

Carbon Neutral Action Report School District No. 41 (Burnaby)

Executive Summary

Since 2001, Burnaby School District has been a provincial leader amongst school districts, reducing its carbon footprint by over 40% and achieving the second lowest electrical consumption per area (m2). Reductions to date have been through the training of end users and targeted facility upgrades. We continue to move forward with the stewardship of our environment with numerous new and ongoing programs of upgrades and education. The recent implementation of the Energy Manager Program funded by BC Hydro has enabled the district to provide support for educational programs to our students and staff.

Objectives

Burnaby School District intends to be a leader within the local, provincial and world community in environmental sustainability. Reducing GHG emissions is but one yardstick to measure our performance; we intend our students and staff to move forward with the best educational tools to be good stewards of our planet for the foreseeable and challenging future. A goal without a plan is just a wish.

Part 1: Actions Taken to Reduce Greenhouse Gas Emissions in 2008

Overview

The district continued with its lighting upgrade program in 2008 with 6 schools upgraded to T8 lighting and efficiency upgrades to boilers at 5 locations. Direct Digital Controls (DDC) were added into 8 sites to control mechanical run times and improve comfort levels during occupied times. Additional insulation was added into 4 schools and insulation was increased in 6 roof replacement projects. Two schools received washroom upgrades and had lower flow fixtures installed. Over 2000 trees were planted in the district and many schools participated in recycling programs, Earth Day and numerous other conservation initiatives.

1.1 Stationary fuel combustion and electricity

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Replaced # computers with EnergyStar models	Complete	123 units replaced with new Energy Star units	
Installed multi-function devices (and removed stand-alone printers/faxes)	Complete	2 MF units installed and operational - Purchasing and Human Resources	
Replaced standard bulbs with CFLs	In progress		
Installed motion activated lights	Complete	6 Gymnasium and 50 classrooms controlled by sensors	Forest Grove Elementary South Slope Elementary Maywood Elementary Burnaby Mountain Secondary Moscrop Secondary Schou Education Centre

Undertaken lighting retrofit	Complete	6 schools: T12 - T8 Upgrades. 250,000 kWh reduction	Forest Grove Elementary South Slope Elementary Maywood Elementary Burnaby Mountain Secondary Moscrop Secondary Schou Education Centre
Utilized desk-top power management settings on computer	Complete	1000 units have power management operational.	
Applied for LEED existing building rating	In progress	2 school retrofits/additions under design	Brantford Elementary New elementary school at SFU
Undertaken building energy audit at LOCATION(s)	Complete	6 schools: lighting audits completed and work carried out	Forest Grove Elementary South Slope Elementary Maywood Elementary Burnaby Mountain Secondary Moscrop Secondary Schou Education Centre
Boiler Efficiency Upgrades	Complete	5 schools: reduced energy consumption 20-30%	Forest Grove Elementary Clinton Elementary Kitchener Elementary Armstrong Elementary
Direct Digital Control (DDC) Upgrades	Complete	8 schools: reduced energy consumption 10-15%	Stoney Creek Elementary Montecito Elementary Windsor Elementary Inman Elementary Gilpin Elementary Lakeview Elementary (partial) Gilmore Elementary (partial) Westridge Elementary (partial)
Roof Insulation	Complete	5 schools (partial)	Edmonds Elementary Windsor Elementary Kitchener Elementary Nelson Elementary Douglas Road Elementary
Re-roofs	Complete	6 schools had insulation increased during re-roofing	Armstrong Elementary Burnaby North Secondary Alpha Secondary Suncrest Elementary Douglas Road Elementary Lochdale Elementary
1.2 Supplies			
Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Initiated automatic double sided printing	Complete	All printers installed default to 2-sided printing	

Committed to hold paperless meetings	In progress	Some committee groups take advantage of this; however these meetings are not 100% paperless, but paper reduced
Developed document library (online and one printed copy) for large documents	In progress	Collaboration software is used as a document repository for specific user group activities
Used collaborative software to edit on-line	In progress	MS Office editing features are used by some staff for shared editing tasks
Used laptops/tablets	Complete	Laptops are assigned to the majority of administration-based staff
Restructured a process to use less paper	Complete	Launched intranet to disseminate district information and shared resources.
Actions on non-paper related supplies:		
Encouraged re-use of furniture and equipment	Complete	Purchase of 1088 lease return computer equipment

1.3 Employee Engagement

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Provided climate change education	In progress	Schools asked to report on actions taken and planned	
Provided conservation education	In progress	Formulation of curriculum underway SFU faculty	Curriculum development for the new elementary school at SFU and then for district-wide program delivery.
Held contests to change behaviour/make pledges	In progress	32 schools participated in Earth Day and Lights Out Day.	
Held contests/support to generate ideas	In progress	Best energy saving K-12 school received \$1,000 incentive for their work in conservation	
Developed Green Teams	In progress	Schools asked to report on actions taken and planned	
Supported Green Teams (resources)	In progress	Environmental Stewardship Committee	Newly formed at year's end to support school in all aspects of environmental actions
Provided green tips	In progress	Support through district web page is planned	Roll out of greening section on district website planned for spring of 2009
Supported professional development	In progress	Staff attending UBC for Sustainability Management Certificate	
Added green work goal to performance management	In progress	Schools asked to report on actions taken and planned	

