

## Carbon Neutral Action Report School District No. 71 (Comox Valley)

### Executive Summary

School District 71 (Comox Valley) has, for many years now, undertaken projects to conserve energy. Examples of these initiatives are the installation of energy efficient light fixtures and controls such as occupancy and scheduled controls. Many of our facilities have DDC heating and cooling controls allowing greater comfort for students and staff while reducing energy costs and emissions. In some smaller facilities we have installed heat pumps to increase heating efficiency.

We have reduced water use by installing low flow fixtures, and have added software controlled irrigation controls.

From 1999 through 2007 our district reduced electrical consumption by over 901,000 Kwh.

During 2008 we drafted an 'Anti-Idling' policy, designed and printed Anti-Idling bumper stickers. These have been applied to every fleet vehicle. In addition, anti-idling signs are currently being installed at all facilities. In 2009 we drafted an energy conservation planning and monitoring policy that will act as a guideline for our efforts. In conjunction with BC Hydro we have recently hired an Energy Manager to oversee our new policy and manage various conservation projects. A conservation oriented web blog is now up and running on our SD71 website. We also launched a student energy conservation contest to involve students in the process.

We are moving ahead with involvement of all partner groups to ensure 'buy-in' by formation of 'Green' Committees.

This district is doing all it can in a proactive fashion to promote conservation and the subsequent reduction of greenhouse gases.

### Objectives

Education of staff (Teachers, Administration, Support) as well as taking the message to the students and parents. This would involve the local Climate Action Facilitator to assist with some of this delivery. Paper and cardboard recycling are being expanded. A number of schools have environmental clubs with really motivated teachers. Some of these are involved with recycling efforts, greening, and even have a thirst to know what the gas and electrical consumption is for their school. We are currently working with an energy management software tool to allow us to advertise our monthly energy costs and total greenhouse gas emissions to each school. This information tool ranks each facility in the district. This will give the building occupants a sense of their overall GHG contribution in a visual way and help to promote reduction.

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

### Overview

During 2008 we hosted an information session on 'Anti-Idling' for maintenance support staff. We designed, printed and affixed new Anti-idling bumper stickers (all fleet vehicles display the new bumper stickers). We designed, printed and distributed small colourful stickers that affix to light switch cover plates. The message on these stickers asks the user to become part of the solution by turning off the lights.

We installed some different occupancy sensors to control lighting in an effort to find the one that will work best for us. The district continues to monitor DDC heat control settings and adjust as required to maximize setback periods. Meet with Maintenance staff to explore other areas of potential reduction of energy uses.

## 1.1 Mobile Fuel Combustion

Actions include introducing anti-idling program for fleet vehicles, which included a meeting with Maintenance staff with the local Climate Action Facilitator present to assist with the delivery of the plan. A meeting took place with our fleet maintenance staff to go over things they can be doing to assist with lowering fuel consumption and improving emission discharge.

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Initiated new fleet maintenance program (could include – changing filters, checking tire pressure, regular check-ups)	In Progress	Fuel use reduction	
Established anti-idling behaviour change program (e.g. signs, stickers, messages)	Complete	Fuel Use reduction = less carbon emission	

## 1.2 Stationary fuel combustion and electricity

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Undertaken Monitor turn-off challenge	In Progress		email directive
Asked staff to close blinds daily	In Progress		email directive
Turned off lights in unused rooms	In Progress		email directive and use of message stickers
Replaced standard bulbs with CFLs	In Progress	lowering electrical consumption	Instructed staff to remove incandescent bulbs
Installed motion activated lights	In Progress	lowering electrical consumption	
Undertaken lighting retrofit	In Progress	lowering electrical consumption	
Utilized desk-top power management settings on computer	In Progress	lowering electrical consumption	Installed Deep Freeze
Unplugged unused equipment	In Progress	lowering electrical consumption	
Undertaken building energy audit at LOCATION(s)	In Progress		Highland Secondary, Mark Isfeld Secondary GP Vanier Secondary, Brooklyn Elementary

## 1.3 Supplies

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Initiated automatic double sided printing	In Progress	reduce waste/lower carbon footprint	
Changed document template margins	In Progress	reduce waste/lower carbon footprint	

## 1.4 Employee Engagement

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Provided climate change education	In Progress		Local Climate Action Facilitator meetings
Held contests to change behaviour/make pledges	In Progress		
Held contests/support to generate ideas	In Progress	Student energy conservation contest received 200 entries	all ideas are considered for implementation
Developed Green Teams	In Progress		Parents/Teachers/Administration/Climate Action Facilitator moving forward with Green Team concept.
Supported Green Teams (resources)	In Progress		
Provided green tips	In Progress		
Supported professional development	In Progress		

Created "energy bear" suggestion portal	In Progress	Conservation ideas submitted weekly	Created special email address for submission purposes
Created energy conservation blog on district webpage	In Progress	activity and positive feedback from readers	Post are up-dated weekly and links to other information

