

## **Declaration Statement:**

This Carbon Neutral Action Report for School District 54 (Bulkley Valley) for the period of January 1<sup>st</sup>, 2015 – December 31<sup>st</sup>, 2015 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2015 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2016 and beyond.

By June 30, 2016, School District 54 (Bulkley Valley) 2015 Carbon Neutral Action Report will be posted on our District website at [www.sd54.bc.ca](http://www.sd54.bc.ca).

## **Executive Summary:**

In 2015 the district continued efforts to further reduce our carbon footprint. Collaboration and planning for all facility, system and asset acquisitions play an essential role in ensuring that purchases and upgrades of all types aid the district in their efforts to reduce Greenhouse Gas Emission (GHC). Funding through our Annual Facilities Grant (AFC) as well as the use of district funds to leverage further third party funding is instrumental in the our efforts to ensure the most efficient systems and controls are procured to reduce GHC's. Due to our organizations geographical location, improvement to key factors such as boiler systems, ventilation and lighting are essential to our success in obtaining carbon neutrality.

As a school district it is also important that we teach students about their impact on the environment and lead them in ways to reduce their own carbon footprint. All schools have active recycling programs. Schools also teach students the importance of local food growth through indoor/outdoor school gardens and the significance of reducing emissions of food miles.

## **2015 Projects include:**

### **1. Silverthorne Elementary – Upgrade of DDC system and add DDC controls to 6 classrooms**

Upgrade of the DDC panel and end to end checks have resulted in a more efficient operating system. Operating hours of air equipment have been reduced providing energy savings and reduce GHG's.

Six rooms were found with conventional thermostats. These rooms were maintaining daytime temperatures 24/7. Users could adjust room temperatures with no limit on heat settings. New DDC room sensors were installed providing an average daytime temperature and night setback applies to after hours and weekends.

### **2. School Board Office – Server Room**

The district servers are housed in the School Board Office basement. The basement is normally quite cool except for the server room which was very warm. The air conditioner located outside the building was problematic and the decision was made to dispose of the aging unit. A new more energy efficient air conditioner was installed beside one previously installed a year prior in the

basement of the Board Office just outside of the server room. The server room is now cooler and the expelled heat from the air conditioner is used to heat the basement. The basement is now heated by mainly the recovered warm air from the air conditioners.

### 3. Direct Digital Control (DDC) System

Programming for the DDC system was cleared as there were many anomalies and random schedules found. A revised district wide schedule was used with reduced operational time for air handling equipment. A further review to analyze CO<sup>2</sup> and earlier shutdown of equipment once CO<sup>2</sup> demands have been met is ongoing.

