



School District No. 46 (Sunshine Coast)

2017 Carbon Neutral Action Report

This Carbon Neutral Action Report for the period January 1st, 2017 to December 31st, 2017 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2017 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2018 and beyond.

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 2017 with ongoing continuation into the future:

1. Discussion of district-wide activities towards carbon neutrality and overall energy reduction strategies is a regular item on the agendas of Administrative 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

2017 Greenhouse Gas Emissions

• Mobile Fuel Combustion (Fleet and other mobile equipment) =	80.59 tonnes CO ₂ e
• Stationary Fuel Combustion and Electricity (Building) =	529.21 tonnes CO ₂ e
• Supplies (Paper) =	47.01 tonnes CO ₂ e
• Fugitive Emissions =	30.92 tonnes CO ₂ e
Total 2017 Greenhouse Gas Emission	<u>687.73 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 2017

• Total 2017 Greenhouse Gas Emissions =	687.73	tonnes CO2e
• Adjustments to Offsets Reported in Prior Years =	38.00	
• Emission Which Do Not Require Offsets =	-2.56	tonnes CO2e
<u>Total Offset Purchased</u>	<u>723.17</u>	<u>tonnes CO2e</u>
<u>Total Offset Investment (before taxes)</u>	<u>\$18,075.00</u>	<u>cdn</u>

As required by section 5 of the Carbon Neutral Government Regulation, 4 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 2017

Some specific initiatives that School District No. 46 (Sunshine Coast) undertaken in 2017 with regard to reducing greenhouse gas (GHG) emissions towards carbon neutrality from operations.

Ongoing Initiatives Prior Years Continued in 2017

- Replacing single pane glazing with double pane glazing.
- Replacing exterior doors and improving weather stripping.
- Began upgrading DDC controls in all facilities and installed live energy and water metering that is accessible to all staff for teaching and learning.
- Upgrade of multifunction devices (fax, copier, scan) in all worksites and schools to latest energy efficiency and technology.
- Purchasing Energy Star rated model computer and appliance renewals.
- Use of 30% post consumer recycled paper for printers and photocopiers.
- Reducing vehicle emissions through carpooling and downsizing vehicles.
- Use of electronic document library for filing documents.
- Regular maintenance of fleet vehicles.
- Anti idling/efficient driving program.
- Evaluating mechanical systems and prioritizing systems to upgrade.
- Raising the level of awareness for carbon reduction through staff and student education to encourage sustainable practices and support behaviour change.
- Encourage the use of electronic documents rather than printed-paper documents.
- Encourage the utilization of web conferencing.
- Installed 3 large Photovoltaic Solar Plants and replaced 2 entire HVAC systems
- Improved maintenance of existing mechanical systems.
- Installed occupancy sensors to control HVAC systems.
- Continued replacing school exterior lighting with LED fixtures across district.
- Tightened HVAC schedules to reflect actual school usage hours.

Plans to Continue Reducing Greenhouse Gas Emissions 2017 – 2018

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.
- Continue with district Sustainability Committee and Student Energy Ambassadors to support district activities and to support sustainable practices.
- Continue to replace district vehicles with more fuel-efficient vehicles.
- Replace single-glazed windows with low emissivity double-glazing.
- Addition of HVAC controls and re-commissioning of existing HVAC systems.
- Roof replacements for better insulation.
- 2 Boiler replacement projects.

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

Part 1: CNAR Survey

1. General Information

Name: Rob Collison

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Organization Name: School District No. 46 (Sunshine Coast)

Sector: School District

2. Stationary Sources (eg. Buildings, Power Generators): Fuel Combustion, Electricity use, Fugitive Emissions.

During 2017, did your organization take any of the following actions to support emissions reductions from buildings? (please select all that apply)

Performed energy retrofits of the organization's building(s)

If you selected "*Performed energy retrofits of the organization's building(s)*":

How many buildings were retrofitted?: 3

If you selected "*Built, or are building new LEED Gold or other "Green" buildings*":

How many new "Green" buildings?:

Did your Organization perform any retrofits during 2017? Please describe briefly:

We added Solar PV on 3 facilities and replaced the HVAC systems on 2 facilities. We also replaced single pane glazing with double glazing in a number of facilities as well as main exterior doors. We also tuned up our building management systems.

2a. Stationary Sources (eg. Buildings, Power Generators): Fuel Combustion, Electricity use, Fugitive Emissions.

Please briefly describe your organization's plans to continue reducing emissions from its stationary sources:

a) Over the next 1-5 years

Continue with HVAC replacement projects, BMS system tuning and window/door replacement. We are also planning on replacing 3 gas powered vehicles with solar charged, electric vehicles.

b) Over the following 6-10 years

Same as above.

3. Mobile Sources (Vehicles, Off-road/portable Equipment): Fuel Combustion:

During 2017, did your organization take any of the following actions to support emission reductions from its mobile sources? (please select all that apply)

Replaced existing vehicles with more fuel efficient vehicles (gas/diesel); Took steps to drive less than previous years

If you selected "*Replaced existing vehicles with more fuel efficient vehicles (gas/diesel)*":

How many vehicles?: 1

If you selected "*Replaced existing vehicles with hybrid or electric vehicles*":

How many vehicles?: 0

3a. Mobile Sources (Vehicles, Off-road/portable Equipment): Fuel Combustion:

Please briefly describe your organization's plans to continue reducing emissions from its mobile sources:

a) Over the next 1-5 years

Purchasing electric vehicles and replacing older gas powered vehicles with newer, more efficient ones.

b) Over the following 6-10 years

Same as above.

4. Supplies (Paper): Indicate which actions your PSO took in 2017:

During 2017, did your organization take any of the following actions to support emissions reductions from paper supplies? (please select all the apply)

Had an awareness campaign focused on reducing office paper use

If you selected "*Had a policy requiring the purchase of recycled content paper*":

State the required recycled content here (30%, 50%, 100%):

If you selected "*Had a policy requiring the purchase of alternate source paper (bamboo, hemp, wheat, etc)*", which type of alternate source paper did you use?

Please briefly describe your organization's plans to continue reducing emissions associated with its office paper use in future years.

5. Other Sustainability Actions

a) Business Travel

During 2017, did your organization take any of the following actions to support emissions reductions from business travel? (please select all that apply)

Encouraged alternative travel for business (e.g. bicycles, public transit, walking)

b) Education/Awareness

During 2017, did your organization have any of the following programs or initiatives to support sustainability education and awareness? (please select all that apply)

A Green, Sustainability or Climate Action Team

c) Other Sustainability Actions

During 2017, did your organization have any of the following programs or initiatives to support sustainability? (please select all that apply)

A water conservation strategy which may include a plan or policy for replacing water fixtures with efficient models; An operations policy or program to facilitate the reduction and diversion of building occupant waste (e.g., composting, collection of plastics, batteries) from landfills or incineration facilities; Lifecycle costing of new construction or renovations