included as part of the lighting system upgrades.	Lighting system re-design and upgrades will be continued with other schools when feasible, cost-effective and if timing is right for capital turnover.	1995	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress			No windows were retrofitted in 2011.	Depending on the availability of funds we will explore opportunities to replace single glazed windows with double glazed high efficiency windows.	2010	No End Date (Continuous)
Install an on-site renewable energy demonstration project	Ongoing/In Progress			We began installation of 2 Solar Energy Systems at two secondary schools - one Solar-Thermal (Hamber Secondary) and one Solar-PV (Charles Tupper Secondary).	The 2 Solar energy installations will be completed in 2012. In general we plan to evaluate opportunities for Solar technologies as funding becomes available.	2008	No End Date (Continuous)
IT power management							
Install power management software which shuts down computers outside of regular business hours	Completed in 2011	94	% of computers shut down automatically outside of regular business hours	Ensure all machines are joined to domain and we are able to push policies to them.		2009	2011
Implement server virtualization	Ongoing/In Progress	65	% of servers have been virtualized since start year indicated	Major migration to production VMware environment begun.	Completion of migration of all eligible systems (>95%).	2008	2012
Apply auto-sleep settings on computer monitors and CPUs	Completed in 2011	94	% of computers have auto-sleep settings applied	Ensure all machines are joined to domain and we are able to push policies to them.		2009	2011

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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
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress			Surveyed 34 schools and identified all print devices. Replaced 37 old copiers with new multi function devices. Removed 9 fax machines when providing replacement multi function devices: Raised awareness about sustainability of many standalone devices. All new devices are set up as network print devices.	Establish printing guidelines, reduce printer fleet and right size mfd fleet: Continue to limit purchase of standalone devices, acquire more multifunction devices for all output needs.	2011	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	60	% of computers are ENERGY STAR rated	All new devices purchased were 'Energy Star' rated.	Continue replacing oldest computers that are not Energy Star rated.	2008	2014
Appliances and electronic devices							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	30	% of fridges are ENERGY STAR rated	1) Pilot project at a number of sites to reduce energy consumption by eliminating non- essential units, and replace high electrical use refrigeration appliances 2) Replace old essential refrigerators requiring repair, with new ones.	Continuation of the pilot project, and continue to replace old essential units that have been requested to be repaired with energy star units.	2010	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			1) Purchase of all PC computers (Dell) are 'Energy Star' rated and at gold level 2) Apple computer products - most are energy star rated 3) Replacement of laundry dryers, ranges, microwave ovens and dishwashers.	Continuation of the pilot project, and continue to replace old essential appliances units that have been requested to be repaired with energy star units.	2010	2014
Behaviour change program							
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress			During Christmas and Summer break periods Building Operators unplug major appliances.	During Christmas and Summer break periods Building Operators unplug major appliances.	2010	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress			Building Operators close blinds as part of their regular duties.	Building Operators close blinds as part of their regular duties.	Started before 1995	No End Date (Continuous)
Encourage use of stairs instead of elevators	In Development			No concrete steps, except adhoc encouragement by some staff members to others.	No concrete steps, except adhoc encouragement by some staff members to others.	2009	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			Most schools have them.	Most schools have them.	1995	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress			Building Operators are instructed to turn off hot-water tanks, circulation pumps etc., as part of the winter and summer shutdown procedure.	We will continue with this program going forward.	1990	No End Date (Continuous)
Other Stationary Fuel Combustion, Electricity, and Fugitive Emissions Actions							
District-wide Heating Plant review	Ongoing/In Progress			Commissioned and completed a review of heating plants across the entire school district to inform decision making on opportunities to integrate low carbon and high efficiency heating plants and renewable energy systems.	Explore results and implications of feasibility assessment.	2010	2013
Waste Heat Recovery between Community Centre and School	Ongoing/In Progress			Funding for this project was contingent on Ministry funding for new school construction. Ministry funding was approved later than expected in 2011.	Sign MOU between Parks Board, City and School Board.	2010	No End Date (Continuous)
[1] Strategic Energy Management Plan (SEMP); [2] Energy Management Assessment (EMA); [3] Energy/Carbon Goals & Targets	Ongoing/In Progress			[1] Completed the 'Strategic Energy Management Plan'. SEMP was approved by BC Hydro; [2] Conducted the BC Hydro Energy Management Assessment with the Senior Management Staff ; [3] Developed a comprehensive set of Goals and Targets (5 year period) for the Management of Energy and Carbon Emissions (electricity/natural gas).	Execute the actions in the SEMP.	2009	2010