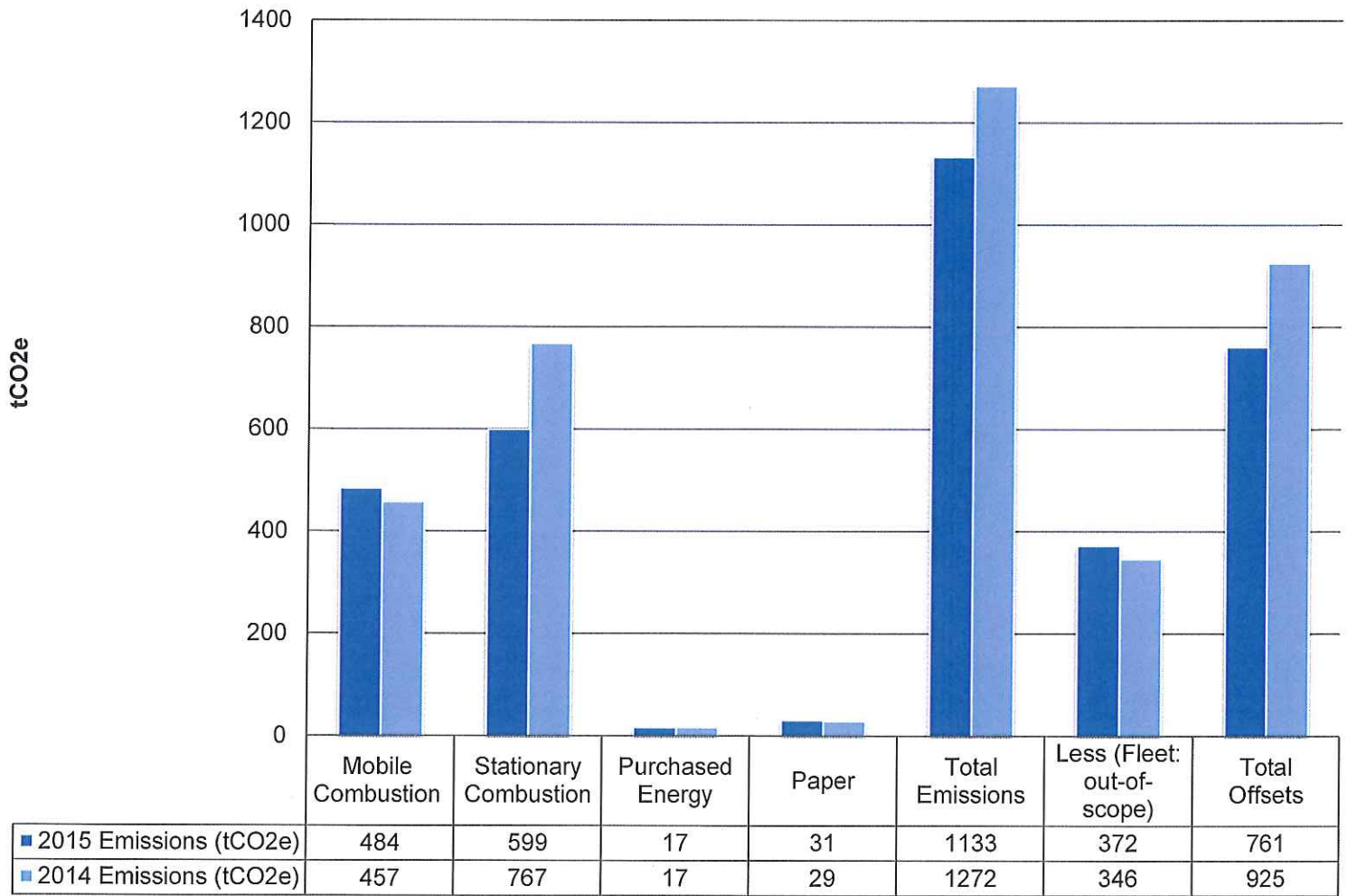
### 4. BC Hydro Continuous Optimization Program

Analysis of Smithers Secondary School and Houston Secondary School continues into its last year. Five new variable frequency drive pumps were installed at Smithers Secondary School under this program. The system was initialized on September 10, 2015. Other operational changes have also been made for energy savings. From September 2015 to December 2015 Smithers Secondary reduced electrical consumption by 15,982.60 kW at an approximate saving of \$1,758.00. From March 2015 to December 2015 Houston Secondary reduced electrical consumption by 22,351.46 kW at an approximate saving of \$2,458.00.

### 2015 Greenhouse Gas Emissions

Scope	2015 Emissions (tCO <sub>2</sub> e)	2014 Emissions (tCO <sub>2</sub> e)
Mobile Combustion (Fleet)	484	457
Stationary Combustion	599	767
Purchased Energy	17	17
Procurement – Paper	31	29
Total Emissions	1133	1272
Exempt Offsets	372	346
Total Offsets	761	925

**2014/2015 Emissions Comparison**



### Offsets Applied to become Carbon Neutral in 2015

**Total Offsets required: 761 Total Offset Investments \$19025.00 Emissions which do not require offsets: 372**

*\*Tonnes of Carbon dioxide equivalent (tCO2e) is a standard measure 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 eGreenhouse 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.\**

### Continued improvement in 2016 including:

1. DDC upgrades
2. Ongoing DDC optimization
3. Ventilation upgrades
4. Waiting application approval for further boiler upgrades
5. Continued promotion of digital resources to further reduce paper consumption
6. Encouragement of carpooling whenever possible for district activities



