



CARBON NEUTRAL ACTION REPORT 2013

DECLARATION STATEMENT:

This is the 2013 Carbon Neutral Action Report for School District 54 – Bulkley Valley. This report contains our 2013 emission profile, offsets purchased, the actions we have taken in 2013 to reduce our GHG emissions and our plans to continue reducing emissions in 2014 and beyond.

By June 30th School District 54's final CNAR will be posted to our website at www.sd54.bc.ca.

1. EXECUTIVE SUMMARY:

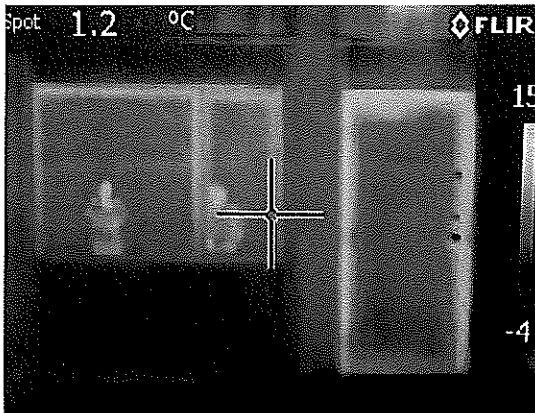
In School District 54 (Bulkley Valley), efforts to reduce Greenhouse Gas Emissions (GHG) are guided by the School District Facilities plan and implemented with funds obtained by the Annual Facilities Grant (AFG). Wherever possible, district funds are used to leverage third party funding to maximize the scope and benefits of projects.

Current projects have included:

- increasing recycled paper content purchased by the district,
- new building envelope at high school to improve heat loss,
- improved insulation for facilities,
- maintenance shop bay doors retrofitted with remote electronic openers and heat shut down,
- greater use of technology to reduce paper consumption,
- disposal or closure of facilities not being utilized.

In addition, some new initiatives were implemented by the school district:

- Completion of phase 2 of air leakage report by Canam Inc. Report included 6 schools in school district. School district also purchased their own thermal camera and trained personnel to survey other schools for leakage.





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- Partnership with Town of Telkwa in bio-fuel agreement. Town of Telkwa is providing heat to Telkwa Elementary School from their bio-fuel plant at a cheaper rate than natural gas.

2. 2013 GREENHOUSE GAS EMISSION

The table below provides relevant information on the district's total Greenhouse Gas Emissions by source.

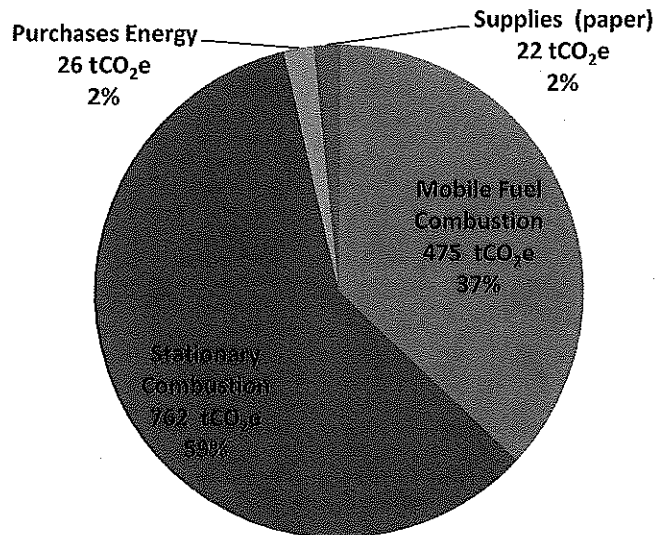
Source*	2013 Emissions (tCO ₂ e)	2012 Emissions (tCO ₂ e)
Mobile Combustion (Fleet: in-scope)	475.	475.
Stationary Combustion	762.	857.
Purchased Energy	26.	89.
Procurement - Paper	22.	29.
Total Emissions	1285.	1450.
Less (Fleet: out-of-scope)	375.	381.
Total Offsets	911.	1070.

