



Langley
Schools

School District No.35
(Langley)

2017 Carbon Neutral Action Report

Published: June 30, 2018

Contents

Declaration Statement..... 2

Overview 2

Greenhouse Gas Emissions 3

Emissions and Offsets Summary Table 4

Greenhouse Gas Emissions and Offsets for Previous 3 Years..... 4

Actions Taken to Reduce Greenhouse Gas Emissions 5

Link to Other Publicly-Available Sustainability Information from Your Organization 5

Declaration Statement

This Carbon Neutral Action Report (CNAR) for the period from January 1 to December 31, 2017 summarizes our emissions profile, the amount of offsets purchased to achieve net zero emissions, the action we have taken in 2017 to reduce our greenhouse gas (GHG) emissions and our plans to continue reducing emissions in 2018 and into the future.

Overview

On behalf of School District No. 35 (Langley), we are pleased to submit our CNAR for 2017. The purpose of the CNAR is to demonstrate our District's ongoing commitment to the reduction of our greenhouse gas emissions. Our Board continues to work diligently to improve the learning environment for students and staff by demonstrating leadership in the reduction of our carbon footprint.

Energy savings and subsequent GHG emission reductions continue to be a priority in our ongoing commitment towards carbon neutrality. This is shown through the revision to our sustainability policy which assigns accountability and emphasizes energy and resource conservation.

In addition, ongoing upgrades of both our mechanical and electrical systems reduce our carbon footprint by providing increased efficiency and greater operational control. With the support of BC Hydro we have completed eleven lighting upgrades in 2017 resulting in over 310,000 kWh savings. In addition, with the support of the School Enhancement Program, we have performed DDC upgrades at three elementary schools which will improve operational control of mechanical equipment and create opportunities to reduce carbon emissions.

In 2018, we are planning to upgrade exterior and gym lighting at 17 schools. In addition, we will purchase materials to upgrade the HVAC system at one of our elementary schools. There will also be several DDC upgrades to the District which will allow for greater control of mechanical systems. A new paperless work order system will also be implemented which could result in reduced carbon emissions due to operational efficiencies.

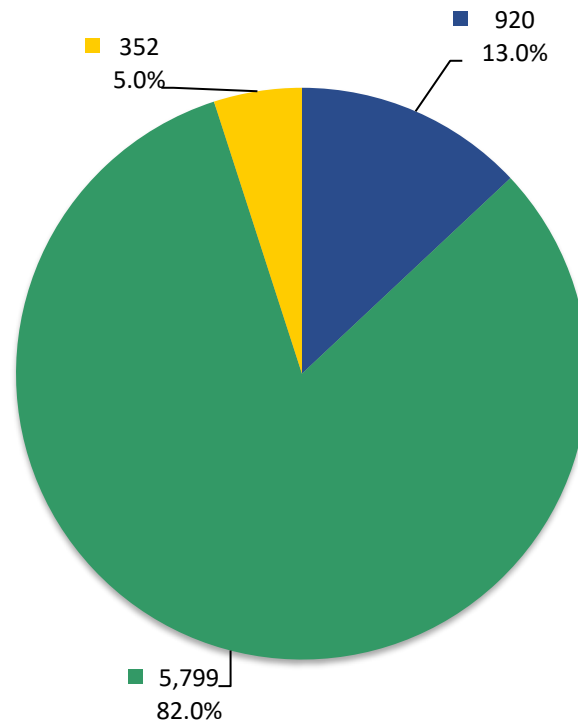
Our District is committed to GHG emission reduction and carbon neutrality through energy efficiencies and reduction of waste. This is reflected in our Sustainable Energy Management Plan which shows a 3-year rolling investment in these efficiencies. We invest what we can and with the support of our external stakeholders accomplish our goals.



Gordon Stewart
Superintendent

Greenhouse Gas Emissions

School District 35 - Langley Greenhouse Gas Emissions by Source for the 2017 Calendar Year (tCO₂e*)



Total Emissions: 7,072

- 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 2017 (Generated April 16, 2018 1:21 PM)

Total offsets required: **6,522**. Total offset investment: **\$163,050**. Emissions which do not require offsets: **550** **

*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.

