



2012 CARBON NEUTRAL ACTION REPORT

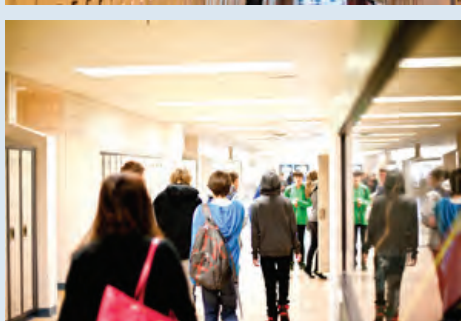
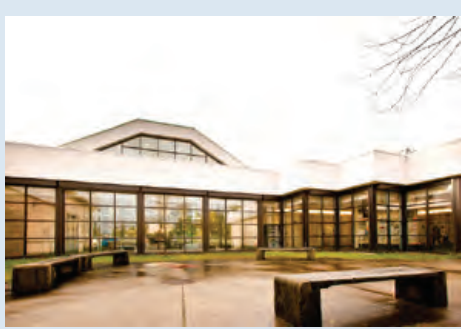
MAPLE RIDGE - PITT MEADOWS SCHOOL DISTRICT NO.42



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.

Jan Unwin
Superintendent of Schools



2012 GREENHOUSE GAS EMISSION

SD 42 produced a total of 3,387 tonnes of greenhouse gas emissions from all sources as reported in SMARTTool.

OFFSETS APPLIED TO BECOME CARBON NEUTRAL IN 2012

Of all the greenhouse gas emissions generated, a total of 3,904 tonnes of emissions offsets have been applied to become carbon neutral for 2012. This total was amended by 525 tonnes based on units consumed in 2011 but not reported previously due to billing issues between SmarTTool and our Utility Manager Program.

Of our total emissions 6.56 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 2012

We have completed a DDC upgrade at one of our secondary schools incorporating motion detectors and CO2 monitors to increase efficiency in unoccupied spaces. We have replaced an old single boiler system with 2 smaller high efficiency condensing boilers at one of our elementary schools.

We have reduced our fleet by 2 vehicles and replaced 2 units with smaller more efficient ones.

Lighting retrofits and upgrades have been incorporated in facility renovations and continue to be a high priority. We have completed a lighting upgrade at one of our secondary shops building.



OPERATIONAL **CHANGES** IN 2012

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 seven. Our intent is to conduct annual reviews of our facility utilization.



PLANS TO CONTINUE REDUCING GREENHOUSE GAS EMISSIONS 2013 – 2014

- We continue to work on lighting upgrades.
- We have through our AFG funding undertaken controls upgrades and we will continue this process based on available funding. We will be completing a DDC controls upgrade at five of our elementary schools and maintenance building.
- We are reviewing our operational policies in an effort to reduce utility consumption.
- Teachers are leading students in school-based energy savings and these lessons will demonstrate the benefits of reducing gas emissions.
- We are in the process of completing our Long Range Facilities Plan to meet the needs of the District going forward in Education and building efficiency.



