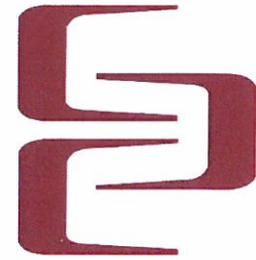


# College of New Caledonia



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

### 2015 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 2015 year saw phase 1 of our upgrade to our Direct Digital Control system to our buildings nearly completed at the PG Main Campus. This project also included the installation of Intelligent Valving on our Hot and Cold water Hydronic systems to enhance the efficiency of the College's Air Handling systems. The addition of the Intelligent Valving resulted in a reduction of load to our boiler and our chilled water systems. An automated building energy management component has been incorporated into this project that will assist us in further identifying opportunities to reduce energy consumption and emissions.

Moving forward into the 2016 year, The College of New Caledonia will move forward with Phase 2 of the Direct Digital Controls project. This will include the installation of this new controls and building management technology at our outlying campus facilities in Quesnel and Vanderhoof.

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 further minimize our carbon footprint.



<b><i>Greenhouse Gas Emissions in calendar year 2015:</i></b>	
<i>Total Emissions</i>	3344
<i>Prior year adjustments</i>	-72
<i>Net 2015 Emissions</i>	3272.
<b><i>Total Emissions for Offsets for the 2015 Year</i></b>	3272



The 2015 controls upgrade project was very comprehensive, and as additional efficiency opportunities presented themselves during the project, such as the incorporation of Intelligent Valving for the Hydronic loops, we added them in. The College also incorporated heating and cooling shut off switching to our large shop spaces in the Trades Centres that would disable cooling and heating to the spaces if an overhead door was opened.

This year we were able to reap the benefits of our energy reduction project completed in 2014 with the installation of Variable Frequency Drives on all of our large electric motors and fan units. Through the incorporation of this Automatic Energy Optimization technology, (AEO) — the Variable Frequency Drives now continually monitor motor speeds and load and are maximizing energy savings in this area.

2015 also marked the year we tendered, and began awarding contracts to begin our Substantial Mechanical Upgrade projects at the College. The College will begin replacing several of its large mechanical units that are now at, or beyond their useful life.



At the College of New Caledonia, 2015 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 be 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 2016



Continue upgrading the Direct Digital Control systems in our outlying campus facilities.



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 at our outlying campus facilities



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.



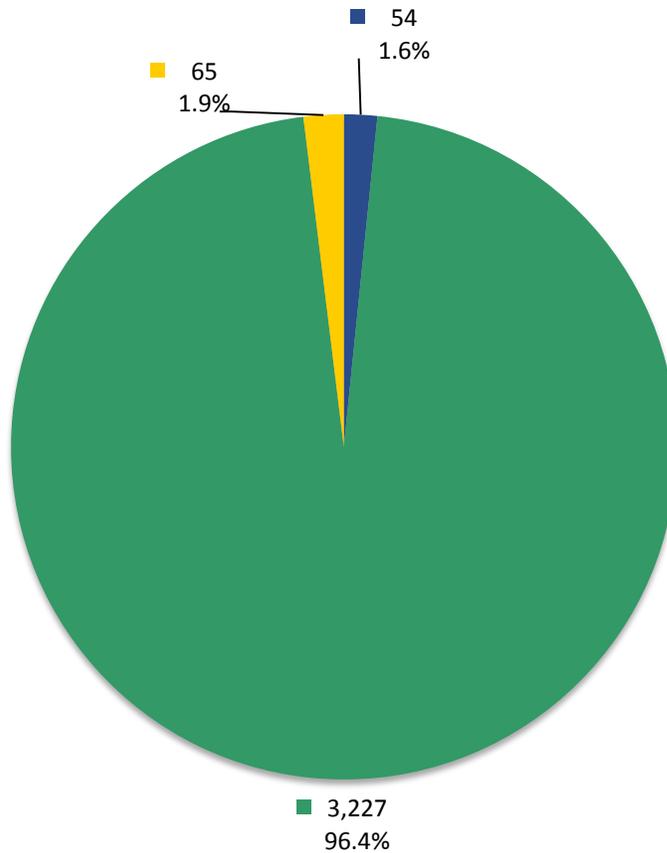
Continue upgrades to our Campus lighting systems with newer technologies such as occupancy sensor switching to all classrooms at the Prince George and Burnslake campuses.

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.

Henry Reiser, President

June 14, 2016  
Date

**College of New Caledonia  
Greenhouse Gas Emissions by Source  
for the 2015 Calendar Year (tCO<sub>2</sub>e\*)**



**Total Emissions: 3,346**

- 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 10:45 AM)**

Total offsets required: **3,344**. Total offset investment: **\$83,600**. 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.

# 2015 Carbon Neutral Action Report Survey

Organization Name:

*College of New Caledonia*

Please select your sector:

- Post-Secondary Institution

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:

*No*

If Yes, please describe:

*(No response)*

Undertook evaluations of building energy use:

*No*

Performed energy retrofits on existing buildings:

*Yes*

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:

*(No response)*

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):

No

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:

*The College of New Caledonia has implemented a car pooling initiative for fleet vehicle usage.*

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)

Yes

If yes, please describe:

*All printers at the College of New Caledonia are defaulted to two sided printing. The College has also abandoned the practice of posting common communication items such as all notices and job postings etc. All communications are now delivered via electronic*

*format only.*

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:

*In 2015 The College of New Caledonia introduced pay per print for students. As there is no longer access to free printing, students have become very selective with their printing requirements.*

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

Encouraged alternative travel for business:

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

No

Encouraged or allow telework/working from home:

No

Other:

(No response)

Education Awareness

Have a Green/Sustainability/Climate Action Team:

No

Supported green professional development:

(e.g. workshops, conferences, training)

No

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

No

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*

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

*No*

Other:

*(No response)*

## Other Sustainability Actions

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

*Yes*

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)

*Yes*

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

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

*No*

Incorporated lifecycle costing into new construction or renovations:

*Yes*

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

*(No response)*