



School District No. 46 (Sunshine Coast)

2012 Carbon Neutral Action Report

Executive Summary

The Board of Education of School District No. 46 (Sunshine Coast) supports and encourages sustainable practices and actions towards carbon neutrality. The school district's values state that; "Environmental sustainability is key to both responsible citizenship and a healthy future, and we play a fundamental role in advancing it through education, from our schools on out to our local and global communities."

A key objective for School District No.46 (Sunshine Coast) with its stated value is educating employees and students to become socially responsible community leaders by promoting behavioural changes for environmental sustainability for today and into the future. By introducing environmental educational programs, we hope to enable all learners to use critical thinking to solve problems, make informed decisions, and understand the potential consequences of decisions and to take actions to ensure the sustainability of the environment. These programs should allow all students and employees to understand personal, local and global environmental issues, develop respect for self and all living species, and develop skills necessary for learning about and understanding the environment so they feel empowered to take personal actions, and continue learning throughout their lives.

Planning for reducing greenhouse gas (GHG) emissions from operations occurred at a number of levels and resulted in the following four key actions in preparation for carbon neutrality continuing in 2012 with ongoing continuation into the future:

1. Discussion of district-wide activities towards carbon neutrality became a standing item on the agendas of Administrative and Principals' meetings.
2. Requirement that all contracts and agreements that the district enters into must adhere to sustainable practices (bus contracts in particular).
3. Change to electronic communication to reduce paper for meeting agendas and presentations for both staff and the Board of Education.
4. Evaluations by trade persons assess all options with respect to finding the most sustainable and green cost effective energy consumption.

Overviews

2012 Greenhouse Gas Emissions

• Mobile Fuel Combustion (Fleet and other mobile equipment) =	143	tonnes CO ₂ e
• Stationary Fuel Combustion and Electricity (Building) =	1145	tonnes CO ₂ e
• Supplies (Paper) =	41	tonnes CO ₂ e
• Fugitive Emissions =	0	tonnes CO ₂ e
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Total 2012 Greenhouse Gas Emission	1329	tonnes CO₂e

It was estimated that stationary fugitive emissions from cooling do not comprise more than 0.01% of School District No. 46 (Sunshine Coast) 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 School District No. 46 (Sunshine Coast) total greenhouse gas emissions profile.

Offsets Applied to Become Carbon Neutral in 2012

• Total 2012 Greenhouse Gas Emissions =	1329	tonnes CO ₂ e
• Emission Which Do Not Require Offsets =	<5>	tonnes CO ₂ e
<u>Total Offset Purchased</u>	<u>1324</u>	<u>tonnes CO₂e</u>
<u>Total Offset Investment (before taxes)</u>	<u>33100</u>	<u>cdn</u>

As required by section 5 of the Carbon Neutral Government Regulation, 5 tonnes CO₂e of emissions resulting from the operation of school buses were reported as part of our greenhouse gas emissions profile 2012. However, they were not offset as they are out-of-scope under section 4 (2) (c) of the Carbon Neutral Government Regulation.

Actions Taken to Reduce Greenhouse Gas Emissions in 2012

Some specific initiatives that School District No. 46 (Sunshine Coast) undertaken in 2012 with regard to reducing greenhouse gas (GHG) emissions towards carbon neutrality from operations.

Ongoing Initiatives Prior Years Continued in 2012

Continued with:

- Lighting upgrades in schools.
- Replacing single pane glazing with double pane glazing.
- Upgrades and additions to DDC controls in schools.
- Installation of multifunction devices (fax, copier, scan) in all worksites and schools.
- Installation of default auto sleep functions on computers, monitors and CPUs.
- Required Energy Star rated model computer and appliance renewals.
- Use of 30% post consumer recycled paper for printers and photocopiers.
- Reduced vehicle emissions through carpooling.
- Use of electronic document library for filing documents.
- Regular maintenance of fleet vehicles.
- Evaluate mechanical systems and develop a program to upgrade where necessary.
- Raise the level of awareness for carbon sustainability through staff and student education and dialogue to inform and encourage sustainable practices and support behaviour change.
- Ensure that all new school and renovations of existing schools will be LEED NC Gold certificate compliance.
- Ensure shutdown of computers outside of regular business hours.
- Encourage the use of electronic documents rather than printed-paper documents.
- Encourage the utilization of web conferencing.
- Awareness for use of recycled paper noted in footer of district correspondences.

New Initiatives Implemented in 2012

- Re-commissioning of existing mechanical systems.
- Began replacing boilers and pumping systems with variable speed motors and condensing boilers.

- Reduced fleet size by 5 vehicles and replaced 4 large cargo vans with 4 new, compact 4 cylinder vans.
- Replaced school exterior lighting with LED fixtures across district.
- Tightened HVAC schedules to reflect actual school usage hours.
- Lowered night setback temperatures district wide.

