



## **Chilliwack School District 2016 Carbon Neutral Action Report**

### **Executive Summary**

2016 was a busy year, thanks to continued support from the Ministry, with the School Enhancement Plan, providing funding to replace old HVAC equipment with new, more energy efficient models at a number of our buildings. We were also able to start replacing fluorescent fixtures with new LED fixtures at a few sites. Although, due to lower temperatures in November and December, we have slightly increased our natural gas usage at some sites, the sites where we implemented changes still showed improvement. The addition of some newer, more fuel efficient vehicles also help to contribute energy savings. With continued support from Fortis and BC Hydro, along with the Ministry, with their programs and incentives, we will continue to push forward toward meeting our reduction goals.

### **Overviews**

#### **Actions Taken to Reduce Greenhouse Gas Emissions in 2016**

- Continuing project of replacing metal halide perimeter and parking lot lighting with higher efficient LED models.
- Replacement of older, non-efficient domestic hot water boilers and tanks with high efficient tank less, on-demand models and high efficient hot water boilers.
- Replacement of older, low efficient boiler plants, nearing the end of their work cycle, with new high efficient condensing models.
- Replacement of older, constant volume hot water circulating pumps, with higher efficiency, variable speed drive models.
- Expand on existing sustainability/green awards and recognition program.
- Continue with a water conservation strategy which includes a plan or policy for replacing water fixtures and equipment with efficient models to reduce water use.
- Continue to monitor irregularities in utility invoices, to find any possible problems and reduce preventable waste of energy and water.
- Continue the practice of reusing materials wherever possible and diverting construction and demolition debris from landfills and incineration facilities.

- Eliminating creation of paper documents wherever possible and replacing with electronic documents at the district level.
- Continue working with City of Chilliwack and disposal companies to encourage and increase the use of recycle bins at all sites.
- Replacement of old single pane windows with new energy efficient models.
- Electrical upgrades at several sites, including replacement of fluorescent lamps with low wattage type. Also, installation of room occupancy sensors to turn off lights, when rooms are unoccupied.
- Entered into the Workplace Conservation Awareness program with BC Hydro.
- Replacement of old boiler plant with efficient condensing boilers and new variable speed drive pumps, thanks to CNCP project.
- Received funding for three mechanical upgrade projects, that will result in reduced energy consumption, from the Ministry's new Routine Capital Plan.

### **Plans to Continue Reducing Greenhouse Gas Emissions 2017-2018**

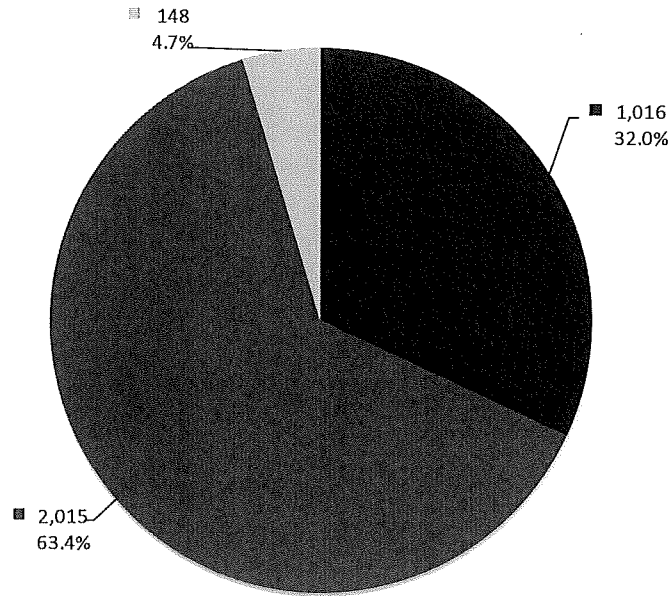
- Work with Transportation Manager and our new Transportation audit, to simplify bus routes and reduce fuel consumption by our bus fleet.
- Continue to encourage staff to consider virtual attendance/presentations at events where possible.
- With the support of senior school district staff; continue to support green, sustainability, energy conservation and climate action teams.
- Provide education to staff, students and parents about the science of climate change whenever possible.
- Continue to provide education to staff and students about the conservation of water, energy and raw materials.
- Continue with lighting, boiler and DDC upgrades throughout the district, including the use of heat pump technology to replace existing roof top units in order to reduce Greenhouse Gas emissions.
- We have begun LED replacements of certain lighting fixtures, including replacing T8's with new LED technology.
- Existing school classroom addition, includes boiler plant and DHW boiler being replaced with new high efficient systems.
- Fine-tuning of control systems in three new buildings to take full advantage of geo thermal and new higher technology based systems to reduce energy use.
- Try to increase use of recycled paper where possible in the district.
- Replacement of older inefficient domestic hot water systems with new high efficiency tanks and tank less models.

- Under the new School Enhancement Program, we have received a boiler replacement project, which will help us lower our greenhouse gas emissions.
- Use of our Annual Facility Grant (AFG) to complete more lighting upgrades and boiler plant replacements.

## 2016 Emissions and Offset Table

<i>School District 33, Chilliwack GHG Emissions and Offset for 2016 (tCO<sub>2</sub>e)</i>	
<b>GHG Emissions created in Calendar Year 2016</b>	
Total Emissions (tCO <sub>2</sub> e)	3180
Total Offsets (tCO <sub>2</sub> e)	2413
<b>Adjustments to GHG Emissions Reported in Prior Years</b>	
Total Emissions (tCO <sub>2</sub> e)	<u>126</u>
Total Offsets (tCO <sub>2</sub> e)	<u>126</u>
<b>Grand Total Offsets for the 2016 Reporting Year</b>	
Grand Total Offsets (tCO <sub>2</sub> e)	<u>31802539</u>

**School District 33 - Chilliwack  
Greenhouse Gas Emissions by Source  
for the 2016 Calendar Year (tCO<sub>2</sub>e\*)**



**Total Emissions: 3,180**

- 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 2016 (Generated May 26, 2017 1:06 PM)**

Total offsets required: 2,413. Total offset investment: \$60,325. Emissions which do not require offsets: 767 \*\*

\*Tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e) 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.

