

# School District No. 57 (Prince George) - 2009 Carbon Neutral Action Report

## Executive Summary

School District No. 57 (Prince George) has been making significant changes to our district in an effort to become carbon neutral. Over the last decade we have begun the process of improving our energy performance in the areas of HVAC, lighting, appliances, equipment and air quality. Of particular note are some of the challenges of living in the north that require better management of heat and light over the long winter season. To this end we have begun a schedule of efficient boiler replacements, lighting fixture and bulb improvements and new insulated windows and energy star appliances and equipment.



In 2009, we made a commitment to reduce our Fleet fuel consumption by 10% over a 12 month period. We have piloted programs to provide a comprehensive and universal recycling program to all schools in our district. We have developed a joint District Sustainability Committee with the cooperation of Senior Administration and School Administration.

Perhaps our most significant change is the completion of the construction of the new Duchess Park Secondary, the first of it's kind to be built to LEED Gold standards in Western Canada.

## Overviews

### Actions Taken to Reduce Greenhouse Gas Emissions in 2009

Some of the actions taken in 2009 to reduce GHG emissions were; constructed a new LEED Gold Secondary school to replace a 1956 facility, replaced and reduced the number of vehicles in our fleet and completed HVAC upgrades at two facilities.

### Operational Changes in 2009

Staff has been implementing changes to allow video conferencing, converting incoming and outgoing FAX documents to electronic email, and targeting fleet fuel consumption behavioural changes as part of our part in reducing GHG emissions.

### Plans to Continue Reducing Greenhouse Gas Emissions 2010 – 2012

- Continuation of the HVAC boiler and furnace replacements.
- Implementing recommendations provided by the District Sustainability Committee.
- Purchasing electrical items for replacement with PowerSmart Express approved products.
- Implementing further computer shut-downs with the district 'Deep Freeze' product.

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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 <i>Greenhouse Gas Reduction Targets Act</i> .							
Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)		Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
<b>Mobile Fuel Combustion (Fleet and other mobile equipment)</b>							
<b>Vehicle fuel efficiency</b>							
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	8	% of vehicles down-sized since start year indicated	We have downsized the number of fleet vehicles by 5	A further three vehicles will be downsized in 2010 to more efficient models. We will continue to assess our need for fleet vehicles as our schools and demographics change	2009	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Complete	100	% of vehicles are subject to regular maintenance for fuel efficiency	All units are assessed monthly to maximize efficiency and fuel economy. This is a comprehensive check of tire pressure, oil changes, filter changes and scheduled servicing		2008	No End Date (Continuous)
<b>Behaviour change program</b>							
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Complete			Signs are posted on all school district properties and we continue to enforce our Anti-Idling policy		2009	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Complete			Projects are coordinated so that crews can carpool to out of town properties		2005	No End Date (Continuous)
<b>Other Mobile Fuel Combustion Actions</b>							
Crews remain on location for breaks to eliminate unnecessary travel back to the Central Administration Office	Complete			Crews are reminded monthly during tool-box meetings.		2005	No End Date (Continuous)
<b>Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)</b>							
<b>Planning/management</b>							
Reduce office space (square meters) per employee	In Development			We have been considering the closure and re-purposing of properties in order to reduce the fiscal and environmental cost of maintaining these properties	This is an ongoing process and will change with demographics and other factors over time	2009	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	4	% of buildings have a real time metering system installed	This is currently used for load shedding to reduce peak demand on electrical systems.	More properties may be included upon evaluation	1999	No End Date (Continuous)
<b>Owned buildings</b>							
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress			The new Duchess Park Secondary School has been designed and built to achieve LEED Gold Certification. 2009 was a building year for the school.	Duchess Park opened to the students in March 2010. The facility will be evaluated to be certified as LEED Gold.	2006	2010
Incorporate integrated design process into new construction or during renovations of owned buildings	Ongoing/In Progress	50	% of buildings built or renovated since start year indicated used the integrated design process	Duchess Park is a Design-Build project. The design is sensitive to the buildings impact on the surrounding environment, air quality and energy consumption.	The students and staff at DPSS will continue with the environmental goals of the school. Duchess Park Secondary has been supplied with sources of environmentally friendly products, ENERGY STAR appliances and other tools for environmental stewardship.	2010	No End Date (Continuous)
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress	60	% of owned buildings have undergone energy retrofits since start year indicated	Building Energy Management Control Systems have been implemented	Future retrofits will be based on funding availability	1990	No End Date (Continuous)