2012 CARBON NEUTRAL ACTION REPORT

22225 BROWN AVENUE
MAPLE RIDGE, BC
V2X 8N6

School District 42 Maple Ridge - 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	We have not done formalize training but have reviewed with crews the need to reduce idle time, consolidate and plan routes better, and car pool 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	None	Plan to formalize policy and training.	2011	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress	Continually review with staff	Continue to review with staff, formalize SD policy.	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 the use of Westcoast Express for downtown meetings. Schools have a formalized program to promote walking and biking to school.	Continue to review with staff.	2009	No End Date (Continuous)
Vehicle fuel efficiency					
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	Purchase of 2 new smaller Transit vans replacing older 1/2 vans	Upgrade to more efficient units as units expire	2010	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	Replaced 2 larger 1/2 ton vans with new smaller transit vans.	Continue to monitor use and replace units to meet the needs of the department.	2010	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	Continue with maintenance program	Continue with maintenance program	2010	No End Date (Continuous)
Stationary Fuel Combustion, Electricity					
Behaviour change program					
Help staff reduce personal energy use through ""workstation tune-ups""	In Development	None	Formalize and impliment policy.	2010	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress	Review with staff.	Implement formal program for education.	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)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress	Done by custodians at the end of each day.	Ongoing	2008	No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	In Development	None	Include item in district policy on energy savings practices.	2012	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Not Yet Evaluated				No End Date (Continuous)
Encourage use of stairs instead of elevators	Completed (in Previous Year)				No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress	Reviewed with staff and students.	Continue this process.	2010	No End Date (Continuous)
Promote hot water conservation	Not Yet Evaluated				No End Date (Continuous)
IT power management					
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	Added two labs to the power management software system. Dismantled two labs. Total of 60 desktop units were upgraded with power management software. Sixty desktops were taken out of service.	Upgrade a few more labs and add them to the power management software system.	2009	No End Date (Continuous)

School District 42 Maple Ridge - 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
Implement server virtualization	Ongoing/In Progress	Reduced our physical servers from 5 to 4 servers.	No plans at this point. Evaluating options.	2010	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress	Continue to add auto sleep setting.	Continue to add auto sleep setting.	2009	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 efforts to remove Stand-alone units.	Continue efforts to remove Stand-alone units.	2010	No End Date (Continuous)
Apply auto-sleep settings on printers, fax machines, and/or multi-function devices	Ongoing/In Progress	All multifunction devices set to sleep after a period of no activity.	No plans.	2010	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	Replaced 100 older laptops with newer energy star units.	Replace another 100 older laptops with newer units.	2008	No End Date (Continuous)
Leased buildings					
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	Energy stats are documented and recorded in our Utility Manager Program. Hydro has set up baseline usage stats for all our facilities.	Continue to monitor usage.	2009	No End Date (Continuous)
Register for performance labelling/certification for operations and maintenance of owned buildings (e.g., LEED EB:O&M)	Not Yet Evaluated				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	None	Waiting on approval for a new elementary school from the ministry and fundiing support for LEEDS gold on the project	2012	No End Date (Continuous)
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	Completed boiler replacement at Eric Langton Elementary with high efficient condensing boilers. Installed new DDC controls at Westview secondary with CO2 monitors and occupancy sensors. Upgraded lighting at Garibaldi Secondary Shops from T12 to T8.	Upgrading DDC controls at 5 elementary schools	2008	No End Date (Continuous)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Not Yet Evaluated				No End Date (Continuous)
Planning/management					
Reduce office space (square meters) per employee	Ongoing/In Progress	Disposed of 7 portables.	Continue to analyse facility use.	2009	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	Hydro has installed smart meters at all our facilities	Look at programs to tie into smart meters.	2011	No End Date (Continuous)
Retrofit details for owned buildings					
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	Replaced and upgraded boilers at Eric Langton elementary school. Replaced and upgraded DDC controls at Westview Secondary. Installed CO2 monitors and occupancy sensors.	Upgrading DDC controls at 5 elementary schools Upgrading HVAC units in office area of Riverside Center	2009	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	Upgraded lighting at Garibaldi Secondary Shops building fro T12 to T8.	Installing power factor correction at Maple Ridge Secondary. Upgrade to lighting at Pitt Meadows Secondary.	2009	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	Upgraded DDC controls at Westview Secondary and incorporated CO2 and occupancy sensors.	Upgrading DDC controls at 5 elementary schools.	2008	No End Date (Continuous)

