

SD34 (Abbotsford) - 2009 Carbon Neutral Action Report



Executive Summary

Abbotsford School District has been diligently working for many years to save energy, reduce consumption, and improve the working environment for our staff and students. We are recognized as a "PowerSmart Leader" by BC Hydro, and as such, we get a lot of encouragement and support in the work we do. We have retrofitted our properties to reflect the latest technologies in lighting, heating and building control systems.

We are committed to becoming one of the most sustainable School Districts in BC and will ensure that every reasonable effort is made to conserve energy and resources in order to reduce the School District's Carbon footprint and achieve Carbon neutrality.

Our Carbon neutral plan includes a Sustainable Energy Management Plan (SEMP). In 2009, our plans were somewhat setback due to the cancellation of our Annual Facilities Grant (AFG) by the Provincial government. This funding was officially restored on March 15, 2010.

Integration of environmentally sustainable considerations into the School District's business decisions are related to: Lighting, HVAC, New and Renovation Construction, and Recycling programs.

We have instigated mechanisms to report to the Board of Education on energy management and sustainability progress (Energy Policy)

We are preparing a revised Purchasing Policy that will include Energy Star products and encourage suppliers to meet or exceed our environmental management standards.

Actions Taken to Reduce Greenhouse Gas Emissions in 2009

We have committed to a program of ongoing awareness and training to increase involvement, knowledge and competence of staff and students in energy management.

Our "Green Team" approach to having each School organize a (teacher-led, student-driven) team whose responsibility is to organize and implement new and existing methods of saving energy, is winning accolades from our peers. Included are such activities as meter reading (and graph plotting to compare previous sessions), computer shut downs and recycling efforts. The kids have designed their own "turn it off" light switch stickers too, a very successful program.

Operational Changes in 2009

We committed to two (2) large schools joining the BCHydro Continuous Optimization (C.Op) program, whereby they are fitted with "real time" gas and hydro meters, and by means of specialty software, we will be able to monitor consumption and minimize the use of gas and electricity.

Plans to Continue Reducing Greenhouse Gas Emissions 2010 – 2012

We will extend our C.Op program to all twelve (12) of our Secondary/Middle schools, and seek an alternate real-time metering package for our Elementary schools. Our intent would be to have all schools fitted with real-time metering equipment and software.

Now that our AFG funding is reinstated, we will be in a position to extend our DDC program to all our facilities and to simplify its operation so as to speed up any temperature and/or operation schedules so as to maximize shutdown during non-student occupation, thus reducing GHGs.

Please visit our District Sustainable Schools website for additional information:
http://www.sd34.bc.ca/sidebar/sustainable_schools/

Signed:



Tom Louie, Director of Facilities and Transportation



Dr. Mark Lee, Secretary/Treasurer

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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 <i>Greenhouse Gas Reduction Targets Act</i> .							
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	Complete	1	% of vehicles are fuel- efficient models	None... A single Hybrid bus was purchased in 2008		2008	2009
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	100	% of vehicles are subject to regular maintenance for fuel efficiency	Maintenance continues as required for all vehicles	Maintenance will continue for all vehicles	2005	No End Date (Continuous)
Behaviour change program							
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	100	% of current drivers are trained	Training continues for 50% drivers per year	Training will continue on a 50% per year basis	2008	No End Date (Continuous)
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Complete			Policy is in place with applicable signage	No changes planned	2008	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress			Encouragement commenced	We will continue to encourage staff to car-pool	2009	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							
Planning/management							
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	In Development			Initiated our program	Will add a minimum of 2 schools to BC Hydro's C.Op program	2010	No End Date (Continuous)
Owned buildings							
Establish energy performance baseline for owned buildings	Complete	100	% of owned buildings have an established energy performance baseline	Developed energy baseline for gas and hydro	Will monitor consumption of gas and hydro	2009	No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	In Development			Pre-planning occurred for new LEED Gold school	Design and construction of new Leed Gold school	2010	2012
Incorporate integrated design process into new construction or during renovations of owned buildings	In Development			Pre-planning occurred for new LEED Gold school	Design and construction of new Leed Gold school	2010	2012
Complete energy retrofits on existing, owned buildings	Complete	100	% of owned buildings have undergone energy retrofits since start year indicated	Completed the last of the retrofits		2000	2009
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	25	% of retrofits (captured above) had heating, cooling, and ventilation systems upgrades	Replaced boiler with high efficiency type at Harry Sayers	Additional upgrades planned dependant upon AFG funding	2005	2012
Upgrade lighting systems during retrofits	Complete	100	% of retrofits (captured above) had lighting systems upgrades	None: All were completed previously	Additional upgrades planned dependant upon AFG funding	2005	2012
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	25	% of retrofits (captured above) had control system upgrades or adjustments	Control systems are updated on an as-required basis	We will modernize Clearbrook in 2010, others based on AFG funding	2005	2012
Install an on-site renewable energy demonstration project	Complete	2	% of retrofits (captured above) had on-site renewable energy components	We installed 1 kW PV cells and wind generator at Abby Middle	Our new ACS school is being designed with GeoExchange ground water heating system	2009	2012
IT power management							
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	25	% of computers shut down automatically outside of regular business hours	Our IT department has installed software for all Mac computers. As Windows servers get upgraded, PC shutdown occurs automatically.	Additional server and PC upgrades	2009	2012
Implement server virtualization	Ongoing/In Progress	25	% of servers have been virtualized since start year indicated	None: All were completed previously	Additional upgrades planned dependant upon AFG funding	2005	2012

