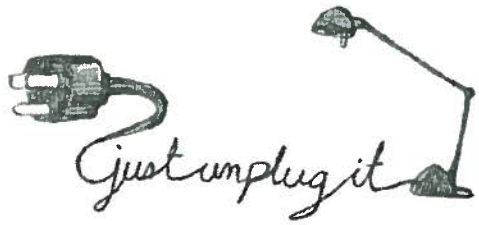
2012 Carbon Neutral Action Report

SD83 North Okanagan-Shuswap

Executive Summary

As an Educational Organization in our region, School District 83 believes that we are accountable for providing leadership in environmental responsibility for our community.

As a commitment to our ecology, the North Okanagan-Shuswap School District has three primary goals: demonstrate a commitment for Understanding Sustainability, Modelling Green Stewardship, and Implementing Environmental Actions.

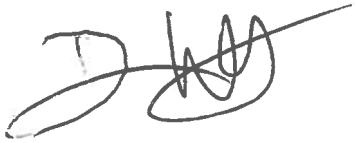


The district participates in Workplace Conservation Awareness Program (WCA) sponsored by BC Hydro and has selected to focus on the theme this year of "Just Unplug It" to focus on reducing the number of appliances and equipment that are plugged in and drawing electricity. The overall goal of this program is to reduce our baseline electricity in kilowatt hours (kWh) by 5% when compared to the baseline year.

To reduce our carbon footprint, the district created an Energy Policy in 2011 and remains committed to an overall five year energy reduction target of 16%. Environmental stewardship is taken into consideration in an increasing number of executive decisions.

Through Policy, all employees and students are responsible to conserve energy, help build a society that is environmentally sustainable, and to reduce our Carbon Footprint. To support these endeavours we continue to work with a number of agencies to promote initiatives in support of behavioural change.

Dave Witt



Superintendent SD83, North Okanagan Shuswap

2012 Greenhouse Gas Emissions

In 2012 the operations of School District 83 contributed 3,642 tCO_2e of Carbon into the atmosphere. With our District encompassing over 5600 Km^2, we operate a large bus fleet across 32 routes transporting almost 60% of our 5,940 students to school. With 6000 Km being traveled daily by our buses, they contribute less than 1,100 tCO_2e of Carbon annually into the environment. If the transportation by buses was not part of the services provided by our District, the impact of carbon emissions in our community would be much larger with parents bringing their children to school in automobiles. When the emissions of the buses are excluded from our Carbon Footprint, the net input into our ecosystem is 2,582 tCO_2e of Carbon.

Offsets Applied to Become Carbon Neutral in 2012

School District 83 - North Okanagan-Shuswap

Greenhouse Gas Emissions Source Detail Report for the 2012 Calendar Year

Source		Quantity		Greenhouse Gases In Tonnes CO_2	CH_4	N_2O	tCO_2e *
Stationary Fuel Combustion (Building Heating and Generators) and Electricity							
Offset Required	Fuel Combustion **	39,838.03	GJ	2,040.85	0.04	0.05	2,058.66
	Purchased Energy	25,451.44	GJ	175.61	0.00	0.00	175.61
	Offset Required Sub Total			2,216.46	0.04	0.05	2,234.28
TOTAL STATIONARY EMISSIONS				2,216.46	0.04	0.05	2,234
Mobile Fuel Combustion (Fleet and other mobile equipment)							
Offset Required	Fuel Combustion **	92,409.00	L	203.51	0.02	0.06	221.55
Offset Required Sub Total				203.51	0.02	0.06	221.55
Offset Exempt	School Bus	389,445.00	L	995.42	0.04	0.06	1,014.55
	CO_2 from Biogenic Fuel Combustion			45.22	N/A	N/A	45.22
Offset Exempt Sub Total				1,040.64	0.04	0.06	1,059.77
TOTAL MOBILE EMISSIONS				1,244.16	0.07	0.12	1,281
Supplies (Paper)							
Offset Required	Non-recycled Content Paper	18,016	Pkg	116.37	0.00	0.00	116.37
	Recycled Content Copy Paper	1,760	Pkg	10.03	0.00	0.00	10.03
Offset Required Sub Total				126.40	0.00	0.00	126.40
TOTAL SUPPLIES EMISSIONS				126.40	0.00	0.00	126
	Total Offset Exempt			1,040.64	0.04	0.06	**1,060**
	Total Offset Required			2,546.37	0.06	0.11	**2,582**
	TOTAL EMISSIONS			3,587.02	0.11	0.17	**3,642**