** It was estimated that stationary fugitive emissions from cooling do not comprise more than 0.01% of school District 54 (Bulkley Valley) emissions and an ongoing effort to collect or estimate emissions from this source would be disproportionately erroneous. For this reason, emissions from this source have been deemed out-of-scope and have not been included in school district 54 (Bulkley Valley) total Greenhouse gas emissions profile.*



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**School District 54 - Bulkley Valley
Greenhouse Gas Emissions by Source
2013 Calendar Year (tCO₂e*)**



Offsets Applied to Become Carbon Neutral in 2013 (Generated May 30, 2013 9:40 AM)

Total Offsets required: 911. Total Offset investment \$23,914. Emissions which do not require offsets: 375**

* 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 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.

3. Offsets applied to become carbon neutral in 2013

As required by section 5 of the Carbon Neutral Government Regulation, 375 tonnes CO₂e of emissions resulting from the operation of school buses were reported as part of our greenhouse gas emissions profile in 2013. However, they were not offset as they are out-of-scope under section 4(2)(c) of the Carbon Neutral Government Regulation.



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To achieve carbon neutrality in 2013, School District 54 (Bulkley Valley) purchased offset credits from the Pacific Carbon for a total of 911 tonnes of CO₂e emissions. The cost of those credits at \$25.00 per tonne was \$22,775.00. The purchase of the offsets is subject to the GST bringing the total cost to \$23,913.75.

EMISSION AND OFFSETS SUMMARY:

School District 54 GHG Emissions and Offsets for 2013 (TCO₂E)	
<i>GHG Emissions created in calendar year 2013 :</i>	
Total Emissions	1285
Total Emissions for Offsets	911
<i>Adjustments to GHG Emissions Reported in Previous Years :</i>	
Total Emissions	0
Total Emissions for Offsets	0
<i>Credit Owing from PCT at end of 2012 reporting year :</i>	
Credit Owing	0
Total Emissions for Offsets for the 2013 Reporting Year	911

4. Emissions Reduction Activities

Actions Taken to Reduce Greenhouse Gas Emissions

One of the successful initiatives this year was our work on air leakage within facilities. We have received an air-leakage report for six of our schools evaluating and documenting areas of concern for heat loss throughout buildings. The report noted that an investment of \$43,000 would result in annual savings of approximately \$8,300 – a five year payback period. The school district has also invested in a thermal camera for our own use in order to continue to monitor the other schools for air leakages and thus energy savings.

The district negotiated a \$1,100,000 new building envelope at a high school gym to improve heat loss and drainage issues. Other projects to lower GHG emissions were: increasing recycled paper content purchased by the district (0% to 30%); improved insulation for facilities, specifically the maintenance office; maintenance shop bay doors retrofitted with remote electronic openers and heat shut down in order that when bay doors open, the heating



*School District No. 54
(Bulkley Valley)*

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system lowers output; greater use of technology to reduce paper consumption, for instance smart boards or overhead projectors; and the disposal or closure of facilities not being utilized. Other ongoing examples are paperless meetings, network controlled 'sleep' programs for computers, or electronic controls for thermostats.

The SD54 School Board has also entered into partnership with Town of Telkwa in a bio-fuel agreement. Town of Telkwa is providing heat to Telkwa Elementary School from their bio-fuel plant at a cheaper rate than natural gas.

Plans to Continue Reducing Greenhouse Gas Emissions

Plans to continue reducing Greenhouse Gas Emissions focus on air leakage repair at five schools, review and fine tuning of ventilation and heating systems. Mechanical and lighting upgrades will be done as funding permits. Boiler upgrade to school board office is planned for June 2014. Network controlled systems are planned for maintenance building to control and reduce heating costs. District is also planning on facility closure and movement of staff to school board office in order to reduce costs and therefore GHG emissions from heating and lighting.

