



School District No. 46 (Sunshine Coast)

2014 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 2015 with ongoing continuation into the future:

1. Discussion of district-wide activities towards carbon neutrality is a regular 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 to assess all options with respect to finding the most sustainable, green and cost effective systems to reduce energy consumption.

Overviews

2014 Greenhouse Gas Emissions

• Mobile Fuel Combustion (Fleet and other mobile equipment) =	83.85 tonnes CO ₂ e
• Stationary Fuel Combustion and Electricity (Building) =	782.55 tonnes CO ₂ e
• Supplies (Paper) =	24.90 tonnes CO ₂ e
• Fugitive Emissions =	32.73 tonnes CO ₂ e
<u>Total 2014 Greenhouse Gas Emission</u>	<u>924 tonnes CO₂e</u>

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 2014

• Total 2014 Greenhouse Gas Emissions =	924	tonnes CO2e
• Emission Which Do Not Require Offsets =	3	tonnes CO2e
<u>Total Offset Purchased</u>	<u>921</u>	<u>tonnes CO2e</u>
<u>Total Offset Investment (before taxes)</u>	<u>23025</u>	<u>cdn</u>

As required by section 5 of the Carbon Neutral Government Regulation, 3 tonnes CO2e of emissions resulting from the operation of school buses were reported as part of our greenhouse gas emissions profile 2014. 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 2014

Some specific initiatives that School District No. 46 (Sunshine Coast) undertaken in 2014 with regard to reducing greenhouse gas (GHG) emissions towards carbon neutrality from operations.

Ongoing Initiatives Prior Years Continued in 2014

Continued with:

- Lighting upgrades in schools.
- Replacing single pane glazing with double pane glazing.
- Replacing exterior doors and Improving weather stripping.
- 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.
- Evaluating mechanical systems and prioritizing systems to upgrade.
- Raising the level of awareness for carbon sustainability through staff and student education and dialogue to inform and encourage sustainable practices and support behaviour change.
- Completed construction on a new LEED Gold school facility.
- 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.
- Re-commissioning of existing mechanical systems.
- Replaced secondary school boiler plant with condensing boiler and VFD pumps
- Installed condensing domestic hot water heaters

- Installed domestic hot water solar collectors
- 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 2014 – 2015

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:

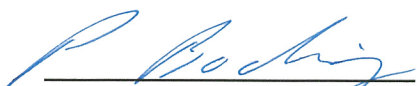
- Further explore solar feasibilities.
- Continuous optimization of HVAC controls and systems in partnership with Fortis BC and BC Hydro.
- Establish district Sustainability Committee to support district activities and to support sustainable practices.
- Continue to replace district vehicles with more fuel-efficient vehicles.
- Replace single-glazed with windows with low emissivity double-glazing.
- Addition of HVAC controls and re-commissioning of existing HVAC systems.

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

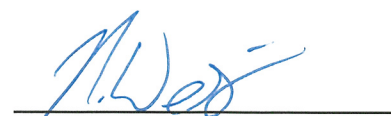
- It encourages all members of the organization to work on this together to be more successful and unified in our efforts towards carbon neutrality.
- Carbon sustainability practices provide good modeling for students and the wider community.
- Carbon sustainability demonstrates fiscal responsibility 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)

2014 Carbon Neutral Action Report (CNAR)

- Part 2 ACTIONS

Organization Name

School District 46 (Sunshine Coast)

Actions Taken to Reduce Emissions

1) Stationary Fuel Combustion, Electricity (Buildings): Indicate which actions were taken in 2014:

Performed energy retrofits on existing buildings

Yes

Built or are building new LEED Gold or other "Green" buildings.

Yes

Undertook an evaluation of overall building energy use.

Yes

Please list any other actions taken to reduce emissions from Buildings:

HVAC recommissioning, boiler replacements, lighting upgrades, add/replace DDC controls.

2) Mobile Fleet Combustion (Fleet and other vehicles): Indicate which actions were taken in 2014:

Do you have a fleet?

Yes

Replaced existing vehicles with more fuel efficient vehicles (gas/diesel)

No

Replaced existing vehicles with hybrid or electric vehicles

No

Reduced the overall number of fleet vehicles

No

Took steps to drive less than last year

Yes

Please list any other actions taken to reduce emission from fleet:

(No response)

3) Supplies (Paper):Indicate which actions were taken in 2014:

Used less paper than previous year

Yes

Used only 100% recycled paper

No

Used some recycled paper

Yes

Used alternate source paper (Bamboo, hemp, etc.)

No

Please list any other actions taken to reduce emissions from paper use:

(No response)

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Actions Taken to Reduce Emissions - continued

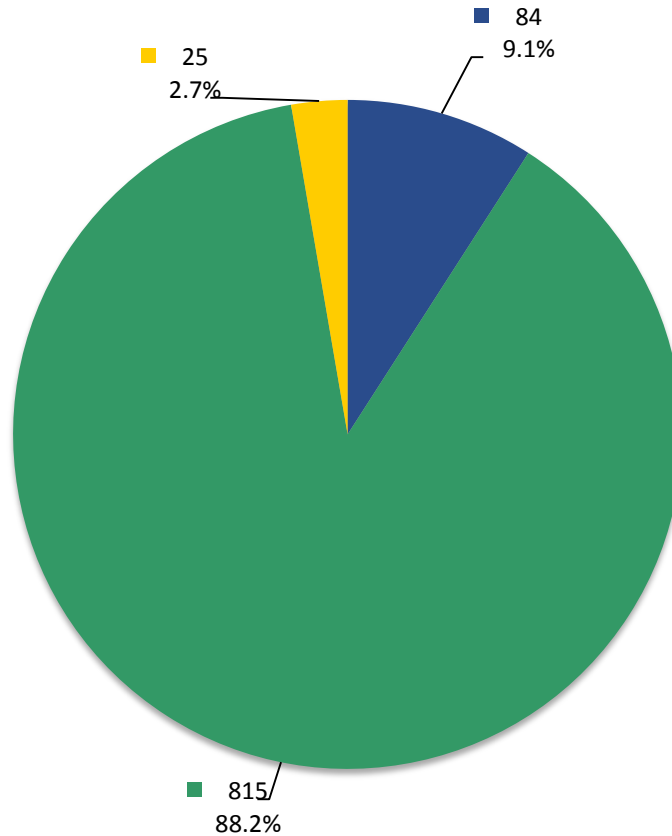
Explain how you plan to continue minimizing emissions in 2015 and future years:

Continue to replace and upgrade lighting systems, hvac controls, boilers, and HVAC equipment.
Replace vehicles with more efficient ones. Continue with behaviour change management.

If you wish to list any other "sustainability actions" outside of buildings, fleet, paper and travel check "yes". This reporting is optional.

No

**School District 46 - Sunshine Coast
Greenhouse Gas Emissions by Source
for the 2014 Calendar Year (tCO₂e*)**



Total Emissions: 924

- 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 2014 (Generated June 23, 2015 2:38 PM)

Total offsets required: **921**. Total offset investment: **\$23,025**. Emissions which do not require offsets: **3** **

*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.