



School District No. 91 (Nechako Lakes) - 2012 Carbon Neutral Action Report

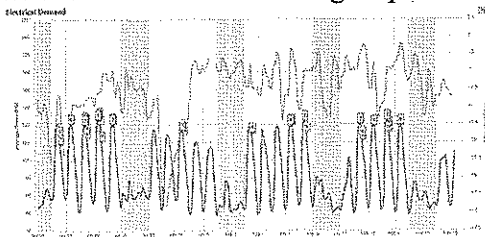
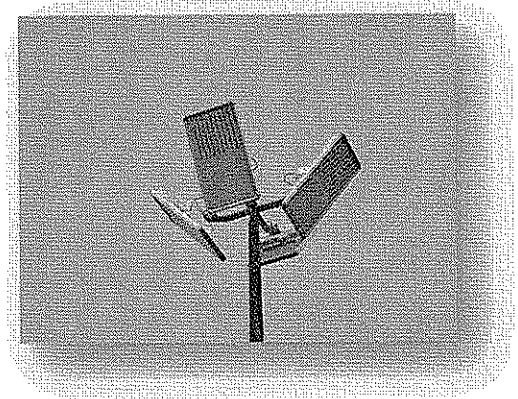
Executive Summary

School District No. 91 (Nechako Lakes) continues to actively reduce our carbon footprint by pursuing the opportunities that yield the greatest reduction with the less amount of capital expenditure.

The majority of our carbon neutral reduction activities in the past year have focused on electrical applications. With lighting comprising approximately 30% of our 5 million kWh consumption, we have invested \$125,000 into different LED lighting configurations from outdoor illumination applications to indoor gymnasiums with adjustable lighting levels. We are also installing occupancy sensors throughout our school facilities with a goal of having all schools converted over a 5-year period.

An energy monitoring system at our highest consuming secondary school is functioning as a diagnostic tool. The purpose of this installation is to track the decrease in consumption as well as provide an educational tool for secondary science students.

Destination: Conservation is proving to be a successful for students and teacher due to the hands-on instruction and group activities.



The emphasis of our efforts in 2013 will continue to be on lighting applications as well as investigating behavioural and continuous optimization opportunities.

Darlene Turner

Darlene Turner, Secretary-Treasurer
School District No. 91 (Nechako Lakes)

May 5, 2013
Date

2012 Greenhouse Gas Emissions

Our greenhouse gas (GHG) emissions for 2012 are as follows:

Scope 1 – Direct Emissions

Mobile Fuel Combustion 1,174 tonnes of CO₂e

Mobile Fugitive Emissions * 7 tonnes of CO₂e

Stationary Fuel Combustion 2,065 tonnes of CO₂e

Stationary Fugitive Emissions *

Scope 2 – Indirect Emissions

Electricity 125 tonnes of CO₂e

Scope 3 - Office Paper Emissions

Supplies (Paper) 66 tonnes of CO₂e

Scope 4 – Prior Year Adjustment

Stationary Combustion 0 tonnes of CO₂e

* It is estimated that fugitive emissions from cooling do not comprise more than 1.0% of the organization's 3,431 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's 3,431 tonnes of total greenhouse gas emission profile.

Offsets Applied to Become Carbon Neutral in 2012

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 2,443 tCO₂.

As required by section 5 of the Carbon Neutral Government Regulation, 988 tCO₂e of emissions resulting from the operation of school buses were reported as part of our

greenhouse gas emissions profile in 2012. However, they were not offset as they are out-of-scope under section 4(2)c of the Carbon Neutral Government Regulation.

Changes to Greenhouse Gas Emissions and Offsets Reporting from Previous Years

Not applicable

Overpayments to Pacific Carbon Trust

Not applicable

Emissions Reduction Activities

- Actions Taken to Reduce Greenhouse Gas Emissions in 2012
 - Continued to install occupancy sensors in secondary schools.
 - Replaced inefficient lighting based on the greatest impact-first approach, ie. gymnasiums, building perimeter lighting
 - Continued to develop, share and implement *Best Operating Practices* for heating, ventilating and other energy conservation methods
 - *Destination: Conservation* is implemented into our schools and their curriculum

- Plans to Continue Reducing Greenhouse Gas Emissions in 2013-2014
 - Quantify consumption values of different loads in Lakes District Secondary School
 - Continue to engage the district's Energy Management Committee to identify key reduction and conservation opportunities.
 - Continue to invest capital into lighting projects in highest consuming applications throughout district.
 - Incorporate LEED certification into new construction or major renovation projects.