On behalf of School District 54 (Bulkley Valley) Board of Education

Dated: May 31, 2014



Chairperson

Les Kearns



Secretary Treasurer

Dave Margerm



@ Work

Green Ideas Home

Make A Difference

CNAR

SMARTTEC

SMARTTool

Reports

Help

May 29, 2014

Reporting Unit:

School District 54 - Bulkley Valley

Calendar Year 2013

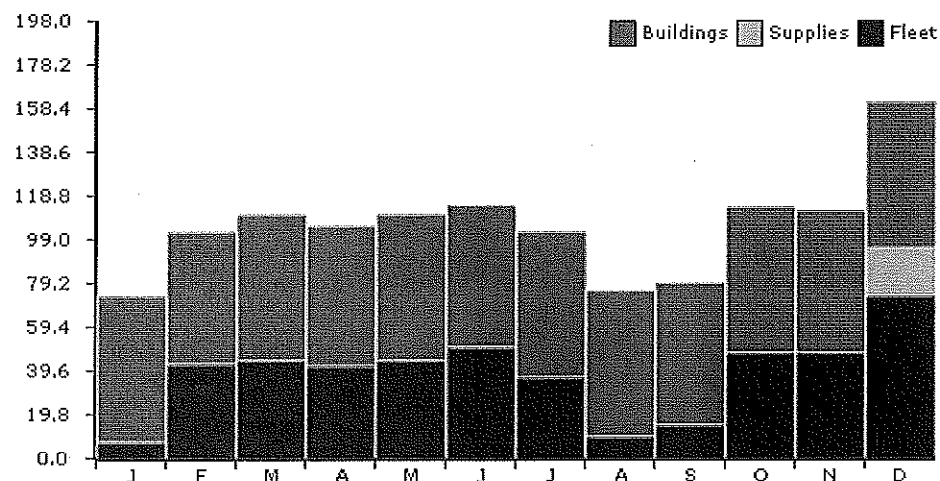
Show Report

Total Emissions

Calendar Year 2013

School District 54 - Bulkley Valley

Metric tonnes
CO₂ equivalent (tCO₂e)



Click on the bars to view data for each month

Totals Calendar Year 2013, School District 54 - Bulkley Valley

		Greenhouse Gases in Tonnes					
	Measure	Quantity	CO ₂	BioCO ₂	CH ₄	N ₂ O	tCO ₂ e ¹
Scope 1 (Direct) Emissions							
Mobile Combustion (Fleet)	Litres	179,026.51	444.71	16.76	0.02	0.04	475.18
Stationary Combustion, Reported ³	GigaJoules	15,239.00	757.23	0.00	0.02	0.01	761.80
Scope 2 (Indirect) Emissions							
Purchased Energy, Reported ³	GigaJoules	6,517.35	26.07	0.00	0.00	0.00	26.07
Scope 3 (Business Travel and Office Paper) Emissions							
Office Paper	Packages	3,778.25	22.31	0.00	0.00	0.00	22.31
Total Emissions, Calendar Year 2013			1,250.32	16.76	0.04	0.06	1,285
Carbon Neutral or Offset Exempt			351.01	16.76	0.02	0.02	375
Total for Offsets⁴			899.31	0.00	0.02	0.04	911

2013 Carbon Neutral Action Report (CNAR) Survey Form - Part 1, Data

Filled Wednesday, March 12, 2014

Please fill in all the following sections of the 2013 CNAR Data Form. Save your work frequently to prevent it from being lost. You can also save a copy for your own use as either a WORD or PDF file using the buttons at the bottom of each page. You have received two links for different CNAR forms. Part 1 (this form) is being used to collect administrative data and information from all Public Sector Organizations that will help CAS with planning for emissions reductions initiatives. This information WILL NOT appear in the public report posted to the Ministry of Environment website. Information on actions taken to reduce emissions is collected in Part 2 (the second link you received) which will be part of your final public report. When the form is complete press the submit button on the last page to send it to the Climate Action Secretariat (CAS). Do not press submit before you are ready – this may result in a loss of work. In addition to completing this survey, you are required to submit your completed CNAR Overview and Self-Certification Check-list. The 2013 Overview Template was sent with the link to this survey. Please ensure you meet the following reporting deadlines: A Draft CNAR is due to CAS by March 31, 2014. The draft is comprised of just the Overview Template. The Final 2013 CNAR is due May 30, 2014. It will be complete once the Overview Template and this Actions Form have been sent to CAS. The self-certification checklist is due to CAS by May 15, 2014. For more information about the Carbon Neutral Government process, please refer to Becoming Carbon Neutral 2013, or contact climateactionsecretariat@gov.bc.ca if you have any questions or issues with the actions form.

