

ABBOTSFORD
SCHOOL DISTRICT
RESPECT OPPORTUNITY INNOVATION

2016 Carbon Neutral Action Report

Abbotsford School District (SD34)

Declaration statement: This Carbon Neutral Action Report for the period January 1st, 2016 to December 31st, 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.

By June 30, 2017 The Abbotsford School District's final *Carbon Neutral Action Report* will be posted to our website at <http://facilities.sd34.bc.ca/departments/sustainability-utilities>

Overview

Executive Summary

The Abbotsford School District has made a firm commitment to reducing its energy consumption and its greenhouse gas emissions. This is made evident by the fact that it has significantly reduced both its energy consumption and its GHG emissions every year since monitoring began, as well as by the fact that each year it has continued to invest in the personnel and the equipment necessary to make this happen.

In the past few years Abbotsford School District has invested time and money into mechanical systems upgrades, building automation improvements and LEED Gold new buildings. In addition to this, the district has joined BC Hydro's Energy Wise Network with the goal of promoting a culture of conservation in all of the school district's buildings and operations. The growing culture of conservation and environmental awareness can be seen through an increase in the number of active green teams in 2016. These teams are taking on a variety of projects in areas such as energy conservation and waste reduction which have both direct and indirect impacts on the amount of GHG's released into the atmosphere.

The district sustainability committee continues to provide guidance for the school based green teams and to help steer the district's long term sustainability goals. Changes in the district's leave reporting system and the adoption of more technology in the classroom has also led to a significant reduction in the amount of paper used throughout the year.

By continuing its dual focus on behavioral change and equipment upgrades the Abbotsford School District is striving to continuously shrink its carbon foot print while simultaneously teaching our kids the value of conservation and the positive impacts that each and every one of them can have on the planet.

Actions Taken to Reduce Greenhouse Gas Emissions in 2016

The Abbotsford School District maintenance department is continuing to improve its preventative maintenance program for its inventory of Heating, Ventilating, Air Conditioning and Cooling (HVAC) equipment in order to ensure that all equipment is running as efficiently and as “cleanly” as possible. Much like regular tunes ups on your vehicle can help reduce tail pipe emissions, regular maintenance on boilers and rooftop mechanical units can reduce the amount of GHG’s emissions from HVAC equipment.

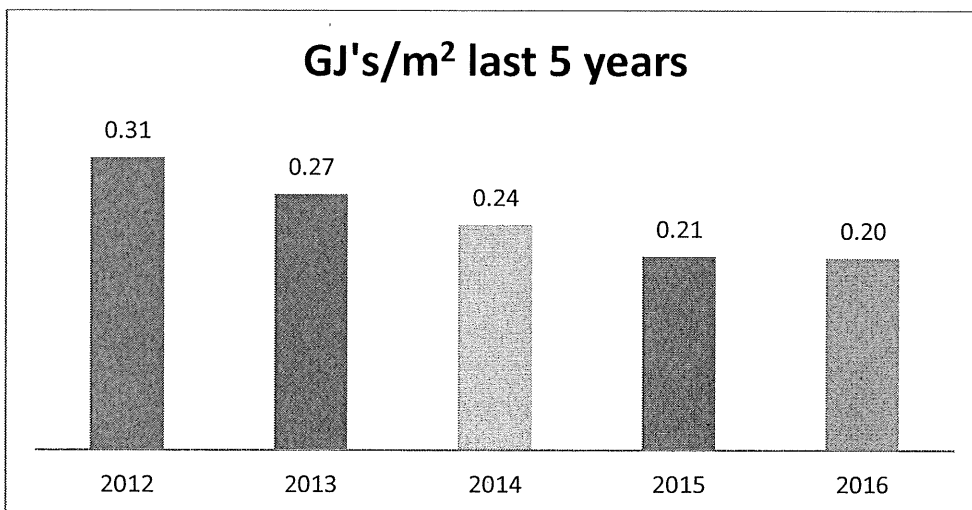
The transportation department purchased the district’s first 100% electric vehicle this year. This vehicle is being used as a pilot program to help determine the feasibility of converting the IT department’s fleet vehicles from gas powered to electric powered vehicles. The district has also begun installing electric vehicle charging stations at some sites in order to increase the feasibility of having electric fleet vehicles as well as to enable staff to use their personal electric vehicles to commute to and from work.

Thanks to the district’s newly established green team grant program and training workshops the number of school based green teams has increased this year, especially at the secondary school level where participation has historically been quite low. These school based green teams, with the support of the maintenance department, have spearheaded a number of site based initiatives such as sweater days, lights out lunches and battery recycling drives. Some of the schools are also running campaigns which reach out to the larger community such as energy conservation campaigns targeted at turning out unneeded lights at home as well as at school.

The district’s waste sorting initiative has continued to expand this year as well with 94% of the district now diverting their organic waste away from the landfill and towards a commercial composting facility. This program has dual benefits. The first being the 50 %+ reduction of the amount of waste sent to the landfill by the school district and the second being the education of staff and students about how to better sort and reduce their waste at home.

Success Stories

The school district continued to reduce its natural gas usage this year despite a particularly cold December. This was due largely to the efforts of the district’s DDC department who is an active participant in the district’s continuous optimization program and who works with the school green teams to reduce building temperatures for sweater day initiatives. It is worth noting that these additional reductions were completed by finding extra efficiencies within existing equipment rather than through a significant investment in new natural gas equipment this year.



