

SD42 Maple Ridge-Pitt Meadows- 2010 Carbon Neutral Action Report

Executive Summary

SD 42 has continued to work to reduce energy consumption and carbon emissions. The district has completed an Energy Management Assessment in order to undertake a strategic review of our operations with the purpose of helping us establish a structured energy management program that will deliver sustainable savings into the future. Annual Facilities Grant (AFG) funds are being allocated to support projects aimed at reducing energy consumption and reduce carbon emissions. This process will continue based on available funding.

2010 Greenhouse Gas Emission

SD 42 produced a total of 3,512.38 tonnes of greenhouse gas emissions from all sources as reported in SMARTTool.

Offsets Applied to Become Carbon Neutral in 2010

Of all the greenhouse gas emissions generated, a total of 3,506.24 tonnes of emissions offsets have been applied to become carbon neutral for 2010.

Of our total emissions 6.14 tonnes did not require offsets as they fell under mobile fleet BioCO₂ and are out-of-scope of the Carbon Neutral Government Regulations.

Emissions Reduction Activities

Actions Taken to Reduce Greenhouse Gas Emissions in 2010

We have completed the first phase of a geothermal installation at one of our secondary schools and are in the process expanding the system to other areas of the school over the next six months.

We have converted our fleet to ethanol blend gasoline and bio diesel fuels.

Lighting retrofits and upgrades have been incorporated in 3 secondary Gyms and 1 facility Reno.

A new artificial field has been completed at a secondary field eliminating grass cutting and watering.

Operational Changes in 2010

All facilities are undergoing a review to optimize use and energy efficiencies. In this process we have reduced the number of portables in the district by twenty-one. Our intent is to conduct annual reviews of our facility utilization.

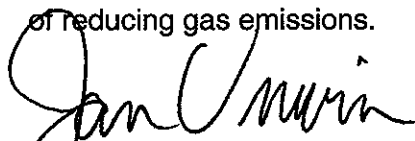
Plans to Continue Reducing Greenhouse Gas Emissions 2011 – 2013

We continue to be a Power Smart Partner and where possible and practical we have worked with BC Hydro on lighting upgrades. We have through our AFG funding undertaken many controls upgrades and this will continue based on available funding

The Geothermal system and one of our secondary schools will be expanded into the older section of the school in 2011.

Two control systems upgrades are planned for 2 secondary facilities.

Teachers are leading students in school-based energy savings and these lessons will demonstrate the benefits of reducing gas emissions.

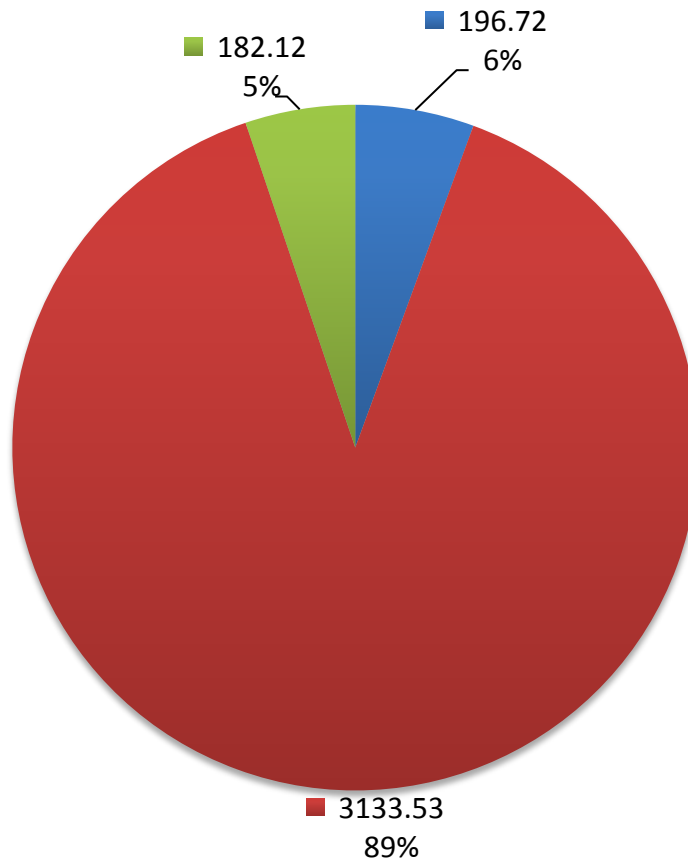


Jan Unwin

Superintendent SD42



SD42 Maple Ridge-Pitt Meadows Greenhouse Gas Emissions by Source for the 2010 Calendar Year (tCO₂e*)



Total Emissions: 3512.37

- 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: **3506.23**. Total offset investment: **\$87,655.75**. Emissions which do not require offsets: **6.14** **

*Tonnes of carbon dioxide equivalent (tCO₂e) is a standard unit of measure in which all types greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.

