

Carbon Neutral Action Report School District No. 67 (Okanagan Skaha)

Executive Summary

The operation of our school district results in a large quantity of carbon emissions. At the same time, our school district spends approximately \$1.3 million on electricity, gas, and fuel. Our district supports initiatives that will work towards the reduction of carbon waste and achieving the additional benefits of savings in our energy costs.

Objectives

- To develop an educational program which involves staff, students, and parents and encourages awareness of and reduction in energy efficiencies
- To continue to work to improve the efficiencies of all school district buildings
- To improve practices related to the amount of driving and the use of school district vehicles and equipment
- Other goals to be developed

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

Overview

Prior to 2008, School District No. 67 upgraded all HVAC equipment to direct digital controlled building management systems meeting current air quality standards. Fluorescent light fixtures in all schools were also upgraded to T8 tubes with electronic ballasts prior to 2008.

In 2008, the Destination Conservation program was initiated for a three-year term with Fortis, Terasen, and the school district as partners. The program supports student and staff involvement in all levels of green initiatives from utility savings through greenhouse gas reductions and landfill management.

The Penticton Secondary School opened in September 2008 and features geothermal energy use through ground source heat pumps, recovers heat and cooling from exhaust air, has state of the art electrical controls that turn corridor lights off when classes are in session and occupancy sensors in the classrooms.

Under "action taken" we have entered "in progress" in each row as we believe that all of these items will require continuous modification, research and monitoring and will never be 100% complete.

We have not listed each facility separately and are responding based on events happening in all locations.

1.1 Mobile Fuel Combustion

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Provided driver training to reduce fuel use		Initiated no idling practice for school district service vehicles.	
Initiated new fleet maintenance program (could include – changing filters, checking tire pressure, regular check-ups)	In Progress	All district vehicles are serviced at regularly scheduled intervals.	
Established anti-idling behaviour change program (e.g. signs, stickers, messages)	In Progress		

Encouraged use of public transit/active transportation	In Progress	City buses used on routes for students within walk limits to get to school.	
Conservation Destination programs in schools to create awareness and conserve energy		Implemented in all schools during the 2007-08 school year	
1.2. Stationary fuel combustion and electricity:			
Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Undertaken workstation tune-ups to help staff understand what they can do to reduce personal energy use	In Progress	Reduced energy consumption	
Supplied power bars – to turn off power to non-essential items when not in use (e.g. phone chargers)	In Progress	Reduced energy consumption	Technology installations
Undertaken Monitor turn-off challenge	In Progress		
Replaced # computers with EnergyStar models	In Progress	Reduced energy consumption	Technology installations
Asked staff to close blinds daily	In Progress	Reduced energy consumption	Outside shutters on facilities
Used air dry setting on dishwashers	In Progress	Reduced energy consumption	
Encouraged staff to use stairs	In Progress	Elevator keys provided for wheelchair access only	
Turned off lights in unused rooms	In Progress	Custodians trained. Occupancy sensors at some locations. Reduced energy consumption	Custodial and facility programs
Replaced Refrigerators (EnergyStar rated appliance)	In Progress	New purchases are all energy star rated. Reduced energy consumption.	Central purchasing ensures consistency in this area
Replaced other appliances (with EnergyStar rated appliance)	In Progress	Reduced energy consumption	Central purchasing ensures consistency in this area
Installed multi-function devices (and removed stand-alone printers/faxes)	In Progress	Reduced energy consumption	Central purchasing ensures consistency in this area
Replaced standard bulbs with CFLs	Complete	T8 fluorescent tubes with electronic ballasts and CFLs in pot lights.	Relamping and ballast replacement program
Installed motion activated lights	In Progress	Two schools completed.	Motion activated lights and security cameras. Part of capital plan.
Undertaken lighting retrofit	Complete	All schools complete.	Relamping and ballast replacement program. Rented school and maintenance shops not done.
Implemented server virtualization	In Progress	Reduced energy consumption	Technology installations. Thin client and virtualized central and distributed computing combined with home access
Utilized desk-top power management settings on computer	In Progress	Reduced energy consumption	Central purchasing ensures consistency in this area
Initiated corporate computer shut-down/wake-up for maintenance	In Progress	Reduced energy consumption	Centralized program ensures consistency in this area
Unplugged unused equipment	In Progress	Reduced energy consumption	
Undertaken building energy audit at LOCATION(s)	Complete	Done in 2005.	
Initiated or completed a building energy retrofit	Complete	HVAC completed in 2007 all schools.	

