



2017 Carbon Neutral Action Report



SCHOOL DISTRICT NO. 33 (CHILLIWACK)

Located in the Fraser Valley of British Columbia, we are a learning community of over 14,000 students, served by 1,800 teachers and support staff. There are 20 Elementary schools, 8 Middle/Secondary schools and 3 Alternate sites.

Allan Van Tassel

Director of Facilities &
Transportation

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EXECUTIVE SUMMARY

With the growing student population in Chilliwack and recent language changes to class size and composition in the teacher contracts, our district has experienced a demanding year. We have completed multiple projects to provide increased teaching spaces all while maintaining our buildings and continuing our efforts to lessen GHG emissions. Through partnerships with B.C. Hydro, Fortis, and targeted funding from the Ministry, we have been able to implement a number of projects and initiatives to help further reduce our carbon footprint.

Installations of higher efficiency boiler plants are now complete at Vedder Elementary and Little Mountain Elementary and steps have been taken to improve building performance through review and recommissioning of the BMS software through continuous optimization.

Our staff, students, parents and community partners continue to develop a culture of sustainable thinkers by practicing conservation activities in our buildings daily; turning off the lights, and recycling and composting at each site. This also supports our City's mandate. "Green Teams" of students throughout the district continue to share their enthusiasm and knowledge with other students and staff on a variety of green projects including our most recent district wide recycling and composting program. We are also encouraged by our district's initiative to print less paper and shift towards electronic document storage in an effort to reduce paper consumption.

While the Chilliwack School District is continually working on reducing its carbon footprint, it still generates GHG emissions. Through careful planning and strategizing, we hope to further reduce our GHG emissions and meet our reduction goals for future generations.

Declaration statement: 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.

OVERVIEWS

ACTIONS TAKEN TO REDUCE GREENHOUSE GAS EMISSIONS IN 2017

MECHANICAL UPGRADES

- Full V3 DDC Upgrade to our large High school, Sardis Secondary.
- Continual optimization, staff training, and upgrades to our DDC automation and software.
- Installation of DDC controls in the majority of our portable inventory.
- All sixteen new portables ordered this year have come standard with high efficiency furnaces and LED lighting.



- Replacement of older, non-efficient domestic hot water tanks to tankless on demand high efficiency.



- Replacement of older, non-efficient boiler plants to high efficiency condensing boilers.



- Replacement of older, constant volume hot water circulating pumps, with higher efficiency, variable speed drive models.

TECHNOLOGY UPGRADES

- Power management settings have been utilized in all computers, copiers, and printers.
- Continual updating of the districts computer inventory.
- Reduced Paper consumption with the use of *PaperCut* software and low use presets like standard double-sided printing and print release functions.
- Beginning to transition to Laserfiche for electronic document storage and piloting a project to digitize student files.

BUILDING ENVELOPE UPGRADES

- Building Envelope upgrades that included higher efficiency window replacements.



ELECTRICAL UPGRADES

- Dark campus exterior lighting practice and LED Gym Lighting upgrades (Strathcona Elementary).

- LED lighting is used in targeted upgrades and large renovations.

CUSTODIAL UPGRADES

- Implementation of recycling and organic management system, “Bin Be Gone”.
- Replacement old floor scrubbers with new scrubbers using ionized water instead of chemicals.
- Water conservation with water bottle filling stations.

TRANSPORTATION

- Encouraging carpooling to all district events.
- 10-year capital plan for fleet vehicle replacement based on vehicle age, fuel consumption, and maintenance costs.

CONTINUE REDUCING GREENHOUSE GAS EMISSIONS 2018-2019

- All new sites and buildings designs will incorporate the latest in energy saving technology and LEED Gold standards.
- Continue with lighting and distribution upgrades throughout the district.
- Fine-tune and review of current control systems and scheduling to better optimize building performance.
- Continual upgrades to our Building Management Software (BMS) and Direct Digital Controls (DDC).
- HVAC mechanical systems and boiler plants to will be continually upgraded to reduce GHG emissions.
- Further Energy Studies will be performed for future Energy related projects in mechanical and lighting.
- In-depth assessment of current inventory of buildings and assets to establish project list and a timetable using consumption data along with operational costs.
- Building envelope upgrades to aging building infrastructure to improve insulation in regards to heat loss and cooling.
- Create green, sustainability, energy conservation or climate action teams with the support of senior school district staff.
- Continue to encourage carpooling.
- Encourage staff to consider virtual attendance/presentations at events where possible.
- Continue to provide education to staff, student and Green Team initiative’s about the conservation of water, energy and raw materials.
- Investigate opportunities into increased recycled paper content as a district standard.

EMISSIONS AND OFFSET SUMMARY TABLE:

Chilliwack School District GHG Emissions and Offset for 2017 (tCO ₂ e)	
GHG Emissions created in Calendar Year 2017:	
Total Emissions (tCO ₂ e)	3,977
Total Offsets (tCO ₂ e)	3,112
Adjustments to GHG Emissions Reported in Prior Years:	
Total Emissions (tCO ₂ e)	27
Total Offsets (tCO ₂ e)	27
Grand Total Offsets for the 2017 Reporting Year:	
Grand Total Offsets (tCO ₂ e)	3,139

Evelyn Novak

Signature

May 30, 2018

Date

Evelyn Novak

Name (please print)

Superintendent of Schools

Title

Part 1: CNAR Survey

1. General Information

Name: Tom Nichols

Contact Email: tom_nichols@sd33.bc.ca

Organization Name: SD33

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?: 7

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:

- LED lighting study and lighting upgrade at Greendale Elementary
- Boiler plant replacement at Vedder Elementary
- Boiler plant replacement at Little Mountain Elementary
- Boiler plant upgrade Rosedale Traditional
- DDC Upgrades for the majority of the Districts portables
- Full DDC Upgrade at Sardis Secondary School
- Building Envelope window replacement at Watson Elementary

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 to Upgrade building infrastructure with more efficient mechanical and electrical equipment to reduce overall energy usage.
- Continue Improve building automation to optimize building performance.
- Continue Building envelope upgrades to improve building insulation.
- Educate staff and students and Provide awareness of energy usage and how it effects GHG emissions.

b) Over the following 6-10 years

- All new buildings to incorporate the latest in energy saving technology and Lead Gold standards.
- Look at energy alternatives like that of solar.

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?: 8

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

1-5 year capital plan for fleet replacement based on fuel consumption analysis (cost per km) as well as taking into account maintenance costs and manufacture dates.

Increased maintenance schedule of fleet to better optimize overall vehicle effectiveness and efficiency.

b) Over the following 6-10 years

6-10 year capital plan to not only replace aging fleet but to also look into E.V. vehicle and E.V. bus technology and feasibility.

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)

None of the above

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.

We will continue to use PaperCut software that uses presets like standard double-sided printing and print release functions.

Look into policy regarding mandatory recycle content in paper.

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); Encouraged or allowed teleworking or working from home

5) Other Sustainability Actions - Other? Please specify:: Encouraged staff to car pool when feasible.

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; Support for professional development on sustainability (e.g. workshops, conferences, training); Supported or provided education to staff about the science of climate change, conservation of water, energy and/or raw materials

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