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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
Refrigerator Energy Conservation Pilot Program	Ongoing/In Progress			Completed 'Refrigerator Energy Conservation Pilot Program' at 4 Secondary Schools. Retired ~ 23 refrigerator/freezer units and replace another 19 units. Total reduction in electricity from this Pilot ~ 40,000 kWh/yr. District wide conservation potential from refrigerators/freezers alone is estimated to be ~ 250,000-450,000 kWh/yr (enough to take 2-3 Elementary Schools off the electricity-grid).	We expect to phase this program across the school district in the coming years. Resource/Capacity constraints and Teacher Job-Action may add challenges to broader deployment.	2010	No End Date (Continuous)
Summer/Winter Shutdown checklist	Ongoing/In Progress			As part of improving efficiency of operating our schools, all building operators across the school district were required to submit a detailed checklist of actions for shutting down all non-essential systems during break periods.	This program will be continued every year.	2010	No End Date (Continuous)
Spot the Energy Savings' Training Program - NRCan	Ongoing/In Progress			Approximately 25 Building Operators at the School District completed this program.	We will continue providing this training to all Asst. Building Engineers and Asst. Head Custodians, as needed.	2005	No End Date (Continuous)
Heating Plant Operating Guidelines	Ongoing/In Progress			Strict operating times and set-points were enforced through a district wide Memo to all Building Operators.	We will continue these operating times and set-points over this time frame.	2010	No End Date (Continuous)
Technology Pilot - Thermal Coating for windows and thermal Paint for walls	Ongoing/In Progress			Completed the application of the thermal paint and window coating at 4 sites. Monitoring energy consumption at these sites to evaluate technology effectiveness in reducing the heating and electricity loads.	Based on preliminary results which are positive, we expect to add a few more schools to this pilot program in 2012.	2010	2012
Mechanical Engineering Co-op Student Placement	Completed in 2011			Employed a 3rd year Mechanical Engineering Student from UBC in a co-op placement, to conduct a review and assess the state of the HVAC control systems used at the Vancouver School District and to suggest areas of improvement and future opportunities.		2011	2011
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	78	% of total paper purchased contains 30% recycled content	Communicated with schools/departments with a requirement to purchase recycled content.	Further communication and establish paper use guidelines, with the intent to reduce consumption and further increase 'pcw' content purchases.	2013	No End Date (Continuous)
Printer/document settings							
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress			Multi function devices have been set-up for double-sided printing.	Work to widely implement double sided printing only; increase site management by engaging user codes; encourage printing of 2 pages per side; reduce the number of printers.	2011	2014
Electronic media in place of paper							
Use electronic document library for filing common documents	Ongoing/In Progress			Deployed Sharepoint 2010. Working with contractor to implement better collaboration, electronic workflow for common tasks.	Implement better collaboration and electronic workflow for common tasks.	2011	2014
Post materials online that were previously printed	Ongoing/In Progress			Development work to make 'Ready Reference Manual' an electronic Manual.	Ready Reference Manual will be available online only. Will avoid printing 4,000 copies going forward.	2011	2014
Switch to an electronic payroll notification system in place of paper pay stubs	Ongoing/In Progress			All development work completed.	First employee groups will switch over in March of 2012, last group is expected by June of 2012.	2010	2012
Behaviour change program							
Encourage re-use of scrap paper	In Development			Presently on an adhoc basis.	Introduce print guidelines.	2012	2014

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Actions to Reduce Provincial Emissions and Improve Sustainability

The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the *Greenhouse Gas Reduction Targets Act*. Public sector organizations can optionally use this section to report on actions that will help British Columbia meet its provincial greenhouse gas reduction targets, engage the public, and improve environmental sustainability across all aspects of their organization.