PSO Administrative Information

PSO Name

School District #54

Indicate your Sector

- K - 12 School District

Primary Contact Person (GHG Coordinator)

Variable

Response

Primary Contact Person (GHG Coordinator) | Name

Dave Margerm

Primary Contact Person (GHG Coordinator) | Email

dmargerm@sd54.bc.ca

Primary Contact Person (GHG Coordinator) | Phone #

250-877-6825

Secondary Contact Person

Variable

Response

Secondary Contact Person | Name

Selena Mill

Secondary Contact Person | Email

smill@sd54.bc.ca

Secondary Contact Person | Phone #

250-877-6820

Designated Representative (CNAR Signatory)

Variable

Response

Designated Representative (CNAR Signatory) | Name

Dave Margerm

Designated Representative (CNAR Signatory) | Email

dmargerm@sd54.bc.ca

Designated Representative (CNAR Signatory) | Phone #

250-877-6825

Self-Certification Checklist signatory

Variable

Response

Self-Certification Checklist signatory | Name

Dave Margerm

Self-Certification Checklist signatory | Email

dmargerm@sd54.bc.ca

Self-Certification Checklist signatory | Phone #

250-877-6825

PSO Data

PSO Data

Please fill in all variables. If there are no variables, please enter 0 (zero).

Variable	Response
PSO Data How many Full Time Equivalent employees (FTEs) do you have within your organization?	259.4875
PSO Data How many small vehicles are in your fleet (gators, forklifts, snowmoblies)?	4
PSO Data How many medium-sized vehicles are in your fleet (cars, trucks, SUVs, ambulances)?	22
PSO Data How many large vehicles are in your fleet (school buses, buses, transport trucks)?	28
PSO Data How many buildings does your organization own?	14
PSO Data How many buildings does your organization lease space in?	0
PSO Data What is the total amount of floorspace in your organization (including occupied and unoccupied space)? please report in square meters	34590
PSO Data Schools, Universities and Colleges only - number of student FTEs as of Dec 31, 2013?	2189

Green Buildings

Green Buildings refers to any buildings built to a higher level of energy efficiency than the standard building code including LEED, Boma Best, Living Building, Passive House or other designations

How many Green Buildings do you own?

Variable	Response
How many Green Buildings do you own? LEED Non-certified	0
How many Green Buildings do you own? LEED Silver	0
How many Green Buildings do you own? LEED Gold	0
How many Green Buildings do you own? LEED Platinum	0
How many Green Buildings do you own? Other - Boma Best, Living Building, etc.	0

How many Green Buildings do you lease space in?

Variable	Response
How many Green Buildings do you lease space in? LEED Non-certified	0
How many Green Buildings do you lease space in? LEED Silver	0
How many Green Buildings do you lease space in? LEED Gold	0
How many Green Buildings do you lease space in? LEED Platinum	0
How many Green Buildings do you lease space in? Other - Boma Best, Living Building, etc.	0

How many Green Buildings do you have under construction (as of Dec 31, 2013)?

Variable	Response
How many Green Buildings do you have under construction (as of Dec 31, 2013)? LEED Non-certified	0
How many Green Buildings do you have under construction (as of Dec 31, 2013)? LEED Silver	0
How many Green Buildings do you have under construction (as of Dec 31, 2013)? LEED Gold	0
How many Green Buildings do you have under construction (as of Dec 31, 2013)? LEED Platinum	0
How many Green Buildings do you have under construction (as of Dec 31, 2013)? Other - Boma Best, Living Building, etc.	0

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Describe the one action taken in 2013 that resulted in, or is expected to result in, the greatest emissions reductions for your organization (this may be considered your 2013 "success story"):

School District 54 hired a consultant to review building air leakage. A report was provided with recommendations and payback periods. For the first phase, 5 schools were reviewed and were found to have significant envelope issues. In October 2013 Houston Secondary, Smithers Secondary, Silverthorne Elementary, Twain Sullivan Elementary and Telkwa Elementary were repaired using the recommendations provided which comprised mainly of weather-stripping, roof exhausts, roof/wall intersections, pipe penetrations, soffits, windows and overhead doors. Payback periods for each location is as follows Houston Secondary 4.8 years, Smithers Secondary 3.6 years,

Silverthorne Elementary 2.6 years, Twain Sullivan Elementary 3.7 years and Telkwa Elementary 2.8 years.