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)		Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
<b>Retrofitting owned buildings</b>							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	8	% of retrofits (captured above) had heating, cooling, and ventilation systems upgrades	We have replaced HVAC units in four locations with more efficient models	Any future replacements will be based on funding availability	2009	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	26	% of retrofits (captured above) had lighting systems upgrades	As funding is made available, locations are receiving upgrades to their lighting systems	Any future replacements will be based on funding availability	2010	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	80	% of retrofits (captured above) had control system upgrades or adjustments	All locations are on some form of control system	Any future replacements will be based on funding availability	2010	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress			\	\	2010	No End Date (Continuous)
<b>IT power management</b>							
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	80	% of computers shut down automatically outside of regular business hours	Deep Freeze power management software is installed on most Windows computer lab machines. Whenever possible, auto shut-off settings are being applied on other computers throughout the district	We will continue to pursue options to ensure that all computers are shut down after the school day is over.	2008	No End Date (Continuous)
Implement server virtualization	In Development			Testing is underway to reduce the number of servers through consolidation of services where possible	We will continue to investigate opportunities in this area	2009	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress	90	% of computers have auto-sleep settings applied	Autosleep is set to default on all computers as they are configured by IT staff	As computers are evaluated, they will be defaulted to this setting.	2005	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress			MFDs are installed at all SD 57 sites. The use of MFDs over printers is being encouraged	We will continue to encourage the use of MFDs over printers. Pending Sustainability decisions could result in the movement away from printers.	2009	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	44	% of computers are ENERGY STAR rated	21 Elementary schools have been upgraded over the last three years. CRT Monitors have been replaced with LCD monitors at most sites	The remainder of the elementary schools will be upgraded over the next two years as part of our Evergreening program	2007	2012
<b>Appliances and electronic devices</b>							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress			This information was not tracked. All new fridges are Energy Star approved.	Energy Star appliances will be mandated for purchase.	2008	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			As equipment is evaluated and deemed necessary to replace, it is replaced with ENERGY STAR equipment where applicable	We will continue to make these upgrades as needed	2008	No End Date (Continuous)
<b>Behaviour change program</b>							
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress			Whenever possible staff are encouraged to unplug electrical equipment when not in use.	This will be an ongoing process that could possibly include and more formal form of notification.	2007	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Complete			No new steps have been taken but the process continues to be in practice		2008	No End Date (Continuous)

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)		Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			All overhead lighting at the Central Administration Office are controlled by motion sensor in order to eliminate the unnecessary use of energy in rooms that are not being occupied	Possible consideration will be made to all properties	2005	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress			Hot water supply is limited to custodial use only in school facilities during school breaks.	This process will continue	2009	No End Date (Continuous)
<b>Other Stationary Fuel Combustion and Electricity Actions</b>							
Power Factor Corrections	Complete	100	% of locations requiring this upgrade completed	A number of schools were upgraded with capacitors on main electrical systems. Ongoing monitoring of other sites is occurring.		2009	2009
<b>Supplies (Paper)</b>							
<b>Paper Type</b>							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	70	% of total paper purchased contains 30% recycled content	We currently purchase 30% recycled paper where we can.	No action to increase this amount is planned for this time period. This item will be reevaluated at the end of the contract in 2013.	1990	No End Date (Continuous)
<b>Printer/document settings</b>							
Switch networked printers and photocopiers to automatic double-sided	In Development						
Apply "print and hold" settings to networked printers to eliminate unclaimed print jobs	In Development						
<b>Electronic media in place of paper</b>							
Use electronic document library for filing common documents	Ongoing/In Progress			In various areas, we are in the process of eliminating paper copies of documents in favour of electronic libraries on our server. Areas include but are not limited to student discipline system, student transfers, kindergarten registration, job applications, detention tracking, timesheets pay statements and T4s	We will continue to evaluate the possibilities for this item.	2008	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress			All documents relating to the facilities or that is required for viewing by staff and the public is made available on our website and our intranet. This may include facility information, answers to questions and other commonly used documents.	All departments will continue to provide information in this manner.	2009	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Complete	100	% of payroll notification is electronic	All employees receive Payroll notification through email		2006	No End Date (Continuous)
<b>Behaviour change program</b>							
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development				\	2010	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress			Scrap paper pads are made for use within the office and many staff use make and use scrap paper independently	A more formal organization of environmental ideas may be provided to staff in the future	1990	No End Date (Continuous)