School District 91 Nechako Lakes - 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	Continue to train all new white fleet drivers	Continue to train all new white fleet drivers	2009	No End Date (Continuous)
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Completed (in Previous Year)				No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress	District policy	District policy	2009	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Ongoing/In Progress	District encourages alternative travel methods	District encourages alternative travel methods	2009	No End Date (Continuous)
Vehicle fuel efficiency					
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	Continue to select the right size of vehicles according to need	Continue to select the right size of vehicles according to need	2009	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	As aging fleet is retired, opportunities are investigated with respect to end-use and current technology opportunities	As aging fleet is retired, opportunities are investigated with respect to end-use and current technology opportunities	2009	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	Routine vehicle maintenance program coordinated with transportation department	Routine vehicle maintenance program coordinated with transportation department	2009	No End Date (Continuous)
Stationary Fuel Combustion, Electricity					
Behaviour change program					
Help staff reduce personal energy use through ""workstation tune-ups""	Ongoing/In Progress	Continue to educate and work with staff on efficient work stations	Continue to educate and work with staff on efficient work stations	2009	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress	Continue to raise awareness with staff	Continue to raise awareness with staff	2009	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress	Continue to discuss "powering-down" opportunities with staff	Continue to discuss "powering-down" opportunities with staff	2008	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress	Review rationale with staff	Continue to review with staff on an on-going basis	2012	No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	In Development	Reviewed rationale with staff	Continue to review with staff	2012	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Ongoing/In Progress	Heating setpoints are lowered during off-business hours	Heating setpoints are lowered during off-business hours	2009	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress	Installing occupancy sensors in all facilities	Installing occupancy sensors in all facilities	2009	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress	implemented cold water custodial products	investigate opportunities within schools	2009	No End Date (Continuous)
IT power management					
Install power management software which shuts down computers outside of regular business hours	Completed (in Previous Year)				No End Date (Continuous)
Implement server virtualization	Completed (in Previous Year)				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	Continue to reduce and eliminate peripheral devices	Continue to reduce and eliminate peripheral devices	2009	No End Date (Continuous)
Apply auto-sleep settings on printers, fax machines, and/or multi-	Completed (in				No End Date

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
function devices	Previous Year)				(Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Completed (in Previous Year)				No End Date (Continuous)
Leased buildings					
Establish energy performance baseline for leased buildings	Ongoing/In Progress	Energy baseline has been established	Continue to monitor energy performance for improvement opportunities	2009	No End Date (Continuous)
Lease space with operations and maintenance performance labelling/certification (e.g., LEED EB:O&M)	Ongoing/In Progress	Work with owner on achieving LEED certification	Continue to work with owner on achieving LEED certification	2009	No End Date (Continuous)
Lease space with commercial interiors performance labelling/certification (e.g., LEED CI)	In Development	Investigate LEED: CI opportunities	Investigate LEED: CI opportunities	2012	No End Date (Continuous)
Develop a green lease policy that requires green features to conserve energy be included in all lease negotiations	In Development	Work with owner on a green lease policy	Work with owner on a green lease policy	2012	No End Date (Continuous)
Owned buildings					
Establish energy performance baseline for owned buildings	Ongoing/In Progress	continue to monitor energy performance of owned facilities	continue to monitor energy performance of owned facilities	2008	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 LEED EB:O&M opportunities	Investigate LEED EB:O&M opportunities	2012	No End Date (Continuous)
Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI)	Ongoing/In Progress	Investigated LEED CI	Register with LEED CI where applicable	2009	No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress	Not applicable	LEED certification will be included for new construction	2009	No End Date (Continuous)
Perform energy retrofits on existing, owned buildings	In Development	Develop energy retrofit and recommissioning Plan	Continue to implement our energy retrofit and recommissioning Plan	2012	No End Date (Continuous)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Ongoing/In Progress	Continue to upgrade inefficient refrigerant applications	Continue to upgrade inefficient refrigerant applications	2009	No End Date (Continuous)
Planning/management					
Reduce office space (square meters) per employee	Ongoing/In Progress	Preliminary steps have been taken to close inefficient maintenance and transportation building and to relocate in an existing building.	Finish the amalgamation of maintenance and transportation departments into common facility	2009	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	Utility usage metering is being implemented	Continue with utility metering systems	2012	No End Date (Continuous)
Retrofit details for owned buildings					
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	Upgrade mechanical systems through CNCP, AFG and operating capital projects	Upgrade mechanical systems through CNCP, AFG and operating capital projects	2009	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	Replace least efficient lighting with LED technology	Continue to replace least efficient lighting with LED technology	2012	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	Upgrade DDC systems in least efficient facilities	Continue to upgrade DDC systems in least efficient facilities	2009	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	Upgrade glazing and insulate walls on an on-going basis	Upgrade glazing and insulate walls on an on-going basis	2009	No End Date (Continuous)
Supplies (Paper)					
Behaviour change program					
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Completed (in Reporting Year)	Installed SharePoint		2012	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress	Board agendas are now electronic	Eliminate other agendas, where applicable	2011	No End Date (Continuous)