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Apply auto-sleep settings on computer monitors and CPUs	Complete	25	% of computers have auto-sleep settings applied	None: All were completed previously	Additional upgrades planned dependant upon AFG funding	2005	2012
Replace computers with ENERGY STAR models during regular computer upgrades	In Development			Discussion change to Purchase Policy to mandate the change	Purchase Policy will be in place	2009	2012
Appliances and electronic devices							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	25	% of fridges are ENERGY STAR rated	2 fridges at Facilites changes and coolers removed	Will change on an as-needed basis and dependant upon new Purchase Policy	2009	2012
Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress			Being done on an as-required basis	Will be done on an as-required basis and upon implementation of new Purchase Policy	2009	2012
Replace desk lamp incandescent bulbs with compact fluorescent (CFL) bulbs or source more efficient desk lamps for future purchases	Ongoing/In Progress			Being done on an as-required basis	Will be done on an as-required basis and upon implementation of new Purchase Policy	2009	2012
Behaviour change program							
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress			Being done on an as-required basis	Will be done on an as-required basis and upon implementation of new Purchase Policy	2009	2012
Encourage use of stairs instead of elevators	Ongoing/In Progress			Ongoing	Ongoing	2009	2012
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			Ongoing	Ongoing	2009	2012
Promote hot water conservation	Ongoing/In Progress			Ongoing	Ongoing	2009	2012
Other Stationary Fuel Combustion and Electricity Actions							
PC Virtualization	Ongoing/In Progress			2 pilot projects completed	Additional projects planned	2009	2012
Under desk heaters	Ongoing/In Progress			Started to replace them with low wattage types	Will continue to replace them as soon as AFG funding returns	2009	2012
Smart power bars	Ongoing/In Progress			Started to encourage use of "smart" power bars	Will continue to encourage them	2009	2012
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	12	% of total paper purchased contains 30% recycled content	Ongoing/Continuous	Ongoing/Continuous	2008	2012
Purchase 100% post-consumer recycled paper	Ongoing/In Progress	1	% of total paper purchased contains 100% recycled content	Ongoing/Continuous	Ongoing/Continuous	2008	2012
Electronic media in place of paper							
Use electronic document library for filing common documents	Ongoing/In Progress			Existing 75% of documents filed electronically	Will attempt to increase by 10%	2005	2012
Switch to an electronic payroll notification system in place of paper pay stubs	Complete			Existing	Will continue	2009	2012
Behaviour change program							
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress			Ongoing	Ongoing	2008	2012
Encourage re-use of scrap paper	Ongoing/In Progress			Ongoing	Ongoing	2008	2012

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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						
Behaviour change program						
Encourage carpooling to meetings	Ongoing/In Progress		Ongoing	Ongoing	2009	2012
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress		Ongoing	Ongoing	2009	2012
Education, Awareness, and Engagement						
Team-building						
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	Complete		Green teams in place in 49% of our premises	Green teams in place for 98% of our premises (2010)	2009	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Complete		Energy Manger retained to support Green Teams	Energy Manager will continue his dedication and hard work	2008	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress		Energy Manager with BC Hydro support provide education services	Energy manager with BC Hydro will continue education services	2008	No End Date (Continuous)
Awards/Recognition						
Establish a sustainability/green awards or recognition program	Complete		Monetary recognition plan put in place	Plan will continue	2009	No End Date (Continuous)
Client/public awareness/education						
Provide education to clients/public about the science of climate change	Ongoing/In Progress		Energy Manger retained to support Green Teams	Energy Manager will continue his dedication and hard work	2009	No End Date (Continuous)
Provide education to clients/public about the conservation of water, energy, and raw materials	Ongoing/In Progress		Energy Manger retained to support Green Teams	Energy Manager will continue his dedication and hard work	2009	No End Date (Continuous)
Provide green tips on client/public website or in newsletters	Ongoing/In Progress		Energy Manger retained to support Green Teams	Energy Manager will continue his dedication and hard work	2009	No End Date (Continuous)
Other Sustainability Actions						
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		"Recycling" is Policy in the School District	Recycling will continue	2008	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress		Already in place	Will continue	2008	No End Date (Continuous)
Procurement (non-paper supplies)						
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Complete		Green product purchasing already in place	Green product purchasing will continue	2008	No End Date (Continuous)
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		Building products are recycled whenever possible	Building products will continue to be recycled whenever possible	2008	No End Date (Continuous)
Incorporate lifecycle costing into new construction or renovations	In Development		Will be part of new Purchase Policy	Complete the Purchase Policy so as to implement several initiatives	2009	2012
Indoor air quality						
Incorporate low volatile organic compounds (VOCs) standards into procurement policy for products such as paints, carpets, and furniture	Complete		We already do this	We will continue to do this	2008	No End Date (Continuous)
Commuting to and from home						
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress		We presently encourage alternate means of travel	We will continue to encourage alternate means of travel	2008	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Complete		We already have showers available for staff and student use		2008	No End Date (Continuous)
Provide secure bicycle storage	Complete		We already have bike storage racks/rooms in place		2008	No End Date (Continuous)