As required by the Carbon Neutral Government Regulations, all of our Carbon Emissions were reported through input into SMARTTool. Our total 2012 emissions were 3,642, the bus fleet exemption was 1,060. With the equivalent of 2,582 tonnes of non-exempt Carbon being reported into SMARTTool, we were required to purchase offsets of $64,550 plus GST, to make School District 83, Carbon Neutral.

Emissions Reduction Activities

Actions Taken to Reduce Greenhouse Gas Emissions in 2012

Schools start at staggered times to give the Buses a larger window of time to travel between bus routes. With the use of GPS Technology, all bus routes are designed to be as efficient as possible which reduces mileage, time, and the number of buses required to safely transport our students to school.

GPS technology is installed in all Maintenance vehicles. The Department has started to monitor travel with the goal being a reduction of "windshield time". This is complimented by refined planned work weekly schedules.

CO^2 Sensors monitor the air quality in the classrooms; therefore fresh air is introduced into the space as needed rather than by a fixed and constant amount. This not only reduces heating and cooling loads, but it allows additional fresh air to be delivered if air quality deteriorates. Air quality is better, and the amount of fossil fuels required to temper the outside air is diminished which also reduces Carbon Emissions.

Upgrades have been made to the exterior and interior lighting in many of our schools. We have added controls to the outside lights so areas other than the main entrances are turned off between 12:00am and 5:00am. As an added benefit, incidents of vandalism are down as there is reduced activity in areas surrounding "dark schools". The lighting level requirements in hallways are lower during class times. Controls have been added to hallway lights to automatically lower the light levels. These lighting initiatives will save the district 150,000 KWh annually in electricity.

By polling the activity on our LAN, we determined that 30% of the computers that were on were not actively being used. As a result we installed computer power management software in 2300 PC's to shut the computers off if they were inactive for 2 hours. By ensuring all the computers are actually used during the day, and are off on weekends and evenings we estimate an annual savings of 400,000 KWh of electricity.

The new MV Beattie Elementary School in Enderby is complete and operational; this was built to LEED Gold Standards. This facility is heated with Geothermal Ground Source Heat Pumps. Engineers are confident that auxiliary heat from the backup boilers will not be required even in the coldest of winters. With a good probability that natural gas will not be needed at this LEED Gold School, the tCO_2e emissions should drop by over 100 tonnes at this site. We have the ability to monitor energy use in specific areas, allowing us to measure heating and cooling loads, domestic hot water demands, and plug loads. We now have accurate/actual data for 2012 to review. This will be compared to engineering goals and used for future design builds throughout the region.

With the mandate to reduce our Carbon Footprint, we have engineered and designed HVAC upgrades for three schools using Geothermal Ground Source Heat Pumps. All are 2010 MSUP submissions. These have been resubmitted for 2012 – 13, all three have been given a priority #1 "to do" status in the Ministries Capital Planning Department.

- Eagle River Secondary – potential 80% propane reduction & 72% CO2 reduction.
- Hillcrest Elementary – potential 80% natural gas reduction & 74% CO2 reduction.
- Armstrong Elementary – potential 90% natural gas reduction & 81% CO2 reduction.

The roof replacement program committed to add 2" of isocyanurate insulation on roofs where required increasing the R value to 20++ and reducing energy costs through heat loss.

Plans to Continue Reducing Greenhouse Gas Emissions 2012 – 2014

Our primary goal is to reduce our dependency on fossil fuels and lower our carbon footprint. One proven method is converting HVAC systems to ground source heat pumps. With this in mind, just considering our three MSUP submissions, we would reduce our carbon footprint by:

- Eagle River Secondary - 129 total tonne CO2 savings.
- Hillcrest Elementary – 85+ total tonne CO2 savings.
- Armstrong Elementary – 65+ total tonne CO2 savings.

According to Engineering, the total potential reduction would be 229+/- total tonne CO2.

