



Vancouver Board of Education - 2009 Carbon Neutral Action Report

Executive Summary

2009 saw a continuation of our efforts to reduce energy and resource consumption at the Vancouver School District. The hiring of the Manager of Facilities - Climate Action and the Sustainability Co-ordinator positions to our staff were a critical part of our commitment to Climate Action and Sustainability. From initiating the implementation of the district wide computer power management system, to energy retrofitting of existing buildings, to supporting student led Climate Change conferences and an overall conservation ethic through behavioural programs, the Vancouver School District has embraced energy, carbon reduction and sustainability initiatives through our operations and student engagement. Moving forward in 2010 we will be installing solar hot-water panels, retrofits for water conservation, incorporating green design into new construction and using thermal imaging technology to identify opportunities to reduce our carbon footprint.

Through the above programs and initiatives the Vancouver School District continues to foster an environment of environmental awareness, sustainability and social responsibility while enhancing the learning and working environment for students and staff.

Overviews

Actions Taken to Reduce Greenhouse Gas Emissions in 2009

- Began lighting retrofits in 3 of our schools that would reduce electricity consumption by over 750,000 kWh
- Purchased an Infra-Red Thermal imaging camera to identify areas of heat-loss
- Initiated a pilot program at 15 sites for mixed recycling which has now been expanded district-wide
- New printers and photo-copiers have been set-up for duplex printing
- Supported a student led Climate Change Summit to connect live with Copenhagen Summit; invited local experts and conducted workshops to discuss climate change issues and actions to reduce our collective carbon footprint

Plans to Continue Reducing Greenhouse Gas Emissions 2010 – 2012

- Develop a comprehensive Sustainability Framework for the School District
- Incorporate green design features in new construction
- Complete the installation of Power Management Software across 10,000+ PCs in the school district
- Expand car-pooling and car-sharing options; draft a transportation plan for the school district
- Continued communication to move toward Post Consumer Waste (PCW) paper only
- Reduce print volumes, internal mail and switch all pay advices to electronic format

Through the above actions and behavioural change programs the Vancouver School Board intends to reduce its overall 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 12/31/09)	Performance to Date (as of 12/31/09)		Steps Taken in 2009	Steps Planned for 2010 -2012	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	3	% of vehicles are fuel- efficient models	Purchase new tractor with level 4 emission standards to replace older non efficient tractor.	replaced V8 gas Van with Hybrid SUV (Ford Escape); Replaced V8 gas pickup with diesel powered pickup.	2002	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	10	% of vehicles down-sized since start year indicated	10% of vehicles went to smaller pick-up trucks for use by grounds foreman.	Utilizing crew cab pickups to transport mowing crews rather than individual transportation; Right-sizing will continue on future vehicle purchases.	2002	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	100	% of vehicles are subject to regular maintenance for fuel efficiency	On going scheduled preventative maintenance program in place. All vehicles pass AirCare regularly with out modifications required.	On going scheduled preventative maintenance program in place.	2010	No End Date (Continuous)
Replace small maintenance vehicles with more fuel-efficient models	Ongoing/In Progress	95	% of small maintenance vehicles are fuel-efficient	95 % of the fleet vehicles are 1999 models or newer. Remaining 5% are pre 1996 and are LPG fuelled.	Continue to upgrade as funds permit.	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	All drivers are trained for fuel efficient driving.	This will continue in the future.	2008	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	% trucks with GPS units	GPS/Monitoring units installed in all trucks.	This will continue in the future.	2007	No End Date (Continuous)
Other Mobile Fuel Combustion Actions							
Upgrade of Leaf blowers and lawn mowers	Ongoing/In Progress			Purchased six 2 stroke 4 cycle leaf blowers to replace older in-efficient blowers.	Exchanged 2 stroke mowers for environmentally friendly 4 stroke engines.	2009	No End Date (Continuous)
Bio-Diesel in Fleet	Ongoing/In Progress			All Diesel engines use 10% biofuel.	Considering developing a demonstration project for in-house production of Bio-fuel.	2010	2011
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							
Planning/management							
Reduce office space (square meters) per employee	In Development			We are presently reviewing district space.	Nothing planned at the moment.	2010	No End Date (Continuous)
Owned buildings							
Establish energy performance baseline for owned buildings	Ongoing/In Progress			Evaluating and benchmarking building performance.	Evaluating online access of data for building operators.	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)
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress			Began lighting upgrades to 3 of our schools.	Presently evaluating funding options.	1990	No End Date (Continuous)
Retrofitting owned buildings							

