



School District No. 91 (Nechako Lakes)

2010 Carbon Neutral Action Report

Executive Summary

School District No. 91 (Nechako Lakes) continues to actively pursue carbon neutrality through a variety of fixed asset initiatives and behavioral changes. We believe our students and staff play an increasingly significant role in changing our culture from consumption to one of reduction and conservation. To help achieve this goal, we will offer incentives and rewards for our district's stakeholders who successfully change their behaviour.

The district's Energy Management Team will start empowering our maintenance staff to identify and address conservation opportunities that are aligned with our Action Plans.

Our district will explore opportunities that we can integrate demonstration-type technologies (ie. Solar power, evolving LED technology, etc) into school-based activities and thereby giving our students the opportunity to actively participate in the district's green initiatives.

The emphasis of our efforts in 2011 will be on changing the behaviour in our students and staff, in the products we purchase and in our beliefs of a greener school district.

A handwritten signature in cursive script that reads 'C. Seguin'.

Charlene Seguin, Acting Superintendent of Schools
School District No. 91 (Nechako Lakes)

A handwritten date in cursive script that reads 'April 25, 2011'.

Date

2010 Greenhouse Gas Emissions

Our greenhouse gas (GHG) emissions for 2010 are as follows:

1. Mobile Fuel Combustion (Fleet and other mobile equipment)

1,209 tonnes of CO₂e

2. Stationary Fuel Combustion and Electricity (Buildings)

2,306 tonnes of CO₂e

3. Supplies (Paper)

126 tonnes of CO₂e

4. Fugitive Emissions *

7 tonnes of CO₂e

* It was estimated that stationary fugitive emissions from cooling do not comprise more than 0.01% of the organization's 3,641 tCO₂e of total emissions and an ongoing effort to collect or estimate emissions from this source would be disproportionately onerous. For this reason, emissions from this source have been deemed out-of-scope and have not been included in our organization 3,641 tonnes of total greenhouse gas emission profile.

Offsets Applied to Become Carbon Neutral in 2010

In accordance with regulation and in an effort to become carbon neutral, School District No. 91 (Nechako Lakes) has offset our carbon emissions by disposing of these offsets in the Pacific Carbon Trust equivalent to 2,578 tCO₂e.

As required by section 5 of the Carbon Neutral Government Regulation, 1,063 tonnes of CO₂e of emissions resulting from the operation of school buses were reported as part of our greenhouse gas emissions profile in 2010. However, they were offset as they are out-of-scope under section 4(2)c of the Carbon Neutral Government Regulation.