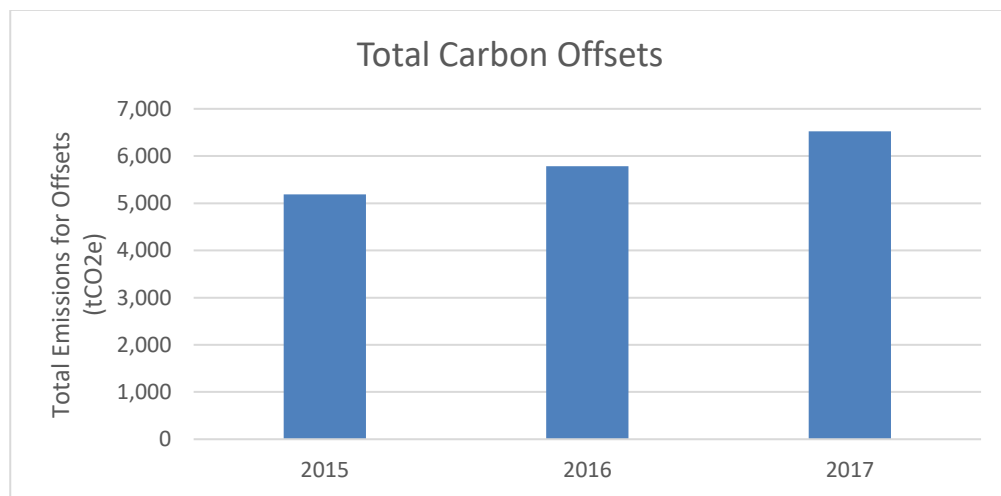
** Under the *Carbon Neutral Government Regulation of the Greenhouse Gas Reduction Targets Act*, all emissions from the sources listed above must be reported. As outlined in the regulation, some emissions do not require offsets.

Emissions and Offsets Summary Table

School District #35 (Langley) GHG Emissions and Offsets for 2017 (tCO₂e)	
GHG Emissions created in Calendar Year 2017	
Total Emissions (tCO ₂ e)	7,072
Total Offsets (tCO ₂ e)	6,522
Adjustments to GHG Emissions Reported in Prior Years	
Total Emissions (tCO ₂ e)	309
Total Offsets (tCO ₂ e)	309
Total Emissions for Offset for the 2017 Reporting	
Total Offsets (tCO ₂ e)	6,831

Greenhouse Gas Emissions and Offsets for Previous 3 Years

Year	Total GHG Emissions (tCO ₂ e)	Exempt GHG Emissions (tCO ₂ e)	Total Emissions for Offsets (tCO ₂ e)
2015	5,707	516	5,191
2016	6,331	547	5,784
2017	7,072	550	6,522



The 2017 carbon emissions were higher than 2016 due to colder weather experienced. There was a 20% increase in the number of heating degree days in 2017 than in 2016. This caused an increase of natural gas consumption which is responsible for most of the increase.

Actions Taken to Reduce Greenhouse Gas Emissions

- Twelve exterior lighting upgrades completed
 - Douglas Park Elementary
 - Parkside Centennial Elementary
 - Alex Hope Elementary
 - Peterson Road Elementary
 - Belmont Elementary
 - James Kennedy Elementary
 - James Hill Elementary
 - Dorothy Peacock Elementary
 - Langley Fundamental Elementary
 - Uplands Elementary
 - Coghlan Fundamental Elementary
 - West Langley Elementary
- Four gym lighting upgrades completed
 - James Hill Elementary
 - Dorothy Peacock Elementary
 - Langley Fundamental Elementary
 - Walnut Grove Secondary

- Boiler room upgrade at Walnut Grove Secondary
- Mechanical study completed for Langley Meadows Elementary
- Heat pumps have priority in portables
- Behavioral programs to reduce energy consumption across the district
- Paperless work order system planned that will reduce our carbon footprint
- Feasibility study for retrofitting external lighting to LEDs
- Organic waste redirection

Link to Other Publicly-Available Sustainability Information from Your Organization

BC Hydro has worked with the Langley School District for many years now with partial funding of our Energy Manager position and incenting many of our energy initiatives. They have assisted us in the creation of our Sustainable Energy Management Plan and work closely with us in achievement of our goals. To find out more about Sustainability at the Langley School District visit our website at www.sd35.bc.ca -> Administrative Departments -> Energy and Environment.

Part 1: CNAR Survey

1. General Information

Name: Ronald Lam

Contact Email: rlam@sd35.bc.ca

Organization Name: School District #35 (Langley)

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); Built, or are building new LEED Gold or other "Green" buildings

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

How many buildings were retrofitted?: 14

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

How many new "Green" buildings?: 1

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

We formed lighting retrofits at 13 sites to LED and replaced boilers at 1 site to high efficiency condensing boilers.

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 retrofitting old inefficient equipment with more efficient equipment. Operational policies that favor heat pumps as primary sources for heating.

b) Over the following 6-10 years

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?:

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

b) Over the following 6-10 years

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; Had a policy requiring the purchase of recycled content paper

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

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

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 leveraging digital technology to reduce paper usage. This includes creating new workflows and processes for business such as the new work order system that eliminates paper usage as all work orders be accessible by iPads.

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 or allowed teleworking or working from home

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)

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; Green procurement standards for goods (e.g., office furniture, etc.); Lifecycle costing of new construction or renovations