Provide a "wish list" of reduction actions your organization would like to take, i.e. what are the priority projects your organization sees as being most effective in leading to substantive reductions of emissions and increased energy efficiency (regardless of cost or other limiting factors)?

Boiler upgrades to Twain Sullivan Elementary, Muheim Elementary, Walnut Park Elementary and School Board office.

Houston Secondary building envelope upgrade

Smithers Secondary building envelope upgrade

Houston Secondary Entry door/window system and hall exit door upgrades

District wide LED exterior lighting with DDC control lumen and time periods.

DDC controls upgrades to allow for broader range of controls.

What are the barriers your organization faces when trying to implement emissions reduction initiatives? It is expected that funding is a major issue. If there are other barriers as well please describe those.

Costs and logistics associated with obtaining materials, products and services in the north.

Does your organization have an emission reduction target? If yes, please describe below.

No

School District 54 does not have a set reduction target. Our goal is to continuously monitor building operations and adjust to reduce emissions on an ongoing basis.

Does your organization have a strategic plan to implement emission reduction activities (e.g. a five year plan)? If yes, please describe below:

Yes

School District 54 does have a plan but cannot implement this as AFG funding is very limited to do upgrades to systems. AFG funding is typically spent on keeping building components operational. We do have targets for photocopying reduction and % of recycled content in paper.

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Thank you for completing the Data section of the 2013 Carbon Neutral Action Report. The data contained here may be used to inform statistics and comparisons that are used in the final CNG report. This information will not be appended directly to your final report. If this form is now complete please use the submit button below to forward it to the Climate Action Secretariat, otherwise you can save it to continue at a later time. Only use the submit button once this form is 100% complete. You can also save your own copy as a WORD or PDF file.

2013 Carbon Neutral Action Report (CNAR)

- Part 2 ACTIONS

Filled Thursday, March 13, 2014

Please complete the following sections of the 2013 Carbon Neutral Action Report form. Save your work frequently to prevent it from being lost. You can also save a copy for your own use as either a WORD or PDF file using the buttons at the bottom of each page. This is Part 2 of the Carbon Neutral Action Report form. This section reports on actions taken to reduce emissions during the 2013 calendar year. This information will be included in your final Carbon Neutral Action Report posted on the Ministry of Environment website. When the form is complete press the submit button on the last page to automatically submit the information to the Climate Action Secretariat (CAS). Do not press submit before you are ready – this may result in a loss of work. In addition to completing this survey (Part 1 & 2), you are required to submit your completed Overview (Executive Summary) and Self-Certification Checklist. The 2013 Overview template was included in the email sent and can also be found on the LiveSmart leaders Community. Please ensure you meet the following reporting deadlines: A DRAFT 2013 CNAR is due to CAS by March 31, 2014. The draft is comprised of the Overview ONLY (no executive sign-off required). The FINAL 2013 CNAR is due to CAS by May 30, 2014. The final 2013 CNAR includes Part 1 & Part 2 survey form and Overview. The Self-Certification Checklist is due to CAS by May 15, 2014. For more information about the Carbon Neutral Government process, please refer to Becoming Carbon Neutral 2013, or should you have any questions please contact climateactionsecretariat@gov.bc.ca.

Organization Name

School District 54

Actions Taken to Reduce Emissions

1) Stationary Fuel Combustion, Electricity (Buildings): Indicate which actions were taken in 2013:

Performed energy retrofits on existing buildings

Yes

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

No

Undertook an evaluation of overall building energy use.

Yes

Please list any other actions taken to reduce emissions from Buildings:

- 1.) Houston Secondary gym exterior envelope upgrade.
- 2.) Village of Telkwa installed a Biomass boiler system. Telkwa Elementary School has been connected to this system resulting in much reduced energy consumption for this school.
- 3.) Maintenance shop mezzanine floor ceiling and walls upgraded with spray foam insulation.
- 4.) Bus shop bay doors retrofitted with remote operation electric openers and heat shutdown interlock once doors open two inches.
- 5.) Houston Secondary and Smithers Secondary BC Hydro C OP ongoing in study phase

2) Mobile Fleet Combustion (Fleet and other vehicles): Indicate which actions were taken in 2013:

Do you have a fleet?