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
Business Travel						
Policy and budgeting						
Create a low-carbon travel policy or travel reduction goal	In Development		Introduced an incentive based pilot program at the Board office to encourage staff to switch to Public Transportation instead of driving to work.	Monitor effectiveness of Pilot program and evaluate options for deploying such a program across the school district.	2011	2012
Behaviour change program						
Encourage carpooling to meetings	In Development		This occurs on an adhoc basis.	This occurs on an adhoc basis.		
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	In Development		Some staff offer bus tickets for meeting participants.	Introduce a 'car-sharing' pilot program at the Education Centre; explore other avenues for encouraging alternative travel to meetings.	2009	No End Date (Continuous)
Education, Awareness, and Engagement						
Team-building						
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress		1-2 staff respond to frequent questions for resources and support from staff and students.	Re start sustainability networking events and topic specific workshops for VSB staff.	2009	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	In Development		Establish criteria for zero waste awards and certification process for schools. Some of this takes place through pro-d offerings.	Post job action, organized more training opportunities on behaviour change strategies and tactics (including social marketing).	2009	No End Date (Continuous)
Staff Professional Development						
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress	12	Sustainability related pro-d offered through 2011	Continue with pro-d, re-constitute sustainability networking and sustainability cafes (post job action).	2009	No End Date (Continuous)
Staff awareness/education						
Provide education to staff about the science of climate change	Ongoing/In Progress		Set up sustainability portal. Communicate website opportunity to all staff.	Further develop the sustainability portal with more features.	2011	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	In Development		Communicate goals and targets for waste reduction to all schools.	Implement organics diversion program district wide and engage all sites in waste reduction and behaviour change work.	2010	2013
Provide green tips on staff website or in newsletters	Ongoing/In Progress		E-newsletter circulated once a month, sustainability portal established containing district information and resources on sustainability.	Continue with pro-d, re-constitute sustainability networking and sustainability cafes (post job action).	2009	No End Date (Continuous)
Provide sustainability education during new staff orientation	Ongoing/In Progress		New staff orientation includes information on VSB sustainability goals.	Continue this practice, ensure that sustainability information is up to date and included for more staff group orientation.	2010	No End Date (Continuous)
Client/public awareness/education						
Provide education to clients/public about the science of climate change	Ongoing/In Progress		Supported student led walk for climate change for Earth Day 2011 and supported student led conference on climate change for 2011; support district sustainability network.	Support student led Earth Parade 2012, support student led sustainability conference and district sustainability network.	2010	No End Date (Continuous)