Plans to Continue Reducing Greenhouse Gas Emissions 2012 – 2013

Going forward, over the next three years, School District No. 46 (Sunshine Coast) will develop protocols, policy and regulations to support key areas of greenhouse gas reduction. Examples include:

- Complete remaining interior lighting retrofits.
- Further explore geothermal feasibilities at multiple sites.
- Add HVAC system override controls to allow for more consistent use of night setback.
- Establish school based Sustainability Committees to support district activities and to support sustainable practices.
- Continue to replace district vehicles with more fuel-efficient vehicles.
- Retrofit mechanical systems with VFD motors and condensing boilers.
- Additional lighting level controls.


Becoming carbon neutral is an important goal towards School District No. 46 (Sunshine Coast) sustainability plans in the following ways:

- It encourages all members of the organization to work on this together to be more successful and unified in our efforts towards carbon neutrality.
- Carbon sustainability practices provide good modeling for students and the wider community.
- Carbon sustainability demonstrates fiscal responsibility by using recycled materials, monitoring and reducing consumables and analyzing and reducing utilization of vehicles.

Some anticipated financial, environmental, and social benefits related to reducing GHG emissions include:

- Social - bringing together various employees and employee groups with students for a common purpose.
- Financial – working toward energy efficiency will result in savings.
- Environmental – expanding school recycling programs, reducing fuel and gas consumption, and monitoring travel will support the initiatives of the activities Sunshine Coast local governments.


 Patrick Bocking
 Superintendent of Schools


 Nicholas Weswick
 Secretary-Treasurer

School District No. 46 (Sunshine Coast)

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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	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	Introduced driver training program which included efficient driving habits, pre-post trip maintenance inspections and stressed the importance of timely preventative maintenance.	Continue with driver training program.	2012	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	Installing anti-idling signs at all District facilities.	Continuation of enforcing policies.	2012	2013
Encourage carpooling in fleet vehicles	Not Yet Evaluated				No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Not Yet Evaluated				No End Date (Continuous)
Vehicle fuel efficiency					
Replace vehicles with more fuel-efficient models	Not Yet Evaluated				No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	Replaced 4, 8 cylinder vans with 4 new 4 cylinder vans. Reduced overall fleet size by 4 vehicles.	Continue to optimize fleet.	2012	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	Introduced driver training program which included efficient driving habits, pre-post trip maintenance inspections and stressed the importance of timely preventative maintenance.	Continue with driver training programs.	2012	No End Date (Continuous)
Stationary Fuel Combustion, Electricity					
Behaviour change program					
Help staff reduce personal energy use through ""workstation tune-ups""	Not Yet Evaluated				No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	In Development	None.	Work with BC Hydro Power Smart Students Program to perform school audits.	2013	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	In Development	None.	Work with BC Hydro Power Smart Students Program to perform school audits.	2013	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	In Development	None.	Work with BC Hydro Power Smart Students Program to perform school audits.	2013	No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	In Development	None	Work with BC Hydro Power Smart Students Program to perform school audits.	2013	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	In Development	None.	Work with BC Hydro Power Smart Students Program to perform school audits.	2013	2014
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Completed (in Previous Year)				No End Date (Continuous)
Promote hot water conservation	In Development	None.	Work with BC Hydro Power Smart Students Program to perform school audits.	2013	No End Date (Continuous)
IT power management					
Install power management software which shuts down computers outside of regular business hours	Not Yet Evaluated				No End Date (Continuous)
Implement server virtualization	Not Yet Evaluated				No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	In Development	None.	Will work with IT to develop a plan	2013	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install	Not Yet				No End Date

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
multi-function devices as part of a print management strategy	Evaluated				(Continuous)
Apply auto-sleep settings on printers, fax machines, and/or multi-function devices	Completed (in Previous Year)				No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Completed (in Previous Year)				No End Date (Continuous)
Owned buildings					
Establish energy performance baseline for owned buildings	Ongoing/In Progress	District continued to monitor energy performance.	District will continue to monitor energy performance.	2011	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	Ongoing/In Progress	New elementary school currently under construction will achieve LEED Gold certification.	New elementary school currently under construction will achieve LEED Gold certification.	2012	2014
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	Replaced boilers and controls at 2 schools with high efficiency condensing boilers.	Continue with more upgrades.	2012	2012
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Completed (in Previous Year)				No End Date (Continuous)
Planning/management					
Reduce office space (square meters) per employee	Not Yet Evaluated				No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Not Yet Evaluated				No End Date (Continuous)
Retrofit details for owned buildings					
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	None	Will be evaluated as situations arise.	2008	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	Upgraded lighting on projects where it made sense to do so.	Will continue with upgrades as necessary.	2008	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	Made numerous upgrades to control systems during reno's.	Continue to upgrade as needed.	2008	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	Continued to upgrade insulation, windows, roofs during reno's.	Will continue to upgrade insulation, windows, roofs during reno's.	2008	No End Date (Continuous)
Supplies (Paper)					
Behaviour change program					
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Not Yet Evaluated				No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Completed (in Previous Year)				No End Date (Continuous)
Electronic media in place of paper					
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Not Yet Evaluated				No End Date (Continuous)
Use electronic document library for filing common documents	Completed (in Previous Year)				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)

