

## Carbon Neutral Action Report School District No. 58 (Nicola- Similkameen)

### Executive Summary

The district started on energy conservation and carbon neutrality in 1996. Since then, eight of twelve facilities have had their heating systems changed to DDC controls. This is in addition to other retrofits of more energy efficient heating and air conditioning units that have taken place during that time.

The maintenance department has cut back on the watering of the school fields. They have also reduced the amount of fertilizer that is applied. These two changes have allowed the district to reduce the cutting schedule to once a week from twice.

The district has worked on an employee awareness program on shutting off lights in unused rooms. The strategies included offering prizes for the largest decline in power usage for a specific period of time and also reminders being sent out to principals.

Timers were put on all vending machines in the late 1990's. The timers shut the machines off in the evenings when the buildings were not occupied. The lights on the machines are also shut off at all times.

The maintenance department has worked with BC Hydro on various programs that saw the replacement of fluorescent lights with low wattage lights. The ballasts have also been changed in all but four schools as this is an ongoing program. It is expected that this program will be completed by June, 2010.

All sites have a paper recycling program with most also incorporating a bottle recycling program as well. Implementation of purchasing cards was implemented a number of years ago to reduce the number of purchase orders that were generated, especially for smaller purchases. This resulted in less paper being used at the district level and also less invoices being generated by suppliers.

A polycom video conferencing system was installed in the board room in 2007 in order to facilitate video conferencing. The schools in the district are located in two larger communities and the polycom system has allowed meetings to take place without having the participants travel to the meeting site.

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

### Overview:

A sustainable schools committee comprising of teacher, principal, and district staff has been formed and will be meeting in June 2009 to start plans for the next school year. Part of the plan is to expand the committee to include students and support staff is formed. The current committee participated in the recent video conference on sustainable schools.

### 1.1. Mobile Fuel Combustion:

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Provided driver training to reduce fuel use	completed	Reduction in fuel costs for all district vehicles and this will be measured by doing comparisons to past years	All drivers participated in this program and the Maintenance Supervisor will continue to monitor the program and track results.
Initiated new fleet maintenance program (could include – changing filters, checking tire pressure, regular check-ups)	in progress	The district converted all its buses to diesel from propane which has resulted in longer times between servicing. As well, drivers are encouraged to do regular tire pressure checks as part of their pre trip inspections	As per above
Established anti-idling behaviour change program (e.g. signs, stickers, messages)	completed	Reduction in fuel costs for all district vehicles and this will be measured by doing comparisons to past years	All drivers participated in this program and the Maintenance Supervisor will continue to monitor the program and track results. Principals have also been encouraged to monitor this and report concerns to the Supervisor.
Encouraged car pooling in fleet vehicles	in progress	Staff regularly travel between the two main communities in the district and also to meetings outside the district. Car pooling is being encouraged to reduce travel costs as well as costs to the district.	The Superintendent and Secretary Treasurer are bringing this up regularly at staff meetings. Travel expense claims are reviewed to ensure that car pooling is taking place where possible.

**1.2. Stationary fuel combustion and electricity:**

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Supplied power bars – to turn off power to non-essential items when not in use (e.g. phone chargers)	in progress	Reduction in energy costs and while it is difficult to pinpoint what specific programs are generating what savings, the overall decrease in costs can be monitored.	The maintenance department does regular inspections of the schools and are working on a program to have these implemented in every classroom.
Replaced # computers with EnergyStar models	in progress	Reduction in energy costs and while it is difficult to pinpoint what specific programs are generating what savings, the overall decrease in costs can be monitored. The new laptops are more energy efficient than the five to seven year old computers that they are replacing.	There is a district plan that will see this completed by June, 2011.
Turned off lights in unused rooms	in progress	Reduction in energy costs	Principals, maintenance and other staff members continue to monitor.
Installed multi-function devices (and removed stand-alone printers/faxes)	in progress	Outcomes will not be known until the next school year when paper and ink cartridges are ordered as part of the bulk supplies purchase. The networked copier should reduce the number of cartridges replaced and making use of scanning should reduce the use of paper.	The district has replaced station printers with networked copiers having scanning capabilities.
Undertaken lighting retrofit	in progress	Monthly tracking of electrical consumption by site has provided information on the success of all district programs around energy conservation.	There is a target completion date of December 2010 for all schools to be brought up to standards. The district is also working BC Hydro on this program.
<b>Other: (Please enter any items not included in the above list)</b>			
Pilot project on installing motion sensors in gymnasiums	in progress	Monthly tracking of electrical consumption by site has provided information on the success of all district programs around energy conservation.	The pilot schools will be monitored between now and December, 2009 to determine the effectiveness of the sensor program and also its impact on the use of the gymnasium.