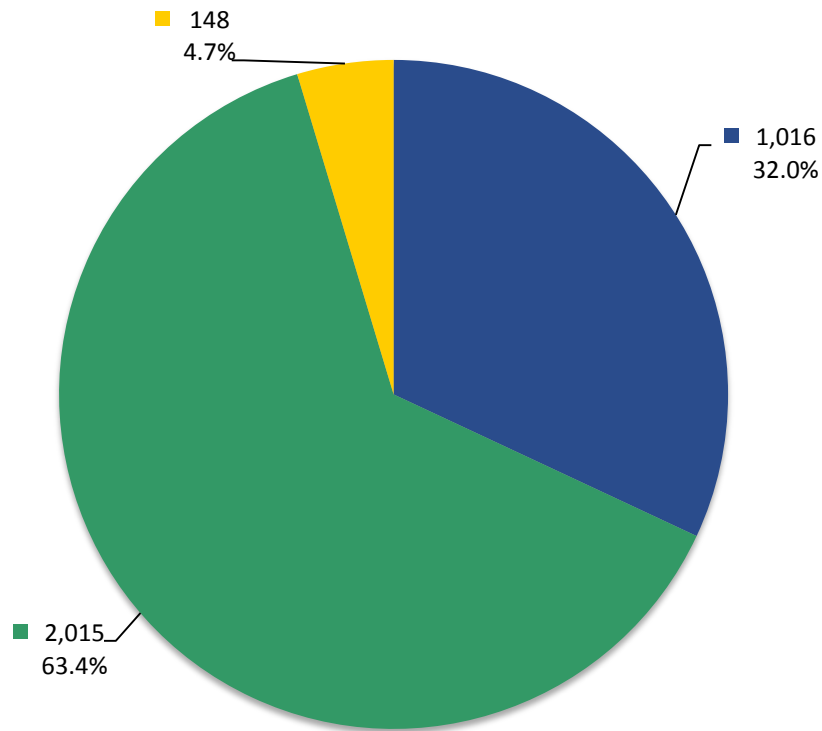
**Declaration statement:** This Carbon Neutral Action Report for the period January 1<sup>st</sup>, 2016 to December 31<sup>st</sup>, 2016 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions

we have taken in 2016 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2017 and beyond.

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**Evelyn Novak**  
Superintendent of Schools

**School District 33 - Chilliwack  
Greenhouse Gas Emissions by Source  
for the 2016 Calendar Year (tCO<sub>2</sub>e\*)**



**Total Emissions: 3,180**

- 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 2016 (Generated May 15, 2017 4:10 PM)**

Total offsets required: **2,413**. Total offset investment: **\$60,325**. Emissions which do not require offsets: **767** \*\*

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# 2016 Carbon Neutral Action Report Survey

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Part One (external)

Contact Name(s):

*Brent Neufeld*

Contact Email(s):

*brent\_neufeld@sd33.bc.ca*

Organization Name:

*School District 33 Chilliwack*

Please select your sector:

- School District

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

During 2016, did your organization take any of the following actions to support emissions reductions from buildings?

Select all that apply

- Conducted an energy audit/study of building(s) in the organization's portfolio
- Performed energy retrofits of the organization's buildings.: If yes, how many buildings? eight

Briefly describe your organization's plans to continue reducing emissions from its stationary sources in future years.

*Replacing older, less efficient HVAC, heating and electrical equipment with new energy efficient models .DDC upgrades, along with more energy efficient computer technology.*

During 2016, did your organization participate in utility-sponsored energy demand management program(s) (e.g. BC Hydro's Energy Management (Manager))?

*Yes*

If yes, please describe briefly:

*Energy manager funded by BC Hydro.  
Energy Specialist funded by Fortis BC.*

2) Mobile Sources (Vehicles, Off-road/Portable Equipment): Fuel Combustion.



During 2016, did your organization take any of the following actions to support emission reductions from its mobile sources?

Select all that apply

- 
- Replaced existing vehicles with more fuel efficient vehicles (gas/diesel).: If yes, how many vehicles? Six
  - Took steps to drive less than previous years.
  - Other actions? Please describe briefly.: Carpooling whenever possible.
- 

Briefly describe your organization's plans to continue reducing emissions from its mobile sources in future years.

*Replacing and adding more fuel efficient vehicles to our Facilities and Bus fleet.  
Re-organization of existing bus routes, to result in less Km's driven daily.*

3) Supplies (Paper):

During 2016, did your organization take any of the following actions to support emissions reductions from paper supplies?

Select all that apply

- 
- Awareness campaign focused on reducing office paper use.
  - Policy requiring the purchase of recycled content paper.: If yes, state % of recycled content (eg 30%, 100%) 20-30%
  - Other actions? Please describe briefly.: Electronic delivery of pay slips and T-4's to employees.

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

*Continuing the use of electronic mail vs paper mail for employee notifications, along with the use of more efficient printers throughout the district.*

4) Other Sustainability Actions:

Business Travel:

During 2016, did your organization take any of the following actions to support emissions reductions from business travel?

Select all that apply

*(No response)*

Education Awareness:

During 2016, did your organization have any of the following programs or initiatives to support sustainability education and awareness?

Select all that apply

- 
- 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

Other Sustainability Actions:

During 2016, did your organization have any of the following programs or initiatives to support sustainability?

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
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