

## **Carbon Neutral Action School District No. 72 (Campbell River)**

### **Executive Summary**

In October, 2008, School District 72 completed an energy management assessment through BC Hydro. In the same month, the Environmental Awareness Focus Group was created, as a think tank for environmental issues and topics, and with a mandate to develop an Environment Policy and facilitate initiatives throughout the school district designed to promote environmental sustainability. Specific projects completed in 2008 included conversion of boilers in an elementary school to high-efficiency units, resulting in significant energy savings, purchase of a "bulb crusher" to improve management of old fluorescent light bulbs, and initiating a trial of bio-degradable garbage bags. Energy audits were completed on four elementary schools.

### **Objectives**

Objectives and targets will be developed for the SD 72 by its Environmental Awareness Focus Group, in accordance with the working draft of the district's Environmental Policy. These will include the areas of environmental education, sustainable environmental practices, on-going measurement and evaluation of environmental performance, and that environmental awareness and education. Specific initiatives that are planned include conversion of boilers in an elementary school to high-efficiency units, hiring an environmental coordinator and, subject to receipt of grant funding, planting of over 300 trees at an elementary school.

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

### Overview:

Some of the highlights of actions taken the replacement of a boiler at Pinecrest School resulting in energy reductions, energy reduction initiatives by the IT Department, such as the replacement of all monitors with LCD monitors, a partial automatic shutdown system, and the virtualization of servers at the data centre, the completion of energy audits at 4 schools, improved recycling, the purchase of green cleaning products, the use of biodegradable garbage bags, the application for a Trees for Tomorrow project at an elementary school, and many more.

### 1.1 Mobile Fuel Combustion

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Established anti-idling behaviour change program (e.g. signs, stickers, messages)	In progress	3 of 20 schools have implemented policies.	
Bus driver training to reduce fuel consume.	Complete		

### 1.2 Stationary fuel combustion and electricity

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Undertaken Monitor turn-off challenge	Complete		LCD monitors / sleep mode
Replaced # computers with EnergyStar models	Complete		Most computers have been replaced.
Turned off lights in unused rooms	In progress		Discovery Passage, Sandowne, Penfield, Oyster River , Quadra & Timberline Schools have practices or programs.
Replaced Refrigerators (EnergyStar rated appliance)	Complete		Ongoing program in place to replace refrigerators with more energy efficient models
Replaced other appliances (with EnergyStar rated appliance)	Complete		Ongoing program in place to replace appliances with more energy efficient models
Installed multi-function devices (and removed stand-alone printers/faxes)	Complete		Where operationally feasible, all stand-alone printers/faxes have been replaced with multi-function devices
Implemented server virtualization	Complete		Complete at data centre in progress at middle and second schools
Initiated corporate computer shut-down/wake-up for maintenance	In progress		IT group is evaluating feasibility of District wide program

Undertaken building energy audit at LOCATION(s)	Complete	4 locations: Georgia Park, Sayward, Discovery Passage and Pinecrest
Initiated or completed a building energy retrofit	Complete	Pinecrest boiler replacement resulting in significant energy reductions

### 1.3 Supplies

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Used collaborative software to edit on-line	In progress		Acquired Doc U Share
Re-used non-confidential scrap paper			
Used laptops/tablets	Complete		Ongoing program in place to provide laptop computers rather than desktop PCs

### 1.4 Employee Engagement

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Provided climate change education	In progress		Waiting for result of Trees for Tomorrow application to reforest an area of Ripple Rock School grounds.
Supported professional development	Completed		Employee educational opportunities available through existing Pro-D programs.
Journal of Information Technology & Environmental Awareness created	Completed		Journal encourages environmental education.
Environmental Awareness Focus Group	Completed		Formed Environment Focus Group.
Nominated employee for Power Smart award	Completed		
Develop Environmental Policy	In progress		Environmental Focus Group has drafted an Environmental Policy for the District.