We were fortunate to receive a grant through the Carbon Neutral Capital Plan (CNCP) funding. Hillcrest received monies for a needed boiler upgrade completed in the summer of 2012. Although this is a portion of the MSUP submission for a total refit, we expect this will reduce our CO2 by 39%.

We have been given approval for a similar project at Eagle River through the CNCP funding. This is scheduled for the summer of 2013 and we expect a 38% reduction in CO2 from the original MSUP submission.

Because our five largest schools are responsible for 40%+ the District's energy consumption, our second strategy is to optimize the existing HVAC equipment at these facilities. Engineering, in partnership with BC Hydro's Continuous Optimization Program (COP) have completed an analysis of these facilities and will recommend steps to take to reduce energy consumption. Potentially by re – commissioning HVAC equipment savings could be 20% in natural gas and 12% in electricity. If we achieve the results indicated, carbon emissions will be reduced by 136 tonnes. Strategies learned during this mechanical retrofit will be implemented in future upgrades throughout the District. Implementing these strategies has begun, data monitoring will continue over the course of the year. Once the analysis is complete, actual savings will be determined.

The building performance index of a facility improves with decreasing energy requirements. Using 2008 as a benchmark, the average intensity for our District was 190 eKWh/m^2. Having set energy target reductions for the next five years, the building intensity average will drop to 160 eKWh/m^2 by 2013.

All interior florescent lighting is now T8 technology. The new low mercury florescent bulbs fail prematurely when used with magnetic ballasts. An inventory of ballasts was completed and from that the electronic ballast change out is near completion. At Pleasant Valley Senior Secondary over 1450 ballasts were T8 magnetic; this conversion will save over 50,000 KWh of electricity each year.

During unoccupied periods, circulation pumps that run continuously on domestic hot water tanks can waste up to 80% in energy, through heat loss in the circulation piping loops. All uncontrolled pumps will have controls added to cycle the pumps off when not required. Preliminary calculations have shown we could save 65,000 KWh in electricity and 500 GJ in natural gas.

There are limitations to the energy savings we achieve through technology. Through education and behavioural changes the populace can have an enormous impact on energy use. We are currently involved in energy awareness campaigns in our Middle and Secondary schools. In subsequent years we will expand this program into all of our facilities.

GREEN

Learn it, Love it, Live it

We are committed to:

- Understanding Sustainability
- Modelling Green Stewardship
- Implementing Environmental Actions

in our School, District and Community

LEARNING ZONE

School District 83 North Okanagan-Shuswap - 2012 Carbon Neutral Action Report

Actions Towards Carbon Neutrality

The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the Greenhouse Gas Reduction Targets Act.

Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Mobile Fuel Combustion (Fleet and other)					
Behaviour change program					
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	Our Transportation Department undergoes refresher training on an annual basis which includes fuel efficient driving.	Continue driver training education	2009	No End Date (Continuous)
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Ongoing/In Progress	Anti-idle policies are in place and signage is displayed at facilities	Continue policy	2009	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress	Car pooling is encouraged when practical. Maintenance scheduling is done trying to coordinate different trades at same time and place.	Continue to improve maintenance scheduling.	2008	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Ongoing/In Progress	Bicycle racks are available at all schools and most facilities. Due to remoteness and the vast area of our school district, public transit and walking are not a practical solution in most cases.	Continue to promote alternative transportation.	2008	No End Date (Continuous)
Other Mobile Fuel Combustion Actions					
By adjusting the start and finish time for schools, it has lengthened the available window to transport students between home and school. This has resulted in the permanent reduction of 6 busses.	Ongoing/In Progress	By adjusting the start and finish time for schools, it has lengthened the available window to transport students between home and school. This has resulted in the permanent reduction of 6 busses.	Ongoing adjustments are made due to decling enrollment.	2009	No End Date (Continuous)
Collection program ro store lead acid batteries, used oil, antifreeze, metal parts, containers, plastic jugs and tires all for recycling. Tires have been retreaded and we get up to 5 uses per tire.	Ongoing/In Progress	Collection program to store lead acid batteries, used oil, antifreeze, metal parts, containers, plastic jugs and tires all for recycling. Tires have been retreaded and we get up to 5 uses per tire.	Ongoing	2008	No End Date (Continuous)
Vehicle fuel efficiency					
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	When new vehicles are purchased, fuel efficiency and vehicle size are always a consideration. Budget contraints are a deciding factor in both purchase and maintenance costs.	Continue to evaluate new purchases with fuel efficiency as a main consideration.	2008	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	In Development	Right-sizing is always a consideration. Bussing is based on our student population which has been decreasing each year. Routes are adjusted and driving time has decreased.	Continue to adjust fleet vehicles according to demand.	2008	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	Entire Fleet is involved in a comprehensive preventative maintenance program with the focus on safety and efficiency.	Continue Maintenance Program improving where possible.	2008	No End Date (Continuous)
Stationary Fuel Combustion, Electricity					
Behaviour change program					
Help staff reduce personal energy use through ""workstation tune-ups""	Not Yet Evaluated				No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress	The district participates in Workplace Conservation Awareness Program (WCA) sponsored by BC Hydro and has selected to focus on the theme this year of ¿Just Unplug It¿ to focus on reducing the number of appliances and equipment that are plugged in and drawing electricity. The overall goal of this program is to reduce our baseline electricity in kilowatt hours (kWh) by 5% when compared to the baseline year.	Continue to educate students and staff and promote our "Just Unlug It" program	2008	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress	Presented a "Just Unplug It" Logo Competion. Introduction of plug load as a concept in the district. Cord lables were handed out to remind and encourage Staff and Students to "Just Unlpug It".	Continue to promote and educate good energy practices. Relaunch our Workplace Conservation Awareness Program	2009	No End Date (Continuous)

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress	Reminders to staff about use of blinds for energy conservation and security after hours.	Ongoing education	2008	No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	Ongoing/In Progress	We are investigating adding controls to Domestic Hot Water systems to reduce the heat loss in the systems. Controls will limit cycle time of circulation pumps or operation of HW Tanks. Continued to educate staff and students on good energy reduction practices.	Ongoing reminders and education	2008	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Ongoing/In Progress	Since 2002 the District has been actively engaging students to participate in energy reduction strategies. There are several reminders around the district about energy conservation. The "Green Team" is providing a continuation of these initiatives.	Ongoing education.	2008	No End Date (Continuous)
Encourage use of stairs instead of elevators	Ongoing/In Progress	Elevators are to be reserved for use by Handicapped individuals whenever possible. Stairs are encouraged for all healthy individuals.	Ongoing education.	2008	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress	Since 2002 the district has been actively engaging students to participate in energy reduction strategies. There are several reminders around the district about energy conservation. The "Green Team" is providing a continuation of these initiatives. We provide tips for energy conservation in the District news letter ¿On the Fly¿ and on the District web page, the "Green Corner" provides tips, contests, information and links to energy conservation sites.	Encourage and educate energy conservation by turning off lights	2008	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress	Staff is encouraged to run dishwashers only when full, wash laundry in cold water, and custodians are to do routine floor care with cold water.	We are investigating adding controls to Domestic Hot Water systems to reduce the heat loss in the systems. Controls will limit cycle time of circulation pumps or operation of HW Tanks.	2009	No End Date (Continuous)
IT power management					
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	Continued to tighten up 2 hour inactivity auto shutdown.	Continue to educate all staff and students.	2009	No End Date (Continuous)
Implement server virtualization	Ongoing/In Progress	Server consolidation combining adjacent facilities with fiber optics to a common server.	Consolidations will continue as infrastructures improve.	2009	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Completed (in Previous Year)				No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices as part of a print management strategy	Ongoing/In Progress	Most fax machines have been completely eliminated in our District. Printers are used to email and fax.	Continue to remove desktop fax and printers.	2009	No End Date (Continuous)
Apply auto-sleep settings on printers, fax machines, and/or multi-function devices	Ongoing/In Progress	Large Printers have an auto sleep controller. Fax machines are all but phased out.	Continue to use and purchase equipment with auto sleep capabilities.	2009	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	All replaced computers were Energy Star models	Continue replacement policy with ENERGY STAR equipment	2009	No End Date (Continuous)
Leased buildings					
Establish energy performance baseline for leased buildings	In Development	Creating an equivalent energy intensity building registry for all facility types in K-12 sector.	Creating a criteria format for equivalent energy intensity so data is comparable.	2009	No End Date (Continuous)

School District 83 North Okanagan-Shuswap - 2012 Carbon Neutral Action Report

Actions Towards Carbon Neutrality

The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the Greenhouse Gas Reduction Targets Act.

Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Lease space with operations and maintenance performance labelling/certification (e.g., LEED EB:O&M)	Not Yet Evaluated				No End Date (Continuous)
Lease space with commercial interiors performance labelling/certification (e.g., LEED CI)	Not Yet Evaluated				No End Date (Continuous)
Lease space in buildings with new construction performance labelling/certification (e.g., LEED NC)	Not Yet Evaluated				No End Date (Continuous)
Develop a green lease policy that requires green features to conserve energy be included in all lease negotiations	Not Yet Evaluated				No End Date (Continuous)
Owned buildings					
Establish energy performance baseline for owned buildings	Ongoing/In Progress	Measure facility energy performance.	Review 2012 analysis to re-evaluate baseline performance.	2009	No End Date (Continuous)
Register for performance labelling/certification for operations and maintenance of owned buildings (e.g., LEED EB:O&M)	In Development	Investigate for future designs and renovations	Continue to evaluate for future remodel and building plans.	2009	No End Date (Continuous)
Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI)	Not Yet Evaluated				No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	In Development	New Elementary School in Enderby was completed and built to LEED Gold Equivalent Standards.	Continue to review and investigate for future designs and renovations.	2009	No End Date (Continuous)
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	With carbon reduction a priority in our District, we are in the design phase of replacing 2 natural gas heated schools with a Geo Thermal system.	Continue District wide mechanical systems audits.	2009	No End Date (Continuous)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Ongoing/In Progress	Continuous tweaking of work order system to automatically create maintenance requests at scheduled intervals.	Continuous performance evaluations. Replacements will incorporate energy efficient heat pumps.	2009	No End Date (Continuous)
Planning/management					
Reduce office space (square meters) per employee	Not Yet Evaluated				No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	Added an energy management server inteli-web to collect district wide consumption and usage data this is presented in a standardized and easy to read portal. Permanent installation of Pulse Meters on the Electrical and Gas services in our 5 largest schools. Installed semi-permanent ACR Energy Loggers in 3 facilities. Have purchased 1 ACR Logger as a floater for recording energy anomalies.	Phase out old equipment.	2009	No End Date (Continuous)
Retrofit details for owned buildings					
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	In Development	Miscellaneous hot water tanks and boilers were replaced with more energy efficient models. When refrigeration equipment failed or was replaced efficient R410a equipment was specified. There was a select number of rooftop units that were replaced in our facilities.	Plans submitted for Installation of the Geo Thermal systems at Hillcrest Elementary, Eagle River Secondary and Armstrong Elementary Schools.	2009	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	Continued to upgrade lighting systems. Automation and energy efficiency is our prime focus when	Continuing evaluation is being done on new lighting technologies for possible incorporation into our facilities.	2009	No End Date (Continuous)

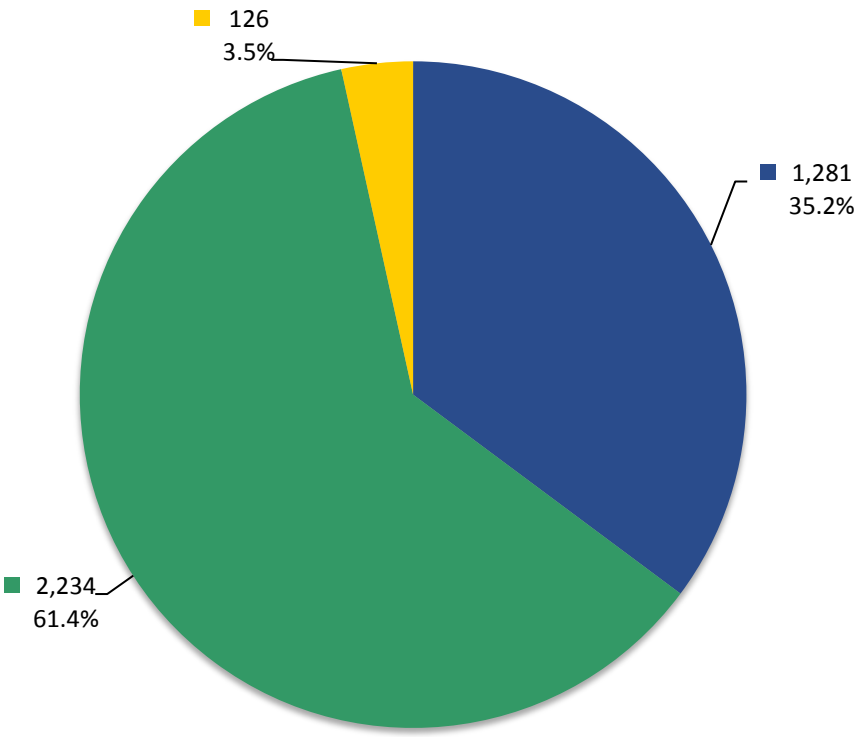
School District 83 North Okanagan-Shuswap - 2012 Carbon Neutral Action Report