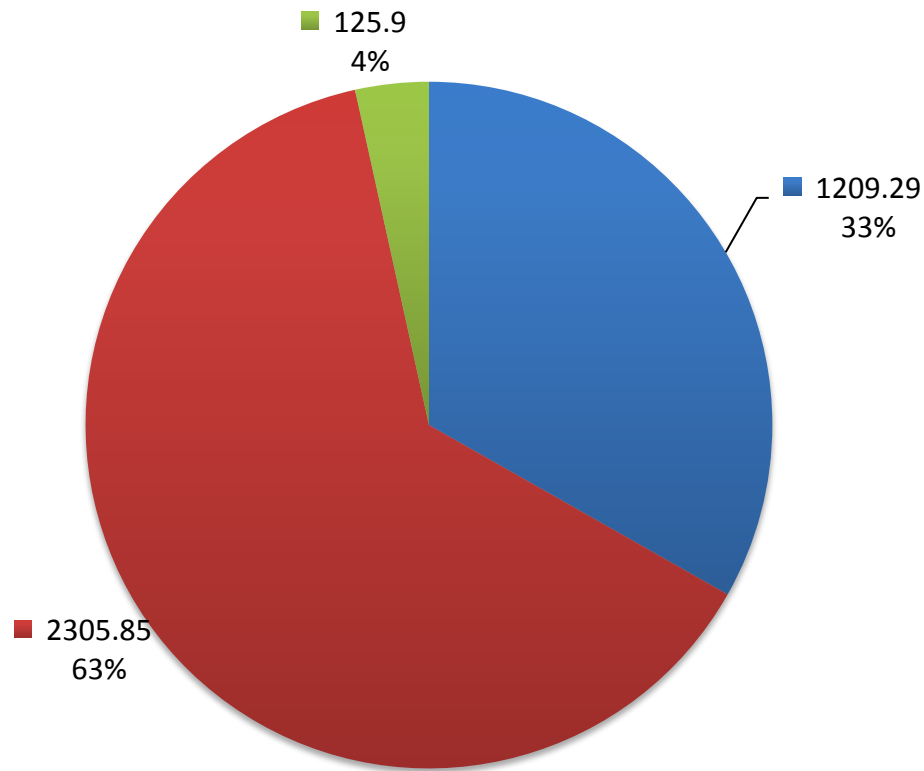
Emissions Reduction Activities

- Actions Taken to Reduce Greenhouse Gas Emissions in 2010
 - Rescheduled and reprogrammed of DDC in identified schools.
 - Trained school bus drivers on idling and other fuel conservation techniques.

- Plans to Continue Reducing Greenhouse Gas Emissions in 2011-2013
 - Develop a culture of conservation and consumption reduction.
 - Continue to work with BC Hydro on conservation and funding opportunities.
 - Train white-fleet drivers on idling and other fuel conservation techniques.
 - Actively investigate conservation opportunities within green initiatives, such as GREEN-UP and LEED.
 - Develop and implement lighting, appliance, refrigerant and hot water management policies.
 - Proceed with building envelope sealant opportunities such as window replacement, caulking, weather stripping, etc.
 - Proceed with implementing green, cold water custodial products.
 - Continue to identify opportunities for energy conservation by our IT Department.
 - Monitor and audit our conservation and reduction efforts on a regular basis.
 - Continue to replace inefficient fleet vehicles by following our “right-sizing” principle.

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Greenhouse Gas Emissions by Source for the 2010 Calendar Year (tCO₂e*)



Total Emissions: 3641.04

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion and Electricity (Buildings)
- Supplies (Paper)

Offsets Applied to Become Carbon Neutral in 2010

Total offsets purchased: **2578.13**. Total offset investment: **\$64,453.25**. Emissions which do not require offsets: **1062.91** **

*Tonnes of carbon dioxide equivalent (tCO₂e) 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.

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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 (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Mobile Fuel Combustion (Fleet and other mobile equipment)							
Vehicle fuel efficiency							
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	5	% of vehicles are fuel- efficient models	Replacement vehicles purchased in 2010 have been as efficient as reasonable to meet the task requirements	As vehicles reach the end of their life cycle, the most efficient available vehicles will be considered for purchase	2007	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	5	% of vehicles down-sized since start year indicated	Inventoried fleet composition based on age and type	As vehicles reach the end of their life cycle, the most efficient available vehicles will be considered for purchase	2008	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	100	% of vehicles are subject to regular maintenance for fuel efficiency	Regular fleet maintenance is an on-going activity and performance efficiency is audited	Auditing standards will be developed through our PMs and updated on a regular basis	2005	No End Date (Continuous)
Replace small maintenance vehicles with more fuel-efficient models	Ongoing/In Progress	25	% of small maintenance vehicles are fuel-efficient	Fuel efficiency is the main performance criteria when replacement is necessary. Small maintenance equipment is also included in this activity.	Continue to review and update our vehicle replacement criteria to conform to the latest industry standards	2008	No End Date (Continuous)
Behaviour change program							
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	70	% of current drivers are trained	All bus drivers have been trained in the NRCAN Smart Driver program.	All white fleet drivers will participate in this training program.	2008	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	75	% of current drivers are trained	All bus drivers have been trained in the NRCAN Smart Driver program.	All white fleet drivers will participate in this training program.	2010	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress	100	% of current drivers are informed	Ensure carpooling as often as reasonably possible	Continue to encourage carpooling	2009	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	In Development			Develop culture of energy efficient alternatives	Identify methods of encouraging green culture	2010	No End Date (Continuous)
Other Mobile Fuel Combustion Actions							
School Bus Engine Type	Ongoing/In Progress	100	All engine types have been reviewed	Identified the type of available engine with the most efficient downstream requirements	Continue to monitor whether engine type MAXFORCE is the most efficient and environmentally-friendly	2010	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							
Planning/management							
Enrol in a building energy benchmarking program (e.g., GREEN UP)	Completed in 2010			Membership in GREEN UP - participating and looking for green opportunities	Continue to identify benchmarking opportunities	2010	No End Date (Continuous)
Reduce office space (square meters) per employee	Ongoing/In Progress	10	is the current average rentable square meters per employee	Closure of two schools resulted in more students and staff in the remaining schools.	Continue to investigate all reasonable opportunities to maximize student and staff concentrations	2010	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	In Development			Investigated DDC upgrading opportunities for various utilities	Continue to investigate new DDC opportunities	2010	No End Date (Continuous)
Owned buildings							