## Emissions and Offset Summary Table

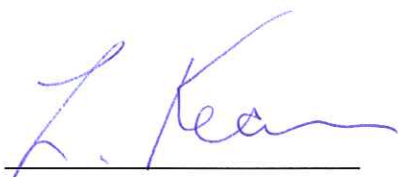
School District 54 (Bulkley Valley) GHG Emissions and Offset for 2015 (tCO <sub>2</sub> e)	
GHG Emissions created in Calendar Year 2015	
Total Emissions (tCO <sub>2</sub> e)	1133
Total Offsets (tCO <sub>2</sub> e)	761
Adjustments to GHG Emissions Reported in Prior Years	
Total Emissions (tCO <sub>2</sub> e)	0
Total Offsets (tCO <sub>2</sub> e)	0
Grand Total Offsets for the 2015 Reporting Year	
Grand Total Offsets (tCO <sub>2</sub> e)	761

### Retirement of Offsets:

In accordance with the requirements of the Greenhouse Gas Reduction Targets Act and Carbon Neutral Government Regulation, School District 54 (Bulkley Valley) is responsible for arranging for the retirement of the offsets obligation reported above for the 2015 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.

On behalf of School District 54 (Bulkley Valley)

May 30, 2016

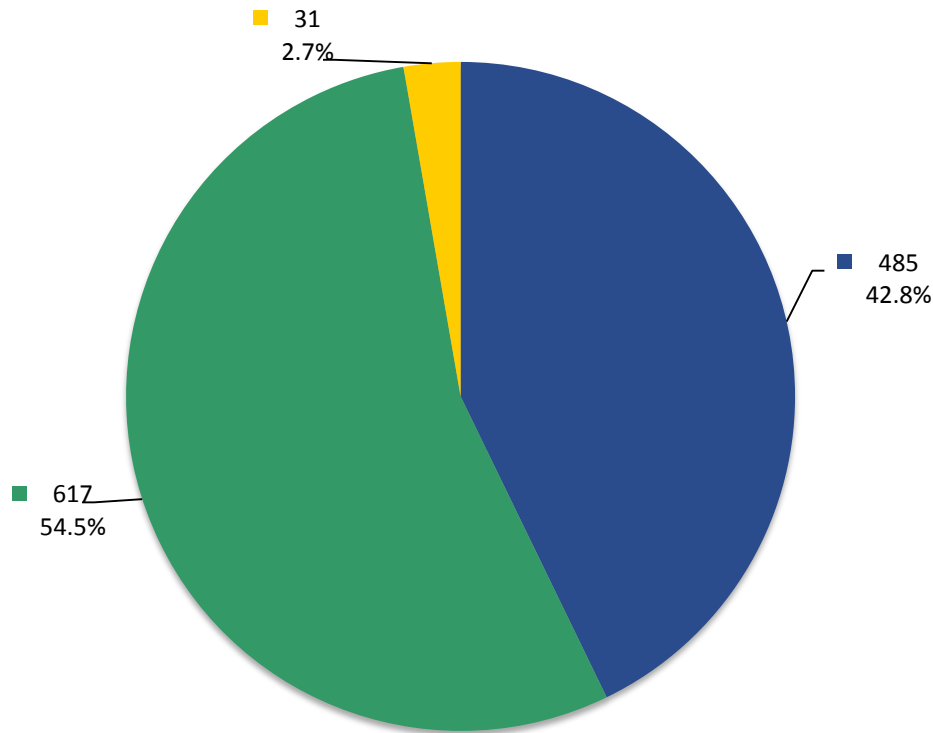


Les Kearns  
Chairperson



Dave Margerm  
Secretary Treasurer

**School District 54 - Bulkley Valley  
Greenhouse Gas Emissions by Source  
for the 2015 Calendar Year (tCO<sub>2</sub>e\*)**



**Total Emissions: 1,133**

- 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 2015 (Generated May 25, 2016 10:11 AM)**

Total offsets required: **761**. Total offset investment: **\$19,025**. Emissions which do not require offsets: **372** \*\*

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\*\* 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.