School District 42 Maple Ridge - 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
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	Completed BEP project at District Office. Completed Gym BEP project at Albion Elementary.	Continue to upgrade windows and insulation. Complete BEP project at Kanaka Creek Elementary.	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	Sessions were held to train staff, two secondary schools were trained to use sharepoint portals.	Train all schools on how to use parent portals for next years deployment.	2010	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	In Development	Looking at options on Board meeting becoming paperless. Promoting paperless meeting in district.	Continue to promoting paperless meeting in district.	2011	No End Date (Continuous)
Electronic media in place of paper					
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress	Rolled out sharepoint portals two secondary schools.	Implement parent portals allowing schools to communicate with parents utilizing digital notifications, trip consents, etc. Paper work within the schools will be digital.	2010	No End Date (Continuous)
Use electronic document library for filing common documents	Ongoing/In Progress	The majority of electronic documents are stored on common servers for access and storage.	Continue to support this process and explore options in expanding it in other areas.	2010	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Completed (in Reporting Year)	Completed		2010	2012
Paper Type					
Purchase 30% post-consumer recycled paper	Completed (in Previous Year)				No End Date (Continuous)
Purchase 40% post-consumer recycled paper	Not Yet Evaluated				No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Not Yet Evaluated				No End Date (Continuous)
Printer/document settings					
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	Continue to promote this practice district wide.	Continue to promote this practice district wide.	2009	No End Date (Continuous)

School District 42 Maple Ridge - 2012 Carbon Neutral Action Report

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					
Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Business Travel					
Behaviour change program					
Train staff in web-conferencing	Ongoing/In Progress	More training sessions were held this year.	Continue training program.	2009	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress	Continue to promote virtual attendance.	Continue to promote virtual attendance.	2009	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress	Reviewed with staff on a regular bases.	Continue to review with staff.	2009	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress	Reviewed with staff on a regular bases.	Continue to review with staff.	2009	No End Date (Continuous)
Policy and budgeting					
Create a low-carbon travel policy or travel reduction goal	In Development	None	Refer to Senior Team to develop policy.	2010	2013
Virtual meeting technology					
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Ongoing/In Progress	Continue to promote web conferencing and tele conferencing.	Continue to promote web conferencing and tele conferencing.	2009	No End Date (Continuous)
Make desktop web-cameras available to staff	Ongoing/In Progress	Web cameras are available on request.	Continue to promote.	2012	No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	In Development	Trials have been done between schools.	Assessing equipment, training and all associated cost to present to Senior team for support.	2012	No End Date (Continuous)
Education, Awareness, and Engagement					
Awards/Recognition					
Establish a sustainability/green awards or recognition program	In Development	None	Senior Team to develop and implement this program.	2012	No End Date (Continuous)
Staff Professional Development					
Support green professional development (e.g., workshops, conferences, training)	Not Yet Evaluated				No End Date (Continuous)
Include green options in employee performance measurement system	Not Yet Evaluated				No End Date (Continuous)
Staff awareness/education					
Provide education to staff about the science of climate change	Not Yet Evaluated				No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress	Materials and statistics have been made available on request.	Director of Maintenance developing a program to support staff education in this area.	2011	No End Date (Continuous)
Provide green tips on staff website or in newsletters	In Development	None	Work with Manager of Communications to set up an area on district website to post this information.	2012	No End Date (Continuous)
Provide sustainability education during new staff orientation	In Development	None	Director of Maintenance to provide support to HR Department to set up orientation packages on sustainability.	2012	No End Date (Continuous)
Team-building					
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	In Development	None	Senior team to develop and implement a program.	2012	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	In Development	Upgrade to Utility Manager program.	Set up access to resources i.e Hydro states , N.G consumption etc.	2012	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	In Development	Discussions held with senior team.	Formalize a program to present to teams.	2012	No End Date (Continuous)