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)		Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
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			When feasible and cost-effective.	When feasible and cost-effective.	1990	No End Date (Continuous)
Upgrade/adjust control systems 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.	1995	No End Date (Continuous)
Install an on-site renewable energy demonstration project	Ongoing/In Progress			We will have 6 secondary schools with solar hot water panels and 1 solar PV system by end of 2010.	We plan to evaluate as opportunities arise.	2008	No End Date (Continuous)
IT power management							
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	50	% of computers shut down automatically outside of regular business hours	Deployed 6000 new computers with Faronics PowerSave software installed.	Continue deployment of PowerSave on legacy devices.	2009	No End Date (Continuous)
Implement server virtualization	In Development			Examining all virtualization offerings for data centre.	Continue research and proof of concept - budget permitting.	2009	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress	50	% of computers have auto-sleep settings applied	Deployed 6000 new computers with auto-sleep function.	Continue to address legacy computer configuration.	2009	2011
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	50	% of computers are ENERGY STAR rated	Tender process for 6000 computers included considerations for environmental impact with regard to construction process and materials as well as stipulating all devices needed to be Energy Star rated.	Continue to replace aging equipment with Energy star rated devices as and when budget is available.	2009	No End Date (Continuous)
Appliances and electronic devices							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	In Development			Conducted a district wide survey of refrigerators.	Right size refrigerator count to district needs. All new fridges to be ENERGY STAR. Implement a district wide policy on refrigerator purchasing and policy and restriction on old donated fridges.	2009	No End Date (Continuous)
Behaviour change program							
Ask staff to unplug electrical equipment or switch off power bars when not in use	In Development			Green challenge in some of our building/schools.	Green challenge in some of our building/schools.	2010	No End Date (Continuous)
Encourage use of stairs instead of elevators	Ongoing/In Progress			Have begun a 'take the stairs' campaign at Education Centre.	Work to highlight health benefits of stairs; suggest turning off one elevator (of 4) weekly to reduce power use.	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 Engineers and Head Custodians are instructed to turn off hot-water tanks, circulation pumps etc., as part of an annual shutdown checklist.	We will continue with this program going forward.	1990	No End Date (Continuous)
Other Stationary Fuel Combustion and Electricity Actions							
Spot the Energy Savings Program - NRCan	Ongoing/In Progress			Completed program for all Building Engineers and Head Custodians at the School District.	Continue providing this training to all Asst. Building Engineers and Asst. Head Custodians.	2005	No End Date (Continuous)
Supplies (Paper)							
Paper Type							

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)		Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	21	% of total paper purchased contains 30% recycled content	Communication to schools to encourage the purchase of recycled content vs. virgin.	Continued communication to move toward Post Consumer Waste (PCW) paper only.	2009	No End Date (Continuous)
Printer/document settings							
Switch networked printers and photocopiers to automatic double-sided	In Development			New printers being purchased are typically with a duplexer; New photocopiers are being placed with 2 sided printing setup as a default.	No corporate plan given current budget restrictions.	2009	No End Date (Continuous)
Electronic media in place of paper							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development			Existing intranet portal is under review along with email and other collaboration suites	Develop new policy and practice for online collaboration and provide new web-based toolsets to assist. Develop central document repository and promote "soft copy" as "only copy". Reduce print volumes, reduce/remove the need for copies to be mailed internally and switch all pay advices to electronic format.	2010	2011
Use electronic document library for filing common documents	In Development			Existing intranet portal is under review along with email and other collaboration suites.	Develop new policy and practice for online collaboration and provide new web-based toolsets to assist. Develop central document repository and promote "soft copy" as "only copy". Reduce print volumes, reduce/remove the need for copies to be mailed internally and switch all pay advices to electronic format	2010	No End Date (Continuous)
Post materials online that were previously printed	In Development			Existing intranet portal is under review along with email and other collaboration suites.	Develop new policy and practice for online collaboration and provide new web-based toolsets to assist. Develop central document repository and promote "soft copy" as "only copy". Reduce print volumes, reduce/remove the need for copies to be mailed internally and switch all pay advices to electronic format.	2010	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	In Development			Evaluation of current system capacity to transition to electronic notices. Proposals being reviewed.	Implement electronic pay advices for specific staff groups in 2010 and continue to roll-out in subsequent years.	2009	2011
Behaviour change program							
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	In Development			A number of staff are conducting paper-less meetings.	We expect this to proliferate gradually across the organization.	2009	No End Date (Continuous)
Encourage re-use of scrap paper	In Development			This occurs on an individual basis.	We expect this to proliferate gradually across the organization.	1990	No End Date (Continuous)