## 2015 Carbon Neutral Action Report Survey

Organization Name:

*School District 54 (Bulkley Valley)*

Please select your sector:

- School District

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

Please indicate which actions your PSO took in 2015:

Have developed an overall strategy/plan to reduce energy use in your organization's buildings inventory:

*Yes*

If Yes, please describe:

*Guided by the districts facilities each year improvements are made to key systems that contribute to our carbon footprint.*

Undertook evaluations of building energy use:

*Yes*

Performed energy retrofits on existing buildings:

*No*

Built or are building new LEED Gold or other "Green" buildings:

*No*

Please list any other actions, programs or initiatives that your organization has introduced that support emissions reductions from buildings:

*Programming and monitoring of DDC System  
BC Hydro Optimization Program  
Replacement of dated air conditioning units*

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

Indicate which actions your PSO took in 2015:

Have put in place an operations policy/program to support systematic reductions in fleet related emissions:

(e.g., program to convert fleet to renewable fuels)

No

If Yes, please describe:

*(No response)*

Replaced existing vehicles with more fuel efficient vehicles (gas/diesel):

Yes

Replaced existing vehicles with hybrid or electric vehicles:

No

Took steps to drive less than previous years:

Yes

Please list any other actions, programs or initiatives that your organization has introduced that support emissions reductions from fleet combustion:

*Anti idle policy*

*Review of bus runs to eliminate or reduce unnecessary stops and routes*

3) Supplies (Paper):

Indicate which actions your PSO took in 2015:

Have put in place an operations policy/program to facilitate a systematic reduction in paper-related emissions:

(e.g., policy to purchase 100% Recycled Content; default to double-sided printing)

No

If yes, please describe:

*(No response)*

Have put in place an operations policy/program to facilitate behavioural changes from paper use:

(e.g. awareness campaign to reduce paper use):

No

If yes, please describe:

(No response)

Used only 100% recycled paper:

No

Used some recycled paper:

Yes

Used alternate source paper:

(e.g., bamboo, hemp, wheat etc.)

No

Please list any other actions, programs or initiatives that your organization has introduced that support emissions reductions from paper supplies:

*Good One sided paper is reused whenever possible  
100% recycled content is used whenever possible  
Printing is only encouraged when absolutely required*



4) Other Sustainability Actions:

Please note that this section is optional

Business Travel

Created a low-carbon travel policy or travel reduction goal:

(low-carbon = lowest emission of greenhouse gas per kilometer per passenger)

*(No response)*

Encouraged alternative travel for business:

(e.g. bicycles, public transit, walking)

*(No response)*

Encouraged or allow telework/working from home:

*(No response)*

Other:

*(No response)*

Education Awareness

Have a Green/Sustainability/Climate Action Team:

*(No response)*

Supported green professional development:

(e.g. workshops, conferences, training)

*(No response)*

Supported or provided education to staff about the science of climate change, conservation of water, energy and/or raw materials:

*(No response)*

Other:

*(No response)*

## Adaptation Planning for Climate Risks

Have assessed whether increased frequency of extreme weather events and/or long term changes in climate will affect your organization's infrastructure, its employees and/or its clients:

*(No response)*

Have incorporated these anticipated changes in climate into your organization's planning and decision making:

*(No response)*

Other:

*(No response)*

## Other Sustainability Actions

Established a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models:

*(No response)*

Have put in place an operations policy/program to facilitate the reduction and diversion of building occupant waste stream from landfills or incineration facilities:

(e.g., composting, collection of plastics, batteries)

*(No response)*

Established green standards for goods that are replaced infrequently and/or may require capital funds to purchase:

(e.g., office furniture, carpeting, etc.)

*(No response)*

Incorporated lifecycle costing into new construction or renovations:

*(No response)*

Please list any other sustainability actions your organization has taken not listed above:

*(No response)*