Plans to Continue Reducing Greenhouse Gas Emissions 2017

The Abbotsford School District will continue to build on its past successes once more in 2017. The maintenance department has plans for upgrading the boiler systems to high efficiency units at three sites this coming summer. The replacement of older less efficient equipment with high efficiency units at these sites has the estimated potential to reduce natural gas consumption by a combined total of 712GJ/year. This in turn will lead to a corresponding reduction in GHG emissions for these sites.

As a complement to hardware upgrades the district continues to strive to make the most efficient use of its existing equipment by expanding building automation best practices to all buildings in the district. By building on the best practices learned through BC Hydro and Fortis BC's continuous optimization program the district can reduce natural gas and electricity consumption through the regular monitoring and optimization of building heating and cooling systems.

In addition to this, the district will be looking at the possibility of converting its IT fleet vehicles to electric vehicles as they come due for replacement. To this end, the district has begun investing in the purchase and installation of electric vehicle charging stations at strategic locations throughout the district. These stations will provide the necessary infrastructure for fleet vehicles to recharge throughout the day and will also make it easier for staff to use electric vehicles to commute to and from work.

Green team and district sustainability committee initiatives will continue to receive support in the coming year to help encourage and support a district wide culture of environmental conservation. The Abbotsford School District has been accepted once more into BC Hydro's Energy Wise Network program and will leverage the resources of this network to help with behavioral change campaigns in 2017.

Emissions and Offset Summary Table:

Abbotsford School District GHG Emissions and Offset for 2016 (tCO₂e)	
GHG Emissions created in Calendar Year 2016	
Total Emissions (tCO ₂ e)	3767
Total Offsets (tCO ₂ e)	2762
Adjustments to GHG Emissions Reported in Prior Years	
Total Emissions (tCO ₂ e)	76
Total Offsets (tCO ₂ e)	76
Grand Total Offsets for the 2016 Reporting Year	
Grand Total Offsets (tCO ₂ e)	2838

Retirement of Offsets:

In accordance with the requirements of the Greenhouse Gas Reduction Targets Act and Carbon Neutral Government Regulation, The Abbotsford School District is responsible for arranging for the retirement of the offsets obligation reported above for the 2016 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 the associated invoice to be issued by the Ministry in an amount equal to \$25 per tonne of offsets retired on its behalf plus GST.

Executive sign-off:

Signature



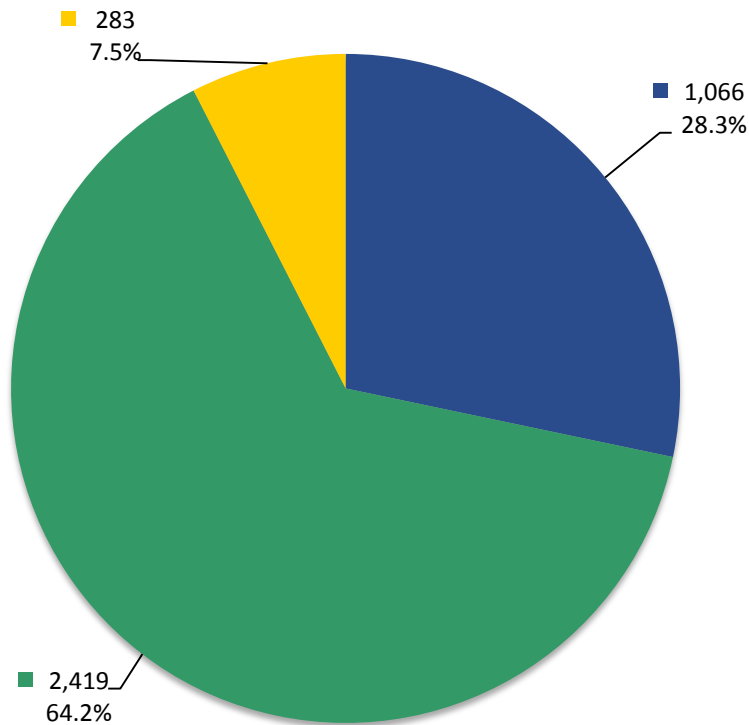
Date

May 3, 2017

Name: Ray Velestuk

Title: Secretary Treasurer

**School District 34 - Abbotsford
Greenhouse Gas Emissions by Source
for the 2016 Calendar Year (tCO₂e*)**



Total Emissions: 3,767

- 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: **2,762**. Total offset investment: **\$69,050**. Emissions which do not require offsets: **1,005** **

*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.

2016 Carbon Neutral Action Report Survey

Part One (external)

Contact Name(s):

Julianne Pickrell

Organization Name:

Abbotsford School District (SD34)

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.: Four buildings
- Other actions? Please describe briefly.: Implemented waste sorting stations in more schools.

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

Continue performing energy retrofits of electrical and natural gas equipment and improve upon building automation system best practices.

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:

FortisBC's Energy Specialist Program and FortisBC's Efficient Commercial Water Heater Program. Also, BC Hydro's Continuous Optimization Program.

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 hybrid or electric vehicles.: One
 - Took steps to drive less than previous years.

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

We are looking at the possibility of replacing more of the school district's fleet vehicles with electric vehicles for local driving.

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

- Other actions? Please describe briefly.: Changed Leave Application process from a paper based process to an online electronic submission process.
-

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

The purchasing dept is working on moving to a paperless purchase order program as well.

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, please describe briefly: Green Team Grant funding to provide the monies needed for green teams to carry out environmental awareness and behavioural change programs at their sites.

Other Sustainability Actions:

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

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