** Under the *Carbon Government Neutral 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 larger vehicles with smaller models according to fleet "right-sizing" principles	Completed in 2010	6	% of vehicles down-sized since start year indicated	older 3/4 ton van replaced by newer 1/2 ton van , older 1/2 ton van replaced with new smaller car	Continue to monitor use and that units meet the needs of the department	2010	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	Set up documented weekly check sheets for vehicle operators, set up oil change and PM schedule with local Contractor minimum twice per year, more frequently on higher mileage units	Continue with program	2010	No End Date (Continuous)
Behaviour change program							
Provide fleet driver training to reduce fuel use	Ongoing/In Progress			We have not done any formalized training but have reviewed with crews the need to reduce idle time, consolidate and plan routes better, and car pooling on jobs when practical.	Plan to formalize training	2010	No End Date (Continuous)
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	In Development				Plan to formalize training	2011	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress			Continually review with staff	Continually review with staff, formalize policy SD	2009	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Ongoing/In Progress			Review with staff(use of Westcoast Express for downtown meetings) Schools have a formalized program to promote walk and bike to school programs	Plan to formalize training	2009	2011
Other Mobile Fuel Combustion Actions							
Convert to Ethanol blended Gasoline	Completed in 2010			Completed		2009	2010
Convert to Bio Diesel	Completed in 2010			Completed		2010	2010
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							
Planning/management							
Reduce office space (square meters) per employee	Ongoing/In Progress			Disposal of nineteen portables	Continue to analyse facility use	2009	No End Date (Continuous)
Owned buildings							
Establish energy performance baseline for owned buildings	Ongoing/In Progress	100	% of owned buildings have an established energy performance baseline	Energy stats are documented and recorded in our Utility Manager program	Continue monitoring	2009	No End Date (Continuous)
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress	3	% of owned buildings have undergone energy retrofits since start year indicated	Phase one Geothermal System at Garbaldi completed	Complete Expansion of the Geothermal system at Garbaldi Secondary	2008	No End Date (Continuous)
Retrofitting 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
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	3	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	Expand Geothermal system at Garibaldi Secondary	Complete Expansion of the Geothermal system at Garibaldi Secondary, replace old inefficient roof top units at Westview Secondary,	2009	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	10	% of retrofits since start year indicated had lighting systems upgrades	3 Secondary gym lighting retrofits have been completed. Garibaldi addtion and renovation included lighting upgrades	Continue this practice	2009	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	15	% of retrofits since start year indicated had control system upgrades or adjustments	upgraded network systems in 3 facilities	Replace pneumatic controls on old section of school at Garibaldi Secondary , replace control system at Westview Secondary	2007	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	20	% of retrofits since start year indicated had insulation improvements	Completed 2 BEP projects at elementary schools and upgraded windows and insulation, Replaced sections of windows at 1 secondary site and 2 elementary sites	Continue upgrading windows and insulation as we retrofit areas	2006	No End Date (Continuous)
IT power management							
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	30	% of computers shut down automatically outside of regular business hours	Not much progress in this area	Plan to focus more in this area to expand the system	2009	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress	18	% reduction in printers, copiers, and/or fax machines since start year indicated	All six secondary schools have been done	Expand the system throughout the district	2010	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	25	% of computers are ENERGY STAR rated	400 CRT monitors have been replaced with 19" flat screen monitors	Continue program through attrition	2008	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	30	% of fridges are ENERGY STAR rated	Replaced units as they fail with energy star rated units	Continue with this program	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			Purchasing Policy in place	Continue with this program	2008	No End Date (Continuous)
Replace desk lamp incandescent bulbs with compact fluorescent (CFL) bulbs or source more efficient desk lamps for future purchases	Ongoing/In Progress			Relamping policy in place	Continue with this program	2008	No End Date (Continuous)
Behaviour change program							
Help staff reduce personal energy use through "workstation tune-ups"	In Development			Supported by Senior Team	Implement program	2010	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress			Reviewed with staff	Implement formal program for education	2010	No End Date (Continuous)
Encourage use of stairs instead of elevators	Completed in 2010			All elevators in schools are keyed assess and are used for special needs and service work only.		2010	No End Date (Continuous)
Supplies (Paper)							
Printer/document settings							