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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 12/31/09)	Performance to Date (as of 12/31/09)	Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Business Travel						
Policy and budgeting						
Create a low-carbon travel policy or travel reduction goal	In Development		Draft transportation survey for staff developed.	Conduct Transportation Survey. Draft a transportation plan for the Vancouver School Board.	2009	No End Date (Continuous)
Virtual meeting technology						
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	In Development		IT department is examining this.	Will examine web-conference options.	2009	No End Date (Continuous)
Behaviour change program						
Train staff in web-conferencing	In Development		None.	We intend to review this technology for internal use.	2010	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress		Ad hoc encouragement to staff groups for making better use of conference tools and electronic collaboration suites.	Will examine policy options for our school district.	2009	No End Date (Continuous)
Encourage carpooling to meetings	In Development		Decision made to provide car-pooling options for staff.	Car-pooling website has been established through the Jack Bell Foundation.	2009	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress		3 pro-D training sessions held on bicycle transportation.	Exploring car-sharing options.	2009	No End Date (Continuous)
Education, Awareness, and Engagement						
Team-building						
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	Ongoing/In Progress		Began staff sustainability gatherings.	Implement regularly scheduled, provide support/training/resources to green teams.	2009	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress		E-news sent out every 3 weeks with notice of sustainability opportunities/resources.	Develop online sustainability portal for the Vancouver School Board.	2009	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	In Development		Applied for a BC Hydro funded Workplace Conservation/Behavioural Change Program.	Beginning Hydro 'Workplace Energy Conservation Awareness' pilot with 3 Secondary schools and 16 Elementary Schools.	2009	2011
Staff Professional Development						
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress		Sustainability related pro-development offered.	Increase Professional Development offerings for staff.	2009	No End Date (Continuous)
Staff awareness/education						
Provide education to staff about the science of climate change	In Development		Supported student led climate change conference (Dec/09).	Offer workshop to staff/students on climate science.	2009	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	In Development		Distribute material to raise awareness on resource conservation.	Through the online portal, provide information to staff/students on these and other measures.	2009	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress		Sustainability news and info sent to staff electronically.	Integrate Sustainability/Green info into online portal.	2009	No End Date (Continuous)

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)	Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Provide sustainability education during new staff orientation	In Development		Made decision to include information on sustainability for new staff orientation.	Information on sustainability has been added to new staff orientation.	2009	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 climate change conference (Dec/09).	Student led sustainability network formed to implement sustainability projects.	2009	No End Date (Continuous)
Provide education to clients/public about the conservation of water, energy, and raw materials	Ongoing/In Progress		Distribute material to raise awareness on resource conservation.	Use online portal to make this more robust and develop pro-D opportunities.	2009	No End Date (Continuous)
Provide green tips on client/public website or in newsletters	Ongoing/In Progress		Sustainability news and info sent to staff electronically.	Integrate Sustainability/Green info into online portal.	2009	No End Date (Continuous)
Other Education, Awareness, and Engagement Actions						
Develop a Guide for low-environmental impact meetings	In Development		Decision made to produce a Guide.	Develop a guide for low-environmental impact meetings.	2009	No End Date (Continuous)
Other Sustainability Actions						
Water conservation						
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	In Development		Converted a water cooled walk-in cooler to air cooled & replaced a steam powered dishwasher to electric; converted 1 commercial dish-washer from steam-powered to electric.	Continued water conservation measures as opportunity arises.	2009	No End Date (Continuous)
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	In Development		Funds allocated for a urinal upgrade project at 23 of our schools.	Plan to do the urinal upgrades at the 23 schools. Expected savings per year = 34 Million Litres.	2010	2011
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		(1) Initiated a pilot program at 15 sites for mixed recycling with the intent to expand to the rest of the organization in 2010. (2) 3 Industrial composters were purchased.	(1) The re-cycling program has been expanded district wide. (2) Develop container labels in partnership with MetroVancouver for the re-cycling program. (3) Industrial Composters will be installed and evaluated in 2010.	2009	2010
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress		Annual Hazardous Waste disposal program; PCB Ballasts are disposed regularly.	Continue this into the future.	2000	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.)	In Development		Initiated the process to develop a 'purchasing policy' for school district.	Develop and implement a purchasing policy for the school district.	2009	2011
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		Green Standards are included on products where certification is available (Green Seal, EPEAT, ENERGYSTAR, FSC).	Continue to expand this for all products.	2009	No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	In Development		Initiated the process to develop a 'purchasing policy' for school district.	Develop and implement a purchasing policy for school district.	2009	2011
Require a minimum purchase of sustainable, and organic food and beverages supplied by contracted food suppliers or caterers	In Development		Initiated the process to develop a 'purchasing policy' for school district.	Develop and implement a purchasing policy for school district.	2009	2011
Building construction, renovation, and leasing						

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)	Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
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, due to new construction projects.	We will continue this into the future.	2005	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	In Development		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	In Development		Initiated the process to develop a 'transportation policy' for school district.	Develop and implement a transportation policy for school district.	2009	2011
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Ongoing/In Progress		This is available at our Main Office/Ed Centre and some schools.	Evaluate expansion at seismic upgrade sites.	2000	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In Progress		This is available at our Main Office/Ed Centre and some schools.	Evaluate expansion at seismic upgrade sites.	2010	No End Date (Continuous)
Modify parking fees or parking availability for staff/students	In Development		Presently in the process of evaluation.	Increase parking fees and use revenues to increase public transit discount.	2010	No End Date (Continuous)
Other Sustainability Actions						
Destination Conservation (DC) Program	Ongoing/In Progress		Provided support for this program.	Will continue to support this program.	2008	2011
Energy Embassadors Program	Ongoing/In Progress		Provided support for this program.	Will continue to support this program.	2008	No End Date (Continuous)
Vancouver Area Cycling Coalition	Ongoing/In Progress		Provided support for this program.	Will continue to support this program.	2008	No End Date (Continuous)
Develop comprehensive Sustainability Framework for the School District	In Development		Initiated internal discussion for developing a 'Sustainability Framework'.	Continue with the development of the Sustainability Framework and Policy for the School District.	2009	2011