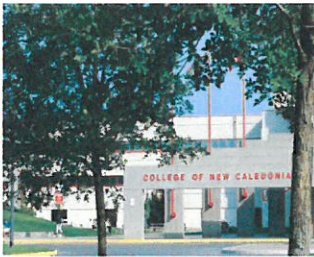


# College of New Caledonia



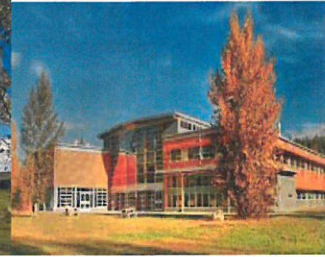
Prince George, Burns Lake, Fort St. James, Mackenzie, Quesnel, Vanderhoof



CNC Main Campus



Prince George Technical Education Centre



CNC Quesnel Campus

## College of New Caledonia 2014 Carbon Neutral Action Report

### *Executive Summary*

The College of New Caledonia continues to actively pursue all options available to reduce its overall energy consumption, reduce its overall carbon footprint, and promote green initiatives wherever possible. Highlights for the 2014 year saw the completion of 2 major energy reduction strategies, as well as the initiation and contract award for a complete upgrade to our Direct Digital Control system for our buildings. This project also includes a building energy management component that will assist us in identifying opportunities to further reduce energy consumption and emissions. The 2014 projects included a major renovation to a section of our main facility that will permit us to completely shut down an entire wing (37,000 square feet) during the two months of summer. The second project included the installation of Variable Frequency Drive units on all of our large electric motors and fan units. Through the incorporation of this Automatic Energy Optimization technology, (AEO) — the Variable Frequency Drives will continually monitor motor speed and load to maximize energy savings.

The College looks forward with anticipation to the ongoing savings we will see from the completion of these initiatives, and will continue to actively explore all avenues available to minimize our carbon footprint.

<b><i>Greenhouse Gas Emissions in calendar year 2014:</i></b>	
<i>Total Emissions</i>	3314
<i>Total Emissions for Offsets</i>	3312
<b><i>Adjustments to GHG Emissions Reported in Previous Years:</i></b>	
<i>Total Emissions</i>	0
<i>Total Emissions for Offsets</i>	0
<b><i>Total Emissions for Offsets for the 2014 Year</i></b>	3312



After two years of planning, we were able to complete 2 major projects in 2014 that would positively position the College to realize a reduction in our greenhouse gas emissions for the upcoming years.

The most significant energy reduction project completed in 2014 was the installation of Variable Frequency Drives on all of our large electric motors and fan units. Through the incorporation of Automatic Energy Optimization technology, (AEO) — the Variable Frequency Drives will continually monitor motor speeds and load to maximize energy savings.

Complimenting this project was the completion of a major renovation to the centre block of the Prince George campus in the summer of 2014. This renovation project will enable the Prince George campus to shut down all three floors of its eastern building block during the two months that we have minimum occupancy during the summer. This equates to a total area of 37,000 square feet that we will not be providing HVAC support to.

2014 also marked the year we tendered, and awarded a major contract for a complete upgrade to the Colleges Direct Digital Control building management system. The building management system selected includes an energy management program that will identify further opportunities for energy reduction and assist us in reducing our emissions even further through continuous optimization.



At the College of New Caledonia, 2014 was good year for large scale energy reduction initiatives. We look forward with anticipation to the long term benefits of the projects that were undertaken. Although we did see an increase in our emission levels from our previous year; this can attributed to the successful increase and expansion of our programs in the School of Trades and Technology. These programs are housed in large shop type facilities, and consume vast amounts of energy. Giving consideration to the success of these College program expansions, we must also factor in the weather challenges we face as a northern winter city.



## Upcoming Strategies for 2015



Complete and initialize an automated energy management program with the 2015 upgrade to the College of New Caledonia's Direct Digital Building Controls project.



Install overhead door limiting relays on all large shop doors that will shut down heating and cooling to those shop spaces while the doors is in the open position.



Initiate and execute fresh air intake management strategies to be implemented at the College's Trades and Technology Centres located in Prince George, and Quesnel.



Continue upgrades to our Campus lighting systems with newer technologies such as occupancy sensor switching to all classrooms at the Prince George and Burnslake campuses.