Yes

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

Yes

Replaced existing vehicles with hybrid or electric vehicles

No

Reduced the overall number of fleet vehicles

No

Took steps to drive less than last year

Yes

Please list any other actions taken to reduce emission from fleet:

Employed contractors at locations greater than 50 km to reduce maintenance driving

3) Supplies (Paper): Indicate which actions were taken in 2013:

Used less paper than previous year

Yes

Used only 100% recycled paper

No

Used some recycled paper

Yes

Used alternate source paper (Bamboo, hemp, etc.)

No

Please list any other actions taken to reduce emissions from paper use:

District initiatives in technology to minimize paper use.

1. Overhead displays in classrooms
2. students using electronic devices to submit work electronically

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Actions Taken to Reduce Emissions - continued

Explain how you plan to continue minimizing emissions in 2014 and future years:

Increase recycled paper content to 50% or 100%

Purchased thermal camera for heat loss detection throughout building

Use of technology to reduce paper consumption

Dispose of facilities not being used, but has been maintained with utilities

Install new efficient boiler systems

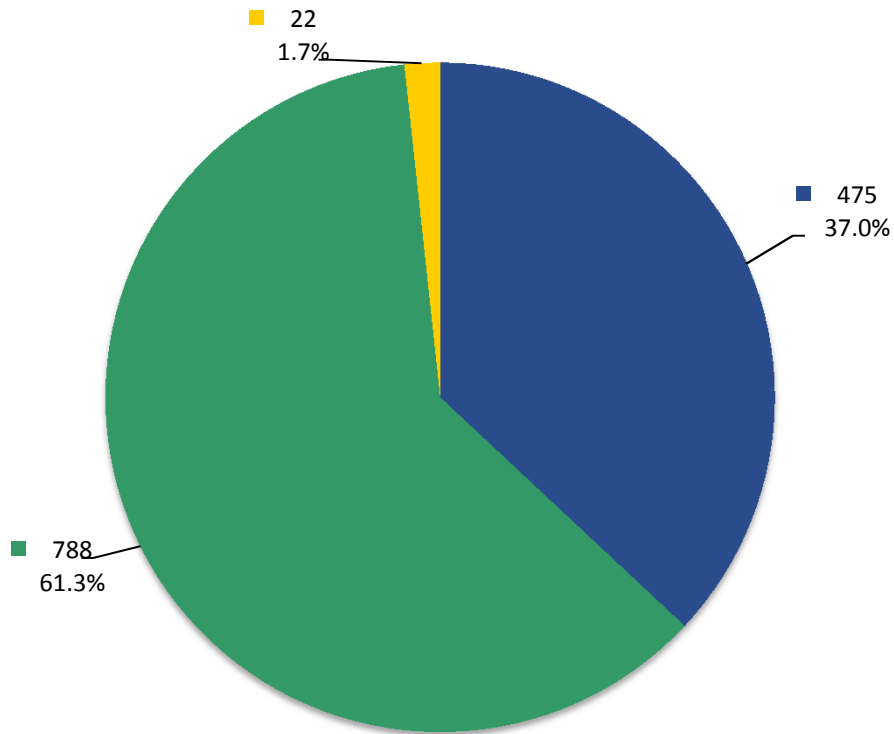
New building envelopes to to improve heat loss

If you wish to list any other "sustainability actions" outside of buildings, fleet, paper and travel check "yes". This reporting is optional.

No

Thank you for completing the 2013 Carbon Neutral Action Report. If this form is now complete please use the submit button below to forward it to the Climate Action Secretariat, otherwise you can save it to continue at a later time. Only use the submit button once the form is 100% complete. You can also save your own copy as a WORD or PDF file. Once you click the submit button, the Climate Action Secretariat will create a PDF summary of these actions to append to your final CNAR Overview when it is submitted. Together, these will be posted on the Ministry of Environment website by June 30, 2014 as your final report for 2013.

**School District 54 - Bulkley Valley
Greenhouse Gas Emissions by Source
for the 2013 Calendar Year (tCO₂e*)**



Total Emissions: 1,285

- 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 2013 (Generated May 21, 2014 3:53 PM)

Total offsets required: **911**. Total offset investment: **\$22,775**. Emissions which do not require offsets: **375** **

*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.