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Establish energy performance baseline for owned buildings	Ongoing/In Progress	100	% of owned buildings have an established energy performance baseline	Started establishing performance baselines for all facilities	Investigate performance improvement opportunities for all facilities	2010	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 leased space opportunities with LEED EM:O&M	2010	No End Date (Continuous)
Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI)	In Development				Investigate leased space opportunities with LEED CI	2010	No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	In Development				Investigate leased space opportunities with LEED NC	2010	No End Date (Continuous)
Incorporate integrated design process into new construction or during renovations of owned buildings	Ongoing/In Progress	5	% of buildings built or renovated since start year indicated used the integrated design process	Started installing DDC in new renovation project when appropriate	Will incorporate integrated design processed in all new major building projects: NVSS - completed in 2010 ME - completed in 2010 DHE - to be completed in 2011 MME - to be completed in 2011 FSJSS - to be completed in 2011	2010	No End Date (Continuous)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	In Development			Develop a refrigerant management strategy	Implement a refrigerant management strategy and develop an inventory of refrigerant applicances in district	2010	No End Date (Continuous)
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress	5	% of owned buildings have undergone energy retrofits since start year indicated	Implemeted a number of partial retrofits	Continue to identify funding and grant opportunities from the public and private sectors to enable more energy retrofits to be undertaken	2008	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	25	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	The mechanical upgrading opportunities continued	The following upgrades were completed: Boilers FSJSS - completed in 2009 NVSS - completed in 2009 DHE - completed in 2010 MME - completed in 2010 Furnance ME - completed in 2009 LDSS Storefront - completed in 2010	2009	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	75	% of retrofits since start year indicated had lighting systems upgrades	Initiated a lighting strategy	Evolve lighting strategy to include: - photo cells vs switches - upgrading lighting efficiency - time cycle for building envelop lighting - replace all incandescent lights - illumination threshold	2009	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	100	% of retrofits since start year indicated had control system upgrades or adjustments	All control systems are reviewed and upgraded when appropriate	Continue to identify funding and grant oppoitiunites from the public and private sectors to enable more energy retrofits to be undertaken	2009	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	100	% of retrofits since start year indicated had insulation improvements	Implemented a number partial retrofits	Upgraded door seals where appropriate in 2010 Replace inefficient windows at MME in 2011 Install window film at FSJSS in 2011	2009	No End Date (Continuous)