Through our Charter of Expectations and Commitments, the College of New Caledonia clearly outlines in its Priorities & Goals that the College will *"Demonstrate environmental stewardship in the management and development of our facilities, programs and services"*. This includes energy conservation and greenhouse gas emission reductions.

Cathe Wishart (Acting President) for Henry Reiser, President

Date

College of  
New Caledonia







# 2014 Carbon Neutral Action Report (CNAR)

## - Part 2 ACTIONS

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### Organization Name

College of New Caledonia

### Actions Taken to Reduce Emissions

#### 1) Stationary Fuel Combustion, Electricity (Buildings): Indicate which actions were taken in 2014:

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.

No

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

1. Windowed corridors with lighting have been fitted with photocell management for light harvesting.
2. In October of 2014, the College issued a Request For Proposals to upgrade the Direct Digital Control system for our Prince George campus. This RFP included the incorporation of a building energy management system to assist the College in identifying all potential actions available to reduce emissions.

## **2) Mobile Fleet Combustion (Fleet and other vehicles):Indicate which actions were taken in 2014:**

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:

1. Initiated a car pooling strategy for all staff travel between regional campuses.
2. College supplies and required purchases are now delivered as much as possible rather being picked up with fleet vehicles.

## **3) Supplies (Paper):Indicate which actions were taken in 2014:**

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:

1. All organizational communications are delivered electronically.
2. College Career opportunities and activity postings are all done electronically.
3. Default settings on all printing devices are set to print both sides.

### Page 3

## Actions Taken to Reduce Emissions - continued

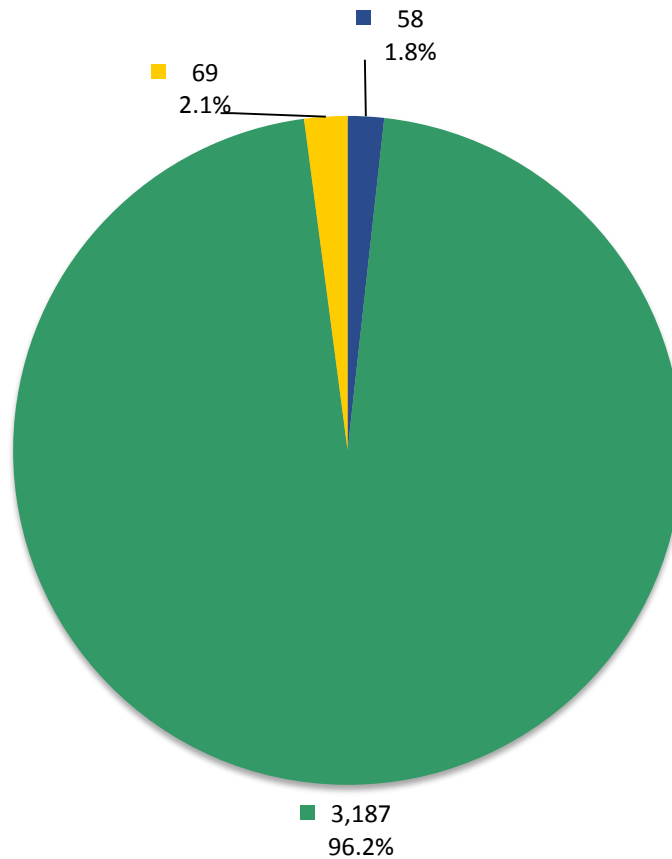
Explain how you plan to continue minimizing emissions in 2015 and future years:

1. Optimization projects will continue with occupancy sensor lighting controls for all classrooms and lab spaces at the PG Main and Burnslake campuses.
2. All Trades buildings and shops with overhead doors will be fitted with cutoff switches to shutdown heating and cooling to those spaces when doors are opened.
3. Aged natural gas space heaters in shop areas are to be replaced with newer and more efficient units.

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

No

**College of New Caledonia  
Greenhouse Gas Emissions by Source  
for the 2014 Calendar Year (tCO<sub>2</sub>e\*)**



**Total Emissions: 3,314**

- 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 2014 (Generated June 23, 2015 4:01 PM)**

Total offsets required: **3,312**. Total offset investment: **\$82,800**. Emissions which do not require offsets: **2** \*\*

\*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.