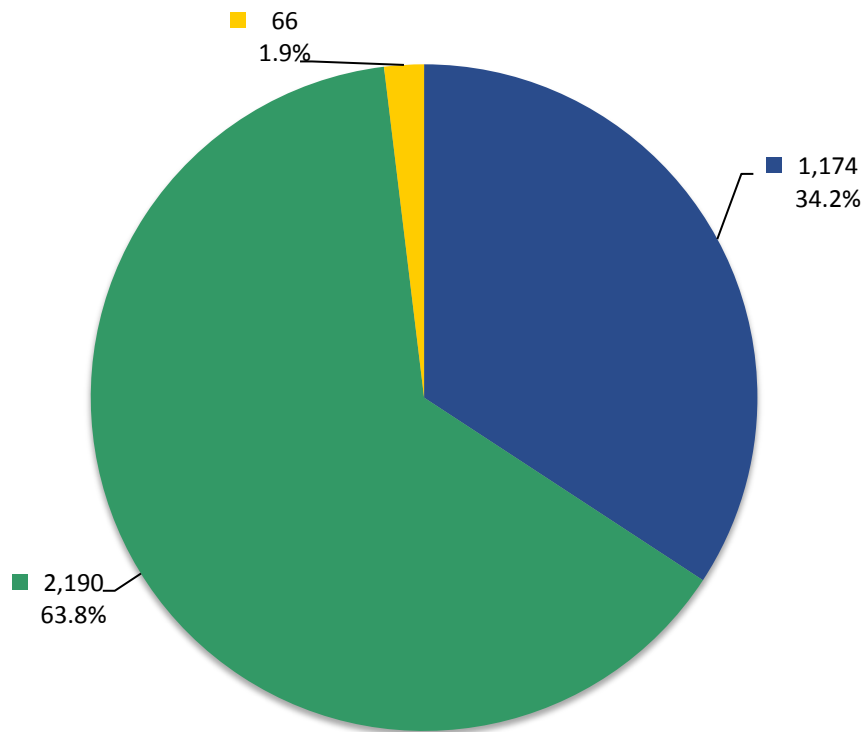
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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Electronic media in place of paper					
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Completed (in Previous Year)				No End Date (Continuous)
Use electronic document library for filing common documents	Ongoing/In Progress	Increasing application opportunities for paper-less communications	Continue to increase application opportunities for paper-less communications	2008	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	In Development	Investigate photocopier performance of 30% PCRCP	Investigate photocopier performance of 30% PCRCP	2009	No End Date (Continuous)
Purchase 40% post-consumer recycled paper	In Development	Investigate photocopier performance of 40% PCRCP	Investigate photocopier performance of 40% PCRCP	2009	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	In Development	Investigate opportunities for 100% PCRCP in non-photocopier applications	Investigate opportunities for 100% PCRCP in non-photocopier applications	2009	No End Date (Continuous)
Printer/document settings					
Switch networked printers and photocopiers to automatic double-sided	Completed (in Previous Year)				No End Date (Continuous)

**School District 91 - Nechako Lakes
Greenhouse Gas Emissions by Source
for the 2012 Calendar Year (tCO₂e*)**



Total Emissions: 3,431

- 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 12:15 PM)

Total offsets required: **2,443**. Total offset investment: **\$61,075**. Emissions which do not require offsets: **988** **

*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.