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Actions Towards Carbon Neutrality

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Paper Type					
Purchase 30% post-consumer recycled paper	Not Yet Evaluated				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	Not Yet Evaluated				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					
Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Business Travel					
Behaviour change program					
Train staff in web-conferencing	Completed (in Previous Year)				No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Completed (in Previous Year)				No End Date (Continuous)
Encourage carpooling to meetings	Completed (in Previous Year)				No End Date (Continuous)
Policy and budgeting					
Create a low-carbon travel policy or travel reduction goal	Not Yet Evaluated				No End Date (Continuous)
Virtual meeting technology					
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Completed (in Previous Year)				No End Date (Continuous)
Make desktop web-cameras available to staff	Completed (in Previous Year)				No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Completed (in Previous Year)				No End Date (Continuous)
Education, Awareness, and Engagement					
Awards/Recognition					
Establish a sustainability/green awards or recognition program	Not Yet Evaluated				No End Date (Continuous)
Staff Professional Development					
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress	None.	Work with BC Hydro Power Smart Students Program.	2013	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	Not Yet Evaluated				No End Date (Continuous)
Provide green tips on staff website or in newsletters	In Development	None	Plan to work on in 2013/2014	2013	2014
Provide sustainability education during new staff orientation	Not Yet Evaluated				No End Date (Continuous)
Team-building					
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	In Development	None	Work with BC Hydro Power Smart Students Program.	2013	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress	None	Work with BC Hydro Power Smart Students Program.	2013	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress	None	Work with BC Hydro Power Smart Students Program.	2013	2014
Other Sustainability Actions					
Adaptation to Climate Change					

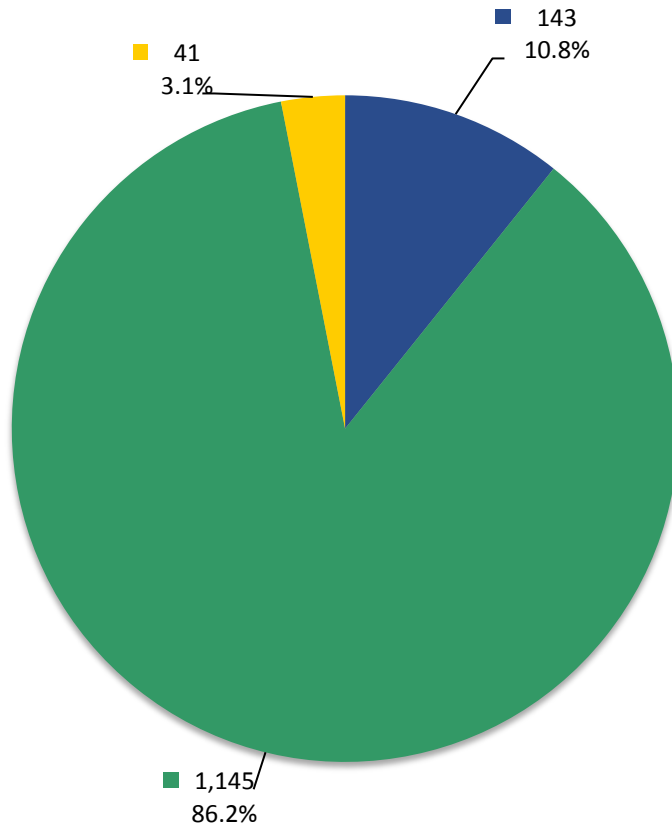
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Actions to Reduce Provincial Emissions and Improve Sustainability

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

Action	Status	Steps Taken	Steps Planned	Start Year	End Year
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	Completed (in Previous Year)				No End Date (Continuous)
Incorporate lifecycle costing into new construction or renovations	Completed (in Previous Year)				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	Completed (in Previous Year)				No End Date (Continuous)
Encourage commuting by foot, bicycle, carpool or public transit	Completed (in Previous Year)				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	Completed (in Previous Year)				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	Not Yet Evaluated				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	Schools continued with recycling programs and composting.	Schools will continue with recycling programs and composting.	2008	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Completed (in Previous Year)				No End Date (Continuous)
Water conservation					
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Completed (in Previous Year)				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	Completed (in Previous Year)				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 46 - Sunshine Coast
Greenhouse Gas Emissions by Source
for the 2012 Calendar Year (tCO₂e*)**



Total Emissions: 1,329

- 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 3:56 PM)

Total offsets required: **1,324**. Total offset investment: **\$33,100**. Emissions which do not require offsets: **4** **

*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.