Actions Towards Carbon Neutrality

The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the Greenhouse Gas Reduction Targets Act.

Action	Status	Steps Taken	Steps Planned	Start Year	End Year
		uprgrading and replacing our lighting systems.			
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	Installation of building automation systems have been a priority in remote facilities. Adjustments can be made remotely without travelling to the site.	Feasibility planning of DDC systems at distant facilities throughout our District is a priority through the annual facility grant.	2009	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	Added additional insulation and new windows during on retrofits and when repairing buildings.	Continue to upgrade of roof insulation during reroofing. Targeted replacement of single pane windows in facilities with a poor building performance index.	2008	No End Date (Continuous)
Supplies (Paper)					
Behaviour change program					
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress	Provide training and demonstrations on new technologies.	Continue training and education. Implement new technologies when appropriate.	2008	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress	Electronic information for meetings and training sessions are provided by web based media, projectors, white boards, etc. are encouraged. We estimate at least 50% of all meetings are now "paperless"	Continue communication through email and electronic documents to reduce printed information.	2008	No End Date (Continuous)
Electronic media in place of paper					
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress	Pro D and training sessions are now booked through District web site. This eliminates paper and reduces the time necessary to organize these events.	Continue to encourage electronic communication.	2009	No End Date (Continuous)
Use electronic document library for filing common documents	Ongoing/In Progress	District shared directories are encouraged and continually increased to provide paperless access to information. Student files are being updated to E-Files.	Launch District wide electronic filing system with a goal of 50% greater school participation by end of year 2 Continue to encourage electronic document storage.	2009	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Completed (in Previous Year)				No End Date (Continuous)
Paper Type					
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	10% of paper purchases contain at least 30% recycled content.	Preference will be given to purchasing paper with a recycled content where competitively priced.	2009	No End Date (Continuous)
Purchase 40% post-consumer recycled paper	Ongoing/In Progress	Monitor pricing for recycled paper	Preference will be given to purchasing paper with a recycled content where competitively priced.	2009	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Ongoing/In Progress	Monitor pricing for recycled paper	Preference will be given to purchasing paper with a recycled content where competitively priced.	2009	No End Date (Continuous)
Printer/document settings					
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	Programmed some printers to automatically print to double sided mode.	Continue education and remind staff to use double sided feature on printers where possible.	2009	No End Date (Continuous)

School District 83 - North Okanagan-Shuswap
Greenhouse Gas Emissions by Source
for the 2012 Calendar Year (tCO_2e*)



Total Emissions: 3,642

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion (Building Heating and Generators) and Electricity
- Supplies (Paper)

Offsets Applied to Become Carbon Neutral in 2012 (Generated May 31, 2013 12:12 PM)

Total offsets required: **2,582**. Total offset investment: $**64,550**. Emissions which do not require offsets: **1,060** **

*Tonnes of carbon dioxide equivalent (tCO_2e) is a standard unit of measure in which all types of greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.

** Under the *Carbon Neutral Government Regulation* of the *Greenhouse Gas Reduction Targets Act,* all emissions from the sources listed above must be reported. As outlined in the regulation, some emissions do not require offsets.