Purchase of more energy efficient motors on pumps and fans	ongoing	Monthly tracking of electrical consumption by site has provided information on the success of all district programs around energy conservation.	This is something that has been ongoing for a number of years. The standard practice is to balance the additional cost if there is any, with the savings that would be involved.
Shutoff off vending machine lights	Completed	Monthly tracking of electrical consumption by site has provided information on the success of all district programs around energy conservation.	This was implemented several years ago and is a district standard.

**1.3. Supplies:**

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Initiated automatic double sided printing	in progress	This will be measured by an anticipated decrease in bulk paper being ordered over the next two years.	This is a program that just started this year and will be part of a more comprehensive district program in 2009/10.
Committed to hold paperless meetings	in progress	This will be measured by an anticipated decrease in bulk paper being ordered for the district office.	The laptops have been ordered and the district is investigating various programs available.
Developed document library (online and one printed copy) for large documents	in progress	There has been a reduction of paper used for major documents.	Documents are now put on the district website and emails or a brief memo is sent out to advise those involved rather than making numerous copies of the document.
Re-used non-confidential scrap paper	complete	Elimination of purchase of non-stick memo pads.	This has been a standard practice in the district for a number of years.
Used laptops/tablets	in progress	Reduction of paper use at the schools as well as a reduction in electrical use as the laptops are more energy efficient than the old desk top units.	More than 70% of the district's teachers are now using laptops and projectors which should result in a significant reduction in paper use.
<b>Other: (Please enter any items not included in the above list)</b>			
Bottle and can recycling	complete	Janitors monitor what is in garbage.	School staffs and students see this as a high priority and this is a very active program in all district schools.

**1.4 Travel** (Report on Travel is required only if a core government ministry/tribunal, where travel is paid directly from the Consolidated Revenue Fund)

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Trained staff in the use of Live Meeting (or other desktop collaborative software)	in progress	Reduction in claims for mileage and use of district vehicles.	Three sites have been set up and
Installed Video Conferencing facilities	in progress	Reduction in claims for mileage and use of district vehicles.	Updated polycom system in three sites and two more sites will be completed by the end of June, 2010.
Mandated car pooling to government meetings	in progress	Reduction in claims for mileage and use of district vehicles.	This will be mandatory starting in September, 2009.

**1.5 Employee Engagement**

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Provided conservation education	in progress	More awareness of the issues by staff and students.	There has been an employee based meeting but this will be expanded this fall.
Developed Green Teams	in progress	More awareness of the issues by staff and students.	The current program will be expanded and more formalized.

**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	in progress	Reduction in water meter costs.	Pilot project summer of 2009. Trial on urinal sensors to replace constant running models.
Ran dishwasher only when full	in progress	Reduction in water meter costs.	Staffs are being encouraged to do it and most of them do this already.
Supported composting	in progress	Compost used to reduce paper recycling and to generate funds to expand the program.	There are two worm composters at the one of the high schools and one has just been added to an elementary school. This will be monitored to determine future expansion plans.
Used re-usable dishes	in progress	reduction in costs of disposable dishes	Started last year with Styrofoam dishes being replaced by re-usable ones.

<b>Other: (Please enter any items not included in the above list)</b>				
Student presentations on global change and environment	in progress	Increase student and staff awareness as well as to generate more ideas on green initiatives.	This is a new initiative that will be expanded next year.	