### 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		
Ran dishwasher only when full	In Progress		
Reduced/replaced bottled water with filtered or refrigerated water	In Progress	Investigating filtering options	Meeting with environmental club at Vanier to implement
Improved recycling measures	In Progress	Found textbook recycler	
Supported composting	In Progress		
Used re-usable dishes	In progress		
Used green (low-e paints)	Complete		

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

<b>Overview</b>	<p>Our future plans for 2009/2010 included a number of exiting initiatives. With the recent addition of an energy manager we will be creating a number of conservation projects. These will include a solar wall, a domestic hot water control initiative, and several lighting upgrades. Two of our maintenance buildings will be insulated and upgraded. An HVAC/DDC upgrade for our largest secondary high school is planned with a proposal for a geo-thermal component. Training of custodial and maintenance staff will be done in order to help them buy-in to our efforts. We will continue to meet with other districts and agencies to gather knowlege and ideas for future implementation.</p>
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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			
Provide driver training to reduce fuel use	Planned			
Initiate new fleet maintenance program (could include – changing filters, checking tire pressure, regular check-ups)	In Progress			30-Jun
Establish anti-idling behaviour change program (e.g. signs, stickers, messages)	In Progress			30-Jun
Change from gas to electric lawn maintenance equipment	Planned			

### 2.2 Stationary Fuel Combustion (including electricity)

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Supply power bars – to turn off power to non-essential items when not in use (e.g. phone chargers)	Planned		research underway with BC Hydro to supply smart power bars	2009/2010
Undertaken Monitor turn-off challenge	Planned			
Ask staff to close blinds daily	In Progress		Email Directive	
Use air dry setting on dishwashers	In Progress		Email Directive	
Turn off lights in unused rooms	In Progress		Email Directive	
Replace Refrigerators (EnergyStar rated appliance)	Planned			

Replace other appliances (with EnergyStar rated appliance)	Planned		
Replace standard bulbs with CFLs	In Progress		Maintenance staff replacing/retrofitting fall 2009
Install motion activated lights	In Progress		Began in 08
Undertake lighting retrofit	In Progress		2 facilities underway summer 2009
Utilize desk-top power management settings on computer	In Progress		Deep Freeze
Unplug unused equipment	In Progress		Email Directive 09-Feb
Undertake building energy audit at LOCATION(s)	Complete		Highland, Vanier, Isfeld Secondary/Brooklyn elementary winter 08/09
Initiate or complete a building energy retrofit	in progress		GP Vanier HVAC/DDC upgrade 2010
Solar wall installation	In Progress		Mark Isfeld Secondary Spring 09

### 2.3 Supplies

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Initiate automatic double sided printing	in progress		email directive	
Change document template margins	in progress		email directive	
Develop document library (online and one printed copy) for large documents	Planned		Looking at starting to build this	
Choose "Green" items from Distribution Centre	Planned			
Encourage re-use of furniture and equipment	In Progress		always recycling furniture where we can	

### 2.4 Employee Engagement

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Provide climate change education	Planned			
Provide conservation education	Planned			
Hold contests to change behaviour/make pledge	Planned			
Hold contests/support to generate ideas	Planned			
Develop Green Teams	In Progress		formed after the Feb webinar	
Support Green Teams (resources)	Planned			
Provide green tips	Planned			
Support professional development	Planned			
Add a green work goal to performance management	Planned			

### 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	reduction of water, gas and electricity	The district initiated this 3+ years ago	
Run dishwasher only when full	In Progress		Email directive	
Reduce/replace bottled water with filtered or refrigerated water	Planned			
Improve recycling measures	Planned			
Support composting	Planned			
Use re-usable dishes	Planned			
Purchase green cleaning products	Planned			
Use green (low-e paints)	Planned			
Support sustainable procurement practices	Planned			

<b>ADDITIONAL ACTIONS TAKEN OR PLANNED</b>				
<b>Action</b>	<b>Action Planned</b>	<b>Outcome/Performance Measure</b>	<b>Notes Clarifying Action Taken</b>	<b>Timeframe</b>
Upgrade portable furnaces to high efficiency	In progress	less fuel use, cleaner burning	2.6	on going
Solar wall installations	Planning		2.6	2009 / 2010
Solar water heating	Planning		2.6	2009 / 2010
day lighting control	Planning		2.6	summer 09
Ultra sonic and passive occupancy sensor	Planning		2.6	2009 / 2010
Power Factor Correction	in Progress		2.6	2009
Electric Hot Water Heater timers	Planning		2.6	2009
Glazing upgrades	In Progress		2.6	on going
Exterior solar lighting	Planning		2.6	2009/2010
power mizers on vending	Planning		2.6	2009
Increasing R Value on roofing	in Progress		2.6	on going