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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
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	25	% of network printers or photocopiers are set to automatic double-sided	Awareness education to staff	Continue to promote this practice district wide	2009	No End Date (Continuous)
Electronic media in place of paper							
Use electronic document library for filing common documents	Ongoing/In Progress			Shared files on network servers to reduce paper files	Promote this policy district wide	2008	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress			District Web site expanded	Continue this practice in future	2009	No End Date (Continuous)
Behaviour change program							
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress			Promoted throughout district	Continue this practice in future	2008	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress			Maintenance, DEO and other schools using this system	Continue this practice in future	2008	No End Date (Continuous)
Other Paper Supplies Actions							
Eliminate paper workorder request-use of Web system for work request	Ongoing/In Progress	95	% of district using this system	All schools using this system	Paper requests are still used by a small number of users, plan to covert them over to the web system	2008	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 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Business Travel							
Policy and budgeting							
Create a low-carbon travel policy or travel reduction goal	In Development				Refer to Senior Team to develop policy	2010	2012
Virtual meeting technology							
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Completed in 2010	100	% of computers have web-conferencing software installed	All of our computers have the ability to conduct web-conferencing. When web-conferencing is needed, the users will install a web browser plugin that is specific to that site(a small client that take 1 min to download).		2010	2010
Behaviour change program							
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress			Promote the use of web conferencing and tele conferencing	Continue to promote this meeting option	2009	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress			Review at all staff meeting	Review at all staff meeting	2009	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress			Review at all staff meeting	Review at all staff meeting	2009	No End Date (Continuous)
Education, Awareness, and Engagement							
Awards/Recognition							
Establish a sustainability/green awards or recognition program	In Development				Senior Staff to develop and implement this program	2012	No End Date (Continuous)
Staff awareness/education							
Provide education to staff about the conservation of water, energy, and raw materials	In Development				Director of Maintenance to provide documentation and presentation material to support the this program	2011	No End Date (Continuous)
Provide green tips on staff website or in newsletters	In Development				Manager of Communications to set up an area on district website to post this information	2011	No End Date (Continuous)
Provide sustainability education during new staff orientation	In Development				Director of Maintenance to provide support to the HR Department to set up orientation packages on sustainability	2012	No End Date (Continuous)
Client/public awareness/education							
Provide green tips on client/public website or in newsletters	In Development				Manager of Communications to set up an area on district website to post this information	2011	No End Date (Continuous)
Other Education, Awareness, and Engagement Actions							
Students are involved in energy awareness	Ongoing/In Progress			Energy awareness classes have been conducted through BC Hydro programs	We will be expanding this program to include more students at the Secondary and Elementary level	2010	No End Date (Continuous)
Other Sustainability Actions							

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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
Waste reduction/diversion						
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	Ongoing/In Progress		All schools are on a paper and cardboard recycling program	Work with Senior Team to develop composting policy	2008	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress		Disposal Strategy in place	Apply the disposal strategy	2008	No End Date (Continuous)
Building construction, renovation, and leasing						
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	Ongoing/In Progress		Grind waste concrete from school demolition and use in landscaping on site	Continue to look at ways this can be accomplished through out the district	2009	No End Date (Continuous)
Incorporate lifecycle costing into new construction or renovations	In Development			Will incorporate this in the new construction of an elementary school when the project is approved by the Ministry	2011	No End Date (Continuous)
Indoor air quality						
Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.)	Ongoing/In Progress		Continue to expand the policy	Continue to expand the policy	2005	No End Date (Continuous)
Incorporate low volatile organic compounds (VOCs) standards into procurement policy for products such as paints, carpets, and furniture	Ongoing/In Progress		No progress this year	Continue to expand program and look at alternative products	2006	No End Date (Continuous)