Vending Machine Energy Misers	Complete	Procurement documents require all vending machines to have motion detectors so power is off when no movement is detected.
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1.3 Supplies

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Committed to use 30% recycled paper	In Progress		Converted custodial supplies and monitoring prices and testing performance of bond paper
Committed to use 100% recycled paper	In Progress		Converted custodial supplies and monitoring prices and testing performance of bond paper
Initiated automatic double sided printing	In Progress	Paper consumption	New printers purchased with double sided capacity - existing capable printers settings changed
Changed document template margins	In Progress		
Committed to hold paperless meetings	In Progress		Trustees shown leadership with laptops at Board meetings. Technology used for video and audio conferencing
Developed document library (online and one printed copy) for large documents	In Progress	Number of online documents	Online central depository
Used collaborative software to edit on-line	In Progress		
Re-used non-confidential scrap paper	In Progress	Paper consumption	Paper and containers available for reuse and recycle
Used laptops/tablets	In Progress		One to one program for schools, principals, special needs
Restructured a process to use less paper	In Progress		Software implemented for document management and work orders
Actions on non-paper related supplies:			
Purchased cradle to cradle goods	In Progress		Bulk order of supplies direct shipped
Chose "Green" items from Distribution Centre	In Progress		Custodial methods and materials "green" based
Encouraged re-use of furniture and equipment	In Progress	Cost saving	Centralized purchasing and inventory allows for reuse of equipment, furniture, computers, etc.
Paper monitoring program	Complete	Pages printed	Installed software based paper monitoring program
Electronic book or periodical purchases	In Progress		Purchased electronic periodical subscriptions

1.4 Employee Engagement

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Provided climate change education	In Progress	At schools partnering in Destination Conservation	
Provided conservation education	In Progress	At schools partnering in Destination Conservation	
Schools involved in "Environmental Mind Grind" competitions (local environmental issue awareness)	In Progress		Environmental issues include: air quality, watershed health, waste reduction, water conservation, endangered species, forestry, transportation, and energy conservation.

1.5 Sustainability Actions (others)

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Took water conservation measures – low flow showers or toilets, fix leaks	In Progress	Most urinals flush with motion sensor. New secondary has waterless urinals. Toilets all low flow.	
Improved recycling measures	In Progress	Wood waste, cardboard, bottles, ledger paper all have separate containers.	Landfill tipping charges increase when recyclable products left in regular waste.
Purchased green cleaning products	Complete	All cleaning products green certified.	

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

Overview	<ul style="list-style-type: none"> - The school district will be examining the feasibility of wind and solar power as well as free cooling options for the data center. - Re-examine video conferencing and look at the feasibility of Readers. - Further research on automated and converged systems based on one infrastructure and IP protocol platform. - Nkwala school currently leased to SD#93 will have lighting and HVAC upgrades planned for 2011. 		
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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	In Progress	One maintenance vehicle per year	Budget only allows one vehicle per year	Ongoing
Provide driver training to reduce fuel use	Planned			2 years
Initiate new fleet maintenance program (could include – changing filters, checking tire pressure, regular check-ups)	Planned	GPS system for tracking idling, speed, etc.		2 years
Establish anti-idling behaviour change program (e.g. signs, stickers, messages)	In Progress		Continue anti-idling initiatives at schools.	3 years
Satellite operations centre in remote community	Planned		Review potential savings using satellite operations location.	3 years

2.2 Stationary Fuel Combustion (including electricity)

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Comprehensive software tool to control all IP enabled devices	Planned	Reduced energy consumption	Integrated software program to handle all devices - converged to IP based network	2009

2.3 Supplies

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Commit to use 30% recycled paper	Planned		Bond paper testing	Depends on cost trends
Commit to use 100% recycled paper	Planned		Bond paper testing	Depends on cost trends
Change document template margins	Planned	Paper consumption	Examining feasibility and savings	Spring 2009
Encourage re-use of furniture and equipment				

2.4 Travel

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Set a X% Travel reduction goal	Reduce travel	Actual expenditures	Reduce travel by 12%	Summer 2009

2.5. Employee Engagement

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Provide climate change education	In Progress	Destination Conservation	Promote more schools to be involved	3 years
Provide conservation education	In Progress	Destination Conservation	Promote more schools to be involved	3 years
Hold contests to change behaviour/make pledge	In Progress	Environmental Mind Grind	Promote more schools to be involved	3 years

2.6 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	In Progress	Water reduction	Change fixtures to low flow as old fixtures wear out	Ongoing
Use treated sewage effluent to irrigate large sports fields.		Use treated sewage for irrigation water rather than dumping sewage into lake. Saves using treated potable water on fields.	Plans to irrigate one secondary, one middle, and one elementary school with treated effluent.	2 years
Reduce/replace bottled water with filtered or refrigerated water Improve recycling measures Support composting Use re-usable dishes Purchase green cleaning products Use green (low-e paints) Support sustainable procurement practices Adopt low-carbon contracting practices	In Progress			2 years