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

**2.1. Mobile Fuel Combustion:**

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Establish anti-idling behaviour change program (e.g. signs, stickers, messages)	in progress	Reduction in fuel costs and frequency of maintenance.	Expand current program to include monitoring and ongoing encouragement for staff. Plans to purchase stickers and other reminders in place for 2009/10.	
Encourage car pooling in fleet vehicles	in progress	Reduction in fuel costs and frequency of maintenance.	Reinforcement of this has already started with staff.	
Establish travel reduction goals	in progress	Reduction in fuel costs, frequency of maintenance and mileage claims.	Encourage increased car pooling for travel in district. Reinforcement of this has already started with staff.	
<b>Other: (Please enter any items not included in the above list)</b>				
Installation of catalytic converters on buses	in progress	Documented program that has proven to reduce emissions.	All parts have been ordered and will be installed.	2009
Re entry diesel bypass system	in progress	Reduction in addition of oil between servicing.	All parts have been ordered and will be installed.	2009
Review grass types for lower maintenance e-types for school fields	in progress	Reduction in number of times that the grass needs cutting.	This will be completed by the fall of 2009 and discussions will take place on how this information can best be used in the district.	

**2.2. Stationary Fuel Combustion (including electricity):**

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Undertake workstation tune-ups to help staff understand what they can do to reduce personal energy use	planned	Reduction in overall energy usage and implementation of new initiatives.	District committee is being formalized and expanded.	December, 2009

Undertaken Monitor turn-off challenge	in progress	Reduction in overall energy usage.	The maintenance department has been installing master switches in computer labs with most labs to be completed in the 2009/10 school year.	
Replace # computers with EnergyStar models	in progress	Reduction in overall energy usage .	This is being carried out in conjunction with the student and teacher laptop initiative.	
Ask staff to close blinds daily	planned	Heating units running less.	This is on the agenda for the fall of 2009.	Sep-09
Use air dry setting on dishwashers	in progress	Dishwasher used less	Education on the benefits of this to be provided to staff.	Sep-09
Turn off lights in unused rooms	in progress	Reduction in energy costs, lights out when no one in the room, to be monitored by supervisors.	Incentive/information programs are periodically put in place and will be used on a more consistent basis.	Sep-09
Replace standard bulbs with CFLs	in progress	Reduction in energy costs.	This is an ongoing program with an expected completion date of next year.	
Install motion activated lights	in progress	Inspection to ensure lights aren't on when not needed	This was in place ten years ago but became an issue for employees working alone and there were vandalism issues. Advances in equipment has allowed the district to implement this program again.	Aug-09
Undertake lighting retrofit	in progress	See notes earlier in document.		December, 2009
Utilize desk-top power management settings on computer	in progress	Regular inspections to ensure that computers and monitors are turned off when not in use.	The district is using a combination of software, manual methods on computer/monitor shut off, and employee education to support this program.	Aug-09
Unplug unused equipment	in progress	Visible inspections to be carried out with follow up on unused equipment that is still plugged in.	This is relatively new and will be part of the education program planned for the fall of 2009.	
<b>Other: (Please enter any items not included in the above list)</b>				
Expand pilot program on motion sensors in gymnasiums	in progress	Lights in gym will be off when gym is not in use.	All schools will be completed by December 2009.	Aug-09

Timers on bus block heaters	planned	Block heaters will only be on for five hours per day instead of twelve as they are now.	This has been tried before but with power outages, the block heaters do not come back on. With advances in technology, it is hoped that there will be more options to allow this to be implemented.	Review to be completed by December, 2009
Timers on all outdoor lights	planned	Install outdoor lights on timers at all playgrounds.	Maintenance department to have study ready by December of this year with installation to be completed at the start of the 2010 school year.	Aug-10
Continue upgrade to more energy efficient rooftop heating units	planned	Reduction in energy consumption.	A district wide report will provide directions on the long term replacement of rooftop heating units.	Report by March 2010.

