

CARBON NEUTRAL ACTION REPORT

Sea to Sky School District #48

Declaration

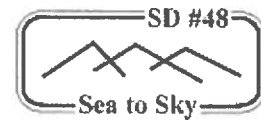
This Carbon Neutral Action Report for the period January 1st, 2017 to December 31st, 2017 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2017 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2018 and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

By June 30, 2017 Sea to Sky School District #48's final Carbon Neutral Action Report will be posted to our website at <http://www.sd48.org/>.

2017 Actions

In 2017, School District 48 took action to reduce GHG emissions through the following initiatives:

Location	Action
Whistler Senior Secondary Pemberton Senior Secondary	Retro-commissioning through BC Hydro Continuous Optimization Program: The facilities underwent an energy study to identify performance optimization opportunities. The study findings were implemented in the period of Nov 2016 to Sep 2017. Work was based on implementing variable air flow to match space demand alongside optimizing the existing scheduling of mechanical equipment. The project is estimated to reduce fossil fuel consumption by 9% or 30 tCO₂e annually .
Whistler Senior Secondary Pemberton Senior Secondary Myrtle Philip Community School Signal Hill Elementary	Building Automation Upgrade Building controls were switched to a web-based portal enabling increased ease of access and facility overview including the scheduling of mechanical equipment including effective holiday shut-downs.
Howe Sound Senior Secondary	Unit ventilator and window retrofit (phase 2 of 2): The unit ventilators allow for better controllability of heating and ventilation in classrooms, in direct response to occupancy demands. Optimized controllability results in less energy use overall with an increase in occupancy comfort.
Howe Sound Senior Secondary Squamish Elementary	Biomass District Energy Plant: The new district heating plant will use local carbon zero wood chips as fuel while providing 80% of full heating load to both facilities. Construction was completed in the fall of 2017, with commissioning ongoing. Due to the magnitude of the project, funding was awarded over two phases including contributions from Carbon Neutral Capital Planning (CNCP) and the School Enhancement Project (SEP). This project is our first "District Energy" system and is expected to reduce the District's carbon by 18% or 200 tCO₂eq .



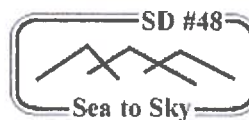
Howe Sound Senior Secondary Whistler Senior Secondary Gymnasiums	LED Lighting Upgrade: An LED lighting upgrade was performed at the two gymnasiums. The retrofit eliminated end of life fluorescent tubes with LED high bays controlled by occupancy. Additional dimming capabilities are also present to increase occupancy comfort by adjusting light levels to the desired setting.
Pemberton Senior Secondary	LED Lighting Upgrade: Existing outdoor and Multi-Purpose Room metal halide lighting was replaced with energy saving LED products.

2018 Planning

School District 48 has an ongoing contract for energy management services with Rede Energy Solutions. Rede is an integral part of the school district's facilities and operations team. Responsible for establishing and implementing the overall energy management strategy for the school district, Rede works with facilities leadership and staff to set energy and GHG emissions reduction targets, identify improvement opportunities, conduct building energy studies, secure grants and incentive funding, and oversee the implementation of improvement projects. Energy savings and GHG emissions reductions are evaluated annually and new targets are set annually.

The following projects are being considered for 2018 and beyond:

Location	Project
Don Ross Middle School	Bio Mass Fuel Switching: Phase I of the addition of a bio-mass heating plant. Total savings estimated at 120 tCO₂eq.
Don Ross Middle School	Boiler Replacement: End of life natural gas boiler replacement.
Pemberton Senior Secondary	HVAC: Enable variable flow of primary and secondary heat loop.
Pemberton Senior Secondary	GeoExchange Fuel Switching: Full mechanical retrofit including ground source GeoExchange.
Whistler Senior Secondary	HVAC: Enable variable flow of the primary and secondary heat loop.
Signal Hill Elementary	Boiler Replacement: Replacement of end of life propane hot water boilers with condensing units. Re-piping of current configuration to increase use of existing GeoExchange ground source system.
Garibaldi Highlands	Full Mechanical Retrofit: Replace current stand-alone furnaces with centralized heat.



Howe Sound Senior Secondary	District Bio Mass: Fully commission new district energy plant.
Howe Sound Senior Secondary	Boiler Replacement: End of life natural gas boiler replacement.
Valleycliffe Elementary	Envelope Upgrade: Window Replacement
Squamish Elementary	Envelope Upgrade: Window Replacement

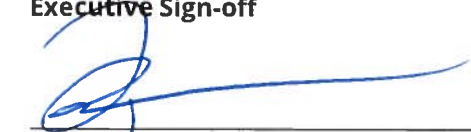
Emissions and Offset Summary

GHG Emissions and Offsets for 2017 (tCO2e)	
GHG Emissions created in Calendar Year 2017:	
Total Emissions (tCO2e)	1,719
Total Offsets (tCO2e)	1,295
Adjustments to GHG Emissions Reported in Prior Year (2016):	
Total Emissions (tCO2e)	0
Total Offsets (tCO2e)	0
Grand Total Offsets for the 2017 Reporting Year:	
Total Offsets (tCO2e)	1,295

Retirement of Offsets

In accordance with the requirements of the Greenhouse Gas Reduction Targets Act and Carbon Neutral Government Regulation, **Sea to Sky School District #48** is responsible for arranging for the retirement of the offsets obligation reported above for the 2017 calendar year, together with any adjustments reported for past calendar years. The Organization hereby agrees that, in exchange for the Ministry of Environment ensuring that these offsets are retired on the Organization's behalf, the Organization will pay within 30 days, the associated invoice to be issued by the Ministry in an amount equal to \$30 per tonne of offsets retired on its behalf plus GST.

Executive Sign-off



 Signature
 Lisa McCullough

 Name (Please print)

May 29, 2018

 Date
 Superintendent of
 Schools

 Title

Part 1: CNAR Survey

1. General Information

Name: Ian Currie

Contact Email: icurrie@sd48.bc.ca

Organization Name: School District No. 48 (Sea to Sky)

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)

Conducted an energy audit/study of building(s) in the organization's portfolio.; 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?: 5

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:

Retro-commissioning through BC Hydro COPS.

Building Automation Upgrades.

Unit Ventilator Retrofits.

Biomass District Energy Plant.

Window Retrofits.

LED Lighting Upgrade

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

- Biomass Fuel Switching.
- Boiler Replacements.
- VFD's on Pumps and Fans.
- Automation and COPS.
- Full Mechanical Retrofits.
- Envelope Upgrades.

b) Over the following 6-10 years

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)

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

How many vehicles?: 2

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

How many vehicles?:

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

- Purchase more fuel efficient replacement vehicles.
- Encourage less driving/limit unnecessary trips..
- Enforce Anti-Idling Policy.
- Continue to provide driver training to reduce fuel use to bus drivers.
- Explore purchasing electric and alternate fuel vehicles.
- Continue to perform regular fleet maintenance to improve fuel efficiency.

b) Over the following 6-10 years

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.

- continue to encourage paperless meetings and presentations
- continue to expand the use of collaborative software
- continue to utilise electronic document libraries
- continue to encourage double sided printing
- discourage colour printing

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)

None of the above

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)

Support for professional development on sustainability (e.g. workshops, conferences, training)

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)

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