1.4 Sustainability Actions (others)

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
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Took water conservation measures – low flow showers or toilets, fix leaks	Complete	2 schools: washroom upgrades with low flow fixtures
Supported composting	In progress	2 schools: composting program implemented
Purchased green cleaning products	In progress	Product Review Committee active in replacement and enhancement of Green cleaning products

Part 2: Plans to Continue Reducing Greenhouse Gas Emissions 2009 -- 2011

Overview	Burnaby School District will continue its ongoing program in GHG reduction through lighting upgrades, boiler retrofits and DDC installations while being more active in education of staff and students	
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2.1 Mobile Fuel Combustion

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Replace # of TYPE OF VEHICLE with MORE EFFICIENT VEHICLE/Hybrid	Planned	All new vehicles purchased will meet a performance specification that addresses environmental issues		
Provide driver training to reduce fuel use	Planned	Maintenance staff (50) to receive training		
Encourage car pooling in fleet vehicles	Planned	Part of our LEED gold requirement for 3 new schools		
Encourage use of public transit/active transportation	Planned	Part of our LEED gold requirement for 3 new schools		

2.2 Stationary Fuel Combustion (including electricity)

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Replace # computers with EnergyStar models	In progress	267 units being replaced with new Energy Star units	Within 08-09 school year	
Turn off lights in unused rooms	In progress	Programs for students and staff		
Undertake lighting retrofit	In progress	12 schools planned for 2009 and 2010	Twelfth Ave Elementary Morley Elementary Seaforth Elementary Windsor Elementary Montecito Elementary Cameron Road Elementary Confederation Park Elementary Aurbrey Elementary Brentwood Park Elementary Clinton Elementary Suncrest Elementary Gilpin Elementary	
Implement server virtualization	Planned			

Utilize desk-top power management settings on computer	In progress	An additional 4000 units to have power management operational by the end of August 2009	
Undertake building energy audit at LOCATION(s)	In progress	5 complete and 10 to follow	Twelfth Ave Elementary Morley Elementary Seaforth Elementary Windsor Elementary Montecito Elementary Cameron Road Elementary Confederation Park Elementary Aubrey Elementary Brentwood Park Elementary Clinton Elementary Suncrest Elementary Gilpin Elementary Capitol Hill Elementary Brantford Elementary Gilmore Elementary
Initiate or complete a building energy retrofit	In progress	3 complete and 9 scheduled for lighting	Twelfth Ave Elementary Morley Elementary Seaforth Elementary Windsor Elementary Montecito Elementary Cameron Road Elementary Confederation Park Elementary Brentwood Park Elementary Suncrest Elementary Capitol Hill Elementary Brantford Elementary Gilmore Elementary
Boiler Efficiency Upgrades (2009)	In progress	3 schools: reduced energy consumption 20-30%	Westridge Elementary (phase II) Windsor Elementary Brentwood Elementary
Direct Digital Control (DDC) Upgrades (2009)	In progress	6 schools: reduced energy consumption 10-15%	Douglas Road Elementary Cariboo Hill Secondary Kitchener Elementary (partial) Capitol Hill Elementary Lochdale Elementary (partial) Glenwood Elementary (partial)
Roof Insulation (2009)	Planned	3 schools	Schou Ed Centre (partial) Alpha SS (partial) Douglas Rd Elem (partial)

Re-roofs	Planned	5 schools had insulation increased during re-roofing	Cariboo Secondary (partial) Capitol Hill Elementary (partial) Gilmore Elementary (partial) Edmonds Elementary (partial) Chaffey-Burke Elementary (partial)
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2.3 Supplies

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Commit to use 100% recycled paper	In progress	In performance testing now		
Initiate automatic double sided printing	Completed	All printers installed default to 2-sided printing		
Commit to hold paperless meetings	In progress	Some committee groups take advantage of this; however these meetings are not 100% paperless, but paper reduced		
Develop document library (online and one printed copy) for large documents	In progress	Collaboration software is used as a document repository for specific user group activities		
Use collaborative software to edit on-line	In progress	MS Office editing features are used by some staff for shared editing tasks		
Use laptops/tablets	Complete	Laptops are assigned to the majority of administration-based staff		
Actions on non-paper related supplies:				
Encourage re-use of furniture and equipment	Complete	Purchase of 568 lease return computer equipment		

2.4. Employee Engagement

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Provide climate change education	In progress	Schools asked to report on actions taken and planned		
Provide conservation education	In progress	Formulation of curriculum underway SFU facility	Curriculum development for new elementary school at SFU and then for district-wide program delivery	
Hold contests to change behaviour/make pledge	In progress	32 schools participated in Earth Day and Lighting Out Day.		
Hold contests/support to generate ideas	In progress	Best energy saving K-12 school to receive \$1,000 incentive for their work in conservation		
Develop Green Teams	In progress	Schools asked to report on actions taken and planned		
Support Green Teams (resources)	In progress	Environmental Stewardship Committee	Newly formed at year's end to support school in all aspects of environmental actions	
Provide green tips	In progress	Support through district web page is planned	Roll-out of greening section on district website planned for spring of 2009	
Support professional development	In progress	Staff attending UBC for Sustainability Management Certificate		

Add a green work goal to performance management	In progress	Schools asked to report on actions taken and planned
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2.5. Sustainability Actions (others)

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Take water conservation measures – low flow showers or toilets, fix leaks	Planned	Washroom upgrades to low flow fixtures; 2 schools per year planned		
Support composting	Planned	All sites (56) planned over the next 5 years		
Purchase green cleaning products	in progress	Product Review Committee has an ongoing directive to improve all products used within the district		