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Install an on-site renewable energy demonstration project	Ongoing/In Progress	0	% of retrofits since start year indicated had on-site renewable energy components	Review potential demonstration projects	Investigate solar panels for the purpose of: - electricity production - conveyance of light	2011	No End Date (Continuous)
Leased buildings							
Establish energy performance baseline for leased buildings	Ongoing/In Progress	100	% of leased buildings have an established energy performance baseline	Started tracking process	Investigate and develop performance data at FSJ FACE and old LDSS	2010	No End Date (Continuous)
Lease space with operations and maintenance performance labelling/certification (e.g., LEED EB:O&M)	In Development				Investigate leased space opportunities with LEED EM:O&M	2010	No End Date (Continuous)
Lease space with commercial interiors performance labelling/certification (e.g., LEED CI)	In Development				Investigate leased space opportunities with LEED CI	2010	No End Date (Continuous)
Lease space in buildings with new construction performance labelling/certification (e.g., LEED NC)	In Development				Investigate leased space opportunities with LEED NC	2010	No End Date (Continuous)
Develop a green lease policy that requires green features to conserve energy be included in all lease negotiations	In Development				Develop a leasing policy that outline green alternatives and practices	2010	No End Date (Continuous)
IT power management							
Install power management software which shuts down computers outside of regular business hours	In Development				Investigate power management opportunities on trial basis	2010	No End Date (Continuous)
Implement server virtualization	Ongoing/In Progress	100	% of servers have been virtualized since start year indicated	Continued to implement virtualization with new hardware	Continue to implement virtualization with new purchases	2005	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress	50	% of computers have auto-sleep settings applied	Applied auto sleep settings	Review additional opportunities for auto-sleep settings	2009	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress	50	% reduction in printers, copiers, and/or fax machines since start year indicated	Review current devices and identify options	Implement multi-use devices where beneficial	2009	No End Date (Continuous)
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	Ongoing/In Progress	50	% of devices have auto-sleep settings applied	Applied auto sleep settings	Review additional opportunities for auto-sleep settings	2009	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	100	% of computers are ENERGY STAR rated	Purchased ENERGY STAR computer	Continue to purchase ENERGY STAR computers	2007	No End Date (Continuous)
Appliances and electronic devices							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	80	% of fridges are ENERGY STAR rated	Purchased ENERGY STAR products	Develop a district standard for the purchase of ENERGY STAR products Develop a schedule to replace inefficient models	2007	No End Date (Continuous)
Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress			Purchased ENERGY STAR products	Develop a district-wide appliance policy and replacement schedule	2007	No End Date (Continuous)

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Replace desk lamp incandescent bulbs with compact fluorescent (CFL) bulbs or source more efficient desk lamps for future purchases	Ongoing/In Progress			Replaced with CFL as incandescent light inventory decline	Develop lighting strategy to include: - photo cells vs switches - upgrading lighting efficiency - lighting cycle for building envelop lighting - replace all incandesent light	2010	No End Date (Continuous)
Behaviour change program							
Help staff reduce personal energy use through "workstation tune-ups"	In Development				Investigate opportunities for workstation tune-ups	2011	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	In Development				Develop an awareness culture for energy consumption and reduction	2011	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	In Development				Develop an awareness culture for energy consumption and reduction	2011	No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	In Development				Develop an awareness culture for energy consumption and reduction	2011	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	In Development				Develop an awareness culture for energy consumption and reduction	2011	No End Date (Continuous)
Encourage use of stairs instead of elevators	In Development				Develop an awareness culture for energy consumption and reduction	2011	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	In Development				Develop an awareness culture for energy consumption and reduction	2011	No End Date (Continuous)
Promote hot water conservation	In Development				- Investigate applications and needs for hot water usage - Identify cold water custodial products - Update custodian standards accordingly - investigation the option of Hot Water On Demand	2011	No End Date (Continuous)
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	6	% of total paper purchased contains 30% recycled content	increase purchasing of recycled paper	Continue to promote amount of recyled paper purchased	2009	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	In Development			In development	Develop policy on purchasing 100% recycled paper	2011	No End Date (Continuous)
Printer/document settings							
Switch networked printers and photocopiers to automatic double-sided	In Development				Convert printers to default to double-siding	2011	2012
Apply "print and hold" settings to networked printers to eliminate unclaimed print jobs	In Development				Investigate this option on networked printers	2011	2011
Reduce default margin size in standard document templates (e.g., letters, briefing notes, forms, etc.)	In Development				Investigate this option on networked printers	2011	2012
Electronic media in place of paper							

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Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development			Investigate various options	2011	No End Date (Continuous)
Use electronic document library for filing common documents	Ongoing/In Progress		Continue to evolve Laserfiche functionality	Continue to evolve current electronic data library	2009	No End Date (Continuous)
Post materials online that were previously printed	In Development			Develop system for posting electronic messages	2006	No End Date (Continuous)
Behaviour change program						
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development			Identify appropriate software package	2011	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress		Minimize and eliminate the amount of handouts	Encourage the use of electronic devices for handouts	2009	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress		Continue to recycle paper	Continue the recycling practice	2009	No End Date (Continuous)