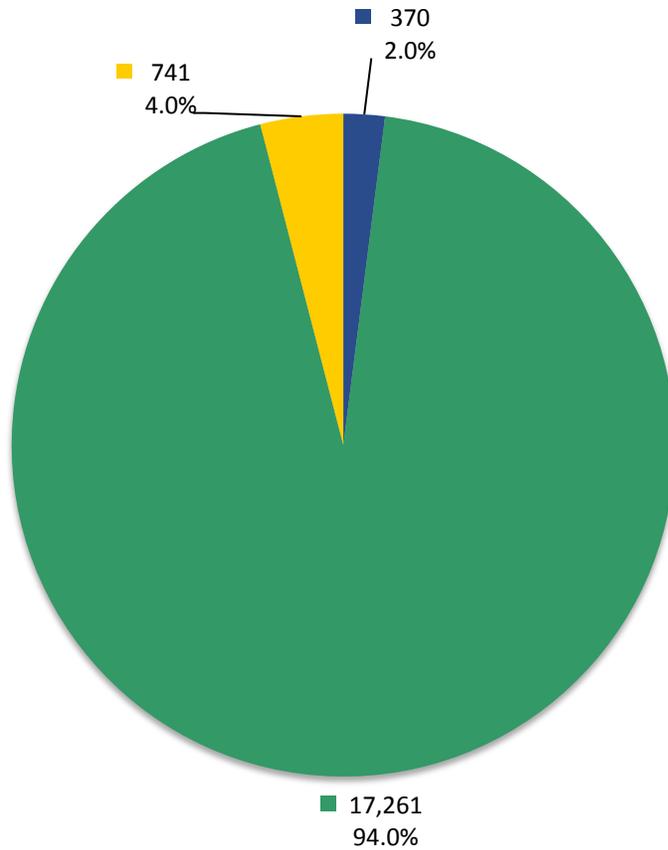
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Provide education to clients/public about the conservation of water, energy, and raw materials	Ongoing/In Progress			Water workshop delivered; direct staff/students to education opportunities on VSB website and provide resources to schools.	Provide resources through website and support actions to replace disposable bottled water with reusable water options.	2009	No End Date (Continuous)
Provide green tips on client/public website or in newsletters	Ongoing/In Progress			Sustainability Portal developed - VSB green board developed and populated with information.	Continue to develop the portal and add more features.	2011	No End Date (Continuous)
Other Education, Awareness, and Engagement Actions							
Organics diversion pilot program	Ongoing/In Progress			Discussions and planning to set up an organics diversion pilot program.	Implement organics diversion program at 3 sites, evaluate pilot and look to expand district wide.	2011	2013
Food garden survey conducted	Completed in 2011	46	Number of food gardens in the VSB as of September 2011	Undertook a survey to determine number and type of school food gardens.		2011	2011
Food garden policy revised and updated	Ongoing/In Progress			Revise and update food garden policy and process.	Complete revisions and disseminate to all schools.	2011	2012
Partnership agreement with Urban Farmer in development	In Development			Develop a partnership agreement to work with an urban farmer on VSB land.	Complete and implement agreement and evaluate.	2011	2012
Student Participation at CIRS Sustainability Conference	Ongoing/In Progress	8	Number of Secondary Schools that participated	16 Students from 7 Secondary Schools participated at the CIRS Conference during the opening of the greenest building (CIRS) in North America.	Develop Sustainability Workshop in collaboration between VSB and CIRS for Vancouver School Board Students.	2011	No End Date (Continuous)
BC Hydro Energy Ambassadors Program (for High School Students)	Ongoing/In Progress			Staff provided support for this program.	Staff will continue to support this program.	2008	No End Date (Continuous)
Energy Conservation Competition held at Elementary Schools.	In Development			Offered an opportunity for Elementary Schools to compete based on their submissions on Energy Conservation initiatives in their schools - 3 schools were offered prizes.	Provide similar opportunities for Elementary Schools.	2011	2011
Other Sustainability Actions							
Water conservation							
Put in place a potable water management strategy to reduce potable water demand of building-level uses such as cooling tower equipment, toilet fixtures, etc. and landscape features	Ongoing/In Progress	95%	RFP to go to tender for Computerized Central Irrigation Control March 2012.	Gather information on water reduction/conservation for sports field irrigation systems.	Implement CICS over 3 years to all district sports fields to allow for proper water management.	2012	2014
Waste reduction/diversion							
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	Ongoing/In Progress			Implemented a mixed recycling program. Initiated an organics pilot program.	Issue an RFP in 2012 for Organics/Recycling and Waste. Contract to include management oversight to reduce waste. : Implement pilot program at 3 sites, evaluate and look to expand district wide.	2010	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress			Annual hazardous waste pickup organized: Set up district wide battery recycling program.	Award and RFP for school related hazardous waste removal.: Continue with implementation.	Started before 1995	No End Date (Continuous)
Procurement (non-paper supplies)							
Incorporate minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.)	Ongoing/In Progress			Issued an RFP on behalf of EDCO for office supplies that had considerable environmental requirements.	RFP to be awarded in 2012.	2009	No End Date (Continuous)
Establish green standards for goods that are replaced infrequently and/or may require capital funds to purchase (e.g., office furniture, carpeting, etc.)	Ongoing/In Progress			All Request for Proposals have sections that require proponent responses to environmental sustainability (ES). Weighted value of ES can be up to 15% of overall value.	As contracts expire and resulting competitive processes are initiated, green standards are included.	2010	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
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress			The district purchasing policy is under review. We are working toward a 'Sustainable Purchasing Policy'.	Complete the development of the purchasing policy.	2009	No End Date (Continuous)
Require a minimum purchase of sustainable, and organic food and beverages supplied by contracted food suppliers or caterers	In Development	10	% of the combined total food and beverage purchase (in cost) meets these requirements	Work with existing vendors.	Issue an RFP and include a sustainability component that provides considerable sustainable/organic requirements.	2010	No End Date (Continuous)
Building construction, renovation, and leasing							
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	Ongoing/In Progress			Whenever possible steps are taken to maintain heritage buildings and reduce demolition waste, with new construction/renovation projects.	We will continue this into the future.	2010	No End Date (Continuous)
Incorporate lifecycle costing into new construction or renovations	In Development			We are gradually moving in this direction.	We are gradually moving in this direction.	2005	No End Date (Continuous)
Indoor air quality							
Incorporate low volatile organic compounds (VOCs) standards into procurement policy for products such as paints, carpets, and furniture	Ongoing/In Progress			Continue to research low VOC products as part of our overall maintenance and custodial procedures.	We will continue this process going forward.	2005	No End Date (Continuous)
Commuting to and from home							
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress			[1] Introduced an incentive based pilot program at the Board office to encourage staff to switch from driving to using Public Transportation. [2] Pro-d offered for staff on cycling to school and work, encourage staff to participate in Bike to Work week (13 sites participated in 2011).	[1] Monitor effectiveness of Pilot program and evaluate options for deploying such a program across the school district. [2] Continue to offer transportation related pro-d.	2009	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In Progress			Completed installation of 50 new bike racks across the district.	Continue exploring opportunities in this area.	2010	2011

**School District 39 - Vancouver
Greenhouse Gas Emissions by Source
for the 2011 Calendar Year (tCO₂e*)**



Total Emissions: 18,372

- 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 May 18, 2012 12:08 PM)

Total offsets required: **18,354**. Total offset investment: **\$458,850**. Emissions which do not require offsets: **18** **

*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.