### 1.6 Sustainability Actions (others)

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Took water conservation measures – low flow showers or toilets, fix leaks	Complete	Upgraded when maintenance required.	Ongoing program in place to replace fixtures with low flow devices
Improved recycling measures	In progress		"Bulb eater" purchased in 2008 to crush florescent tubes. Feasibility review being conducted of providing recycling containers in classrooms
Supported composting	In progress	Two schools have adopted composting programs	Program to be reviewed for possible expansion and potential health & safety implications (odour, pest control)
Purchased green cleaning products	Complete		Ongoing program

Used green (low-e paints)	Complete		Ongoing program in place to use low emissions paints where feasible
Power Smart Partner Agreement Completed	Complete		Energy manager hired.
Bio-Degradable garbage bags	Complete	Incremental District cost of \$12 K per year. User education and review of janitorial practices planned in order to improve financial sustainability.	On a trial basis, switched to bio-degradable garbage bags in 2008.

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

### Overview:

SD 72's plans to continue to reduce greenhouse gases include purchasing energy efficient school busses, establishment of vehicle anti-idling behaviours at schools, replacement of lower efficiency appliances and lighting with higher efficiency models, initiatives to heighten employee and student awareness leading to behavioural change, and continued retrofits at sites throughout the school district.

### 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		4 school buses on order. GPS system being considered as part of purchase.	2009
Provide driver training to reduce fuel use	Complete		Ongoing drivers' education program in place	
Establish anti-idling behaviour change program (e.g. signs, stickers, messages)	In progress		Discussed at Transportation and Environmental Awareness Focus group meetings. Expansion of program under discussion.	2009

### 2.2 Stationary Fuel Combustion (including electricity)

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Replace # computers with EnergyStar models	Complete		Ongoing program in place to replace computers with more energy efficient models	
Turn off lights in unused rooms	In progress		Trial project underway in six schools using Student Leadership program	2009
Replace Refrigerators (EnergyStar rated appliance)	Complete		Ongoing program in place to replace refrigerators with more energy efficient models	

Replace other appliances (with EnergyStar rated appliance)	Complete		Ongoing program in place to replace appliances with more energy efficient models
Install multi-function devices (and remove stand-alone printers/faxes)	Complete		Where feasible, all stand-alone printers and faxes have been replaced with multi-function devices
Install motion activated lights	Complete		School Board Office uses motion activated lights. Design to be incorporated into future energy retrofits for other facilities
Undertake lighting retrofit	In progress	200,000 kWh/yr potential electrical savings. Payback period varies from 5.5 to 12 years, depending on facility. Total cost approximately \$185,000	Power Smart application submitted for 4 schools 2009
Implement server virtualization	Complete		Ongoing program in place to utilize server virtualization
Undertake building energy audit at LOCATION(s)	In progress		PowerSmart application submitted for energy audit of one school 2009
Improved building insulation	In progress	Two large roofing projects planned for 2009 (Willow Point and Southgate)	Roof insulation to be improved in conjunction with re-roofing projects. Summer 2009
Cortes Boiler Replacement	In progress	100 GJ/year saving through reduced propane consumption anticipated	Cortes boiler replacement with high efficiency boiler. Summer 2009
Solar Wall installation	In progress		Solar wall to be incorporated at part of Willow Point school expansion project 2009-2010

### 2.3 Supplies

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Use collaborative software to edit on-line	In progress		Doc U Share system to be developed as staffing resources permit	

### 2.4 Employee Engagement

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Provide conservation education	In progress		Some educational programs in progress (e.g. guest speaker from Regional District).	2009
Support professional development	Complete		Environmental awareness training available through existing Pro-D programs	
Step Up Program	Complete		Web site provides CO2 equivalent for number of steps walked	Winter 2008
Attended Sustainability Forum	Complete	Environmental Focus Group attended		Fall 2008
Develop Environmental Policy	In progress		Environmental Focus Group has drafted an Environmental Policy for the District.	Jun-09

## 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	In progress		Various washroom renovations for summer 2009	Summer 2009
Improve recycling measures	In progress		Feasibility review being conducted of providing recycling containers in classrooms	2009
Support composting	In progress	Two schools have adopted composting programs	Program to be reviewed for possible expansion and potential health & safety implications (odour, pest control)	2009