### 2.3. Supplies:

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Initiate automatic double sided printing	in progress	Reduction in paper purchases.	All staff to be reminded regularly so that they serve as the main drivers of the program.	
Commit to hold paperless meetings	in progress	Reduction in mileage and travel costs.	Equipment has been updated and as a result, more meetings are taking place by polycom.	
Develop document library (online and one printed copy) for large documents	in progress	Reduction in purchase of books and paper.	Teacher laptop program has been implemented and part of that is the use of a depository for lessons.	
Use collaborative software to edit on-line	in progress	Reduction in purchase of books and paper.	Teacher laptop program has been implemented and part of that is the use of a depository for lessons.	
Re-use non-confidential scrap paper	in progress	no purchase of scrap papers	Staff reminded to use not needed copies for scrap paper.	
Use laptops/tablets	in progress	Reduction of paper purchases, books and photocopies.	Entering third cohort group of teachers and second cohort group of grade sevens on laptop program.	Oct-09
Restructure a process to use less paper	in progress	Reduction of paper purchases, books and photocopies.	See above projects.	

<b>Actions on non-paper related supplies:</b>				
Encourage re-use of furniture and equipment	in progress	Reduction of equipment purchases and increased use of recycled equipment by schools.	Notices are sent out to schools advising them of furniture and equipment that is not needed at a particular site. Online surplus goods auction for goods that are unwanted by schools.	

**2.4. Travel** (Report on Travel only if a core government ministry/tribunal, where travel is paid directly from the Consolidated Revenue Fund)

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Train staff in the use of Live Meeting (or other desktop collaborative software)	planned	More meetings held on line.	Training program for schools part of next year's technology plan.	
Install Video Conferencing facilities	in progress	More meetings held on line.	The site at Princeton Secondary school will be upgraded to better facilitate video conferencing.	Dec-09
Mandate car pooling to government meetings	in progress	Reduction in the number of district vehicles traveling	Mandatory car pooling Merritt-Princeton travel. Directions have been given to staff to arrange their trips so as to reduce the number of vehicles on the road.	

**2.5. Employee Engagement**

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Provide conservation education	in progress	Increased awareness and implementation of more initiatives.	The district committee will be expanded and regular meetings set to ensure that district and school based programs remain a priority in the district.	30-Jun-10
Hold contests/support to generate ideas	in progress	Increased awareness and implementation of more initiatives.	Contests have been held in the past to highlight the shutting off of lights in unused rooms and this will be expanded to included more areas.	Mar-10
Support professional development	in progress	More staff and students familiar with the need to conserve and ideas.	Minutes of the meetings and highlighting professional development opportunities.	

## 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	planned	Eliminate all constant flow urinals. Reduced water usage	Maintenance department will be replacing constant flow urinals.	30-Jun-10
Run dishwasher only when full	in progress	Reduced water usage	This is a program that is already in place.	
Improve recycling measures	planned	Increased awareness of energy conservation and generation of new ideas.	Sustainable Schools committee will be a sub committee of the district committee.	
Support composting	in progress	Use of scrap paper and money generated through sales of compost.	The two schools are a pilot project and the plan is to expand to more schools subject to the results of the pilot programs.	Sep-09
Use re-usable dishes	planned	Reduced purchase of disposable plates.	Funding to be provided for schools wishing to convert to re-usable dishes.	
Purchase green cleaning products	planned	Balance of cost and green products.	Green cleaning products to be added to this year's bulk purchase documents so that comparisons can be made to non-green products.	May-10
<b>Other: (Please enter any items not included in the above list)</b>				
Replace toilettes with lower use flush tanks	planned	Reduction in use of water	The maintenance department is reviewing all sites to prepare a cost estimate of replacing the tanks with lower flush models, factoring in labour and surface finishing costs.	30-Jun-10
anti idling program	planned	Reduction of idling in school parking lots and on streets where parents pick up their children.	Expand to parents and other partners. This will be added to the pac meeting agendas this fall and reminders will be added on a regular basis.	2009/10