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### Actions to Reduce Provincial Emissions and Improve Sustainability

The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the *Greenhouse Gas Reduction Targets Act*. Public sector organizations can optionally use this section to report on actions that will help British Columbia meet its provincial greenhouse gas reduction targets, engage the public, and improve environmental sustainability across all aspects of their organization.

Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)	Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
<b>Business Travel</b>						
<b>Policy and budgeting</b>						
Create a low-carbon travel policy or travel reduction goal	Ongoing/In Progress		In 2009, we have been attempting to reduce our fleet fuel consumption	In 2010 we are attempting to reduce our fleet consumption by 10% from the previous year	2009	2010
<b>Virtual meeting technology</b>						
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Ongoing/In Progress		Whenever possible, we have used web-conferencing for training sessions, meetings and other long distance discussions.	More action may be taken to formalize the use of web based communication	2008	No End Date (Continuous)
<b>Behaviour change program</b>						
Train staff in web-conferencing	Ongoing/In Progress		Began test piloting Elluminate Software	More action may be taken to formalize the use of web-based communication	2009	No End Date (Continuous)
Train staff in video-conferencing or provide technical support for video-conferencing set-up	In Development		IP based video conferencing infrastructure exists in Prince George and in the three outlying communities served by SD 57	Further examination of this topic to be considered	2007	No End Date (Continuous)
Encourage carpooling to meetings	Complete		The district has 2 pool cars specifically for use in multiple person transport to district facilities		2004	No End Date (Continuous)
<b>Education, Awareness, and Engagement</b>						
<b>Team-building</b>						
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	In Development		The board has passed a motion to elect a Green/Sustainability Committee	Follow recommendations from Committee	2010	No End Date (Continuous)
<b>Staff Professional Development</b>						
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress		Funding is available to train employees on subjects that may be useful to their working environment	Funding is available to train employees on subjects that may be useful to their working environment	1990	No End Date (Continuous)
<b>Other Sustainability Actions</b>						
<b>Water conservation</b>						
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	In Development			Establish policy and best practices for water conservation	2010	2012
Put in place a potable water management strategy to reduce potable water demand of building-level uses such as cooling tower equipment, toilet fixtures, etc. and landscape features	In Development			Establish policy and best practices for water conservation	2010	2012
<b>Waste reduction/diversion</b>						
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	In Development			Establish policy and best practices for waste reduction	2010	No End Date (Continuous)
<b>Procurement (non-paper supplies)</b>						

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Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress		We have begun purchasing and testing green products for Duchess Park. And the district has moved to biodegradable trash bags	Possible use of these products by all facilities	2009	No End Date (Continuous)
<b>Building construction, renovation, and leasing</b>						
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	In Development			No such program available regionally or through municipality.	2010	No End Date (Continuous)
<b>Indoor air quality</b>						
Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.)	Complete		Posted notices on applicable facilities		2005	No End Date (Continuous)
Incorporate low volatile organic compounds (VOCs) standards into procurement policy for products such as paints, carpets, and furniture	In Development			Review Tenders to ensure compliance	2010	No End Date (Continuous)