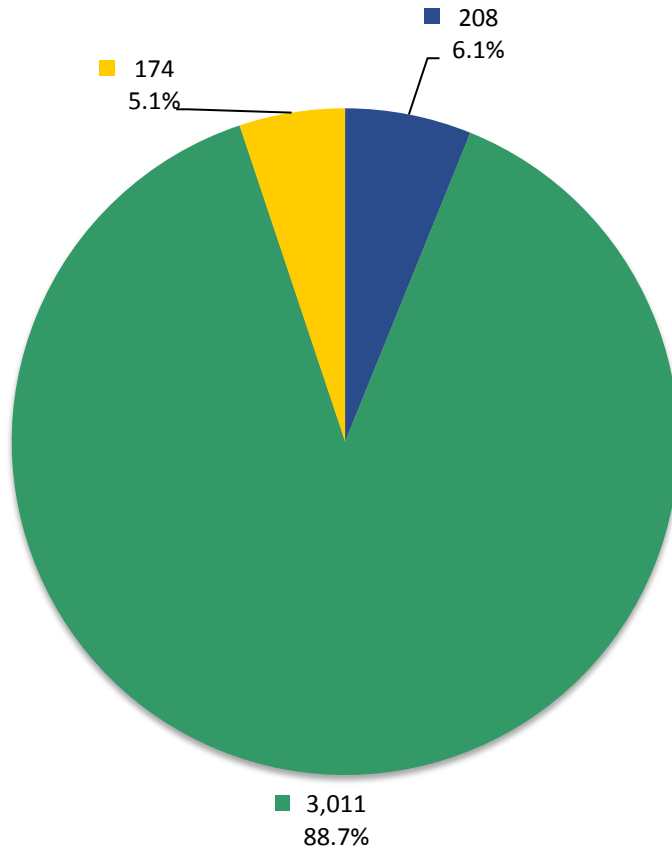
School District 42 Maple Ridge - 2012 Carbon Neutral Action Report

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

Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Other Sustainability Actions					
Adaptation to Climate Change					
Assessed whether extreme weather events and/or long term changes in climate will affect the organization's business areas	Not Yet Evaluated				No End Date (Continuous)
Integrated considerations of extreme weather events and/or long term changes in climate into the organization's decision making.	Not Yet Evaluated				No End Date (Continuous)
Building construction, renovation					
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	Ongoing/In Progress	Various materials are salvaged and reused throughout the district.	Develop as formal policy to support this program.	2009	No End Date (Continuous)
Incorporate lifecycle costing into new construction or renovations	In Development	No progress.	Will incorporate this in new construction.	2011	No End Date (Continuous)
Commuting to and from home					
Introduce telework/work from home policy	Not Yet Evaluated				No End Date (Continuous)
Offer staff a compressed work week	Not Yet Evaluated				No End Date (Continuous)
Encourage commuting by foot, bicycle, carpool or public transit	Not Yet Evaluated				No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Not Yet Evaluated				No End Date (Continuous)
Provide secure bicycle storage	Not Yet Evaluated				No End Date (Continuous)
Procurement (non-paper supplies)					
Incorporate minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.)	Not Yet Evaluated				No End Date (Continuous)
Establish green standards for goods that are replaced infrequently and/or may require capital funds to purchase (e.g., office furniture, carpeting, etc.)	Not Yet Evaluated				No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress	Continued to purchase green cleaning products. We are Green seal certified for all our paper products.	Continue with program for the cleaning and paper products.	2009	No End Date (Continuous)
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	Continue recycling program throughout the district. Installed bottle water refilling station in 2 secondary schools.	Continue to look into programs to do more recycling i.e composting.	2008	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress	Disposal strategy in place.	Apply and maintain the disposal strategy.	2008	No End Date (Continuous)
Water conservation					
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Not Yet Evaluated				No End Date (Continuous)
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	Not Yet Evaluated				No End Date (Continuous)
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	Not Yet Evaluated				No End Date (Continuous)

**School District 42 - Maple Ridge
Greenhouse Gas Emissions by Source
for the 2012 Calendar Year (tCO₂e*)**



Total Emissions: 3,393

- 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 28, 2013 3:51 PM)

Total offsets required: **3,387**. Total offset investment: **\$84,675**. Emissions which do not require offsets: **7** **

*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.