

## Carbon Neutral Action Report College of New Caledonia

### Executive Summary

The College of New Caledonia has undertaken a number of measures over the past 18 months to improve the sustainability of its operations. The primary driver of these changes is through the creation of a sustainability committee in 2008, and more recently in January 2009 the establishment of an Energy Committee. These committees contain significant overlap in membership to ensure that both are actively working together to improve sustainability for the college. Specific actions over the past year include the purchasing of video conferencing and paperless management software to cut down on internal office paper and energy usage.

Additionally, students have been given the opportunity to reduce energy use (and therefore GHGs) by taking advantage of public transportation discounts as part of their student packages. A number of initiatives also exist with respect to energy consumption as CNC has completed numerous energy audits to identify opportunities for improvement. From these audits, lighting retrofits, energy awareness programs, and improvements to CNC's boiler plant have been identified as potential sources of significant GHG savings. CNC continues to explore additional opportunities for sustainability improvements as part of the dual committees mandate.

### Objectives

Improve energy efficiency of operations in line with BC Hydro Energy Manager program objectives. Improve quality of life for students and staff as part of a larger sustainability goal. Provide clear and transparent information on how the College is impacting the environment. Develop a critical path towards long term sustainability of CNC's operations.

## Part 1: Actions Taken to Reduce Greenhouse Gas Emissions in 2008

### Overview

CNC began 2008 with the formation of the sustainability committee, whose mandate was to improve the sustainability of CNC's operations. Also undertaken in 2008 were energy audits of the boiler plant and other facilities at CNC, which discovered multiple opportunities for electricity and natural gas savings. Many of these opportunities will be implemented in 2009. Additionally, CNC has purchased and installed video conferencing and paperless office technology to reduce paper consumption and save on fuel costs associated with business travel. Finally, a number of educational measures, initially focused on training and educating the sustainability team have been completed.

### 1.1 Mobile Fuel Combustion

Action	Action Taken	Outcome/Performance Measure	Notes Clarifying Action Taken
Established anti-idling behaviour change program (e.g. signs, stickers, messages)	In Progress	Communications issued to drivers at CNC to observe anti-idling behavior.	This is part of a larger mandate to reduce GHG emissions through the Sustainability Committee.

Encouraged use of public transit/active transportation	In Progress	Established mandate through student leadership to provide discounted public transportation for students.	Tuition fees to include this measure for the current year.
<b>1.2 Stationary fuel combustion and electricity</b>			
<b>Action</b>	<b>Action Taken</b>	<b>Outcome/Performance Measure</b>	<b>Notes Clarifying Action Taken</b>
Turned off lights in unused rooms	In Progress	Staff is asked to turn off unused lighting as part of a larger awareness campaign.	
Replaced standard bulbs with CFLs	In Progress	Lighting retrofits are underway throughout CNC, including expanded use of CFL lighting.	
Undertaken building energy audit at LOCATION(s)	Complete	Technical Survey conducted on main boiler/chiller plant and campus mechanical equipment in 2007 by TFM Consultants International. 14 to 18% in identified savings opportunities. A full energy audit funded by BC Hydro was conducted in 2008 on the PG campus buildings. The study identified 351,000 kWhs of electricity savings and 2000 GJ of natural gas savings	List of opportunities including lighting, HVAC, building automation and boiler/chiller plant retrofits identified. Measures identified in the audits will be in part of funding requests to be made in 2009. If approved, projects to be implemented by March 2011.
<b>1.3 Supplies</b>			
<b>Action</b>	<b>Action Taken</b>	<b>Outcome/Performance Measure</b>	<b>Notes Clarifying Action Taken</b>
Committed to hold paperless meetings	In Progress	Software for paperless meetings purchased in December 2008.	Software installed and in-use as of May 2009.
Developed document library (online and one printed copy) for large documents	In Progress	Documents are scanned and saved into a virtual library for back-office functions.	This replaces a previous paper based system.
<b>1.4 Travel</b>			
<b>Action</b>	<b>Action Taken</b>	<b>Outcome/Performance Measure</b>	<b>Notes Clarifying Action Taken</b>
Installed Video Conferencing facilities	In Progress	Video conferencing hardware and software purchased in 2008.	Installed and in-use as of 2009.
<b>1.5 Employee Engagement</b>			
<b>Action</b>	<b>Action Taken</b>	<b>Outcome/Performance Measure</b>	<b>Notes Clarifying Action Taken</b>
Developed Green Teams	In Progress	Sustainability committee formed in 2008.	Mandate is to promote a healthy and sustainable environment to staff, students, and faculty at CNC.
Supported professional development	In Progress	Members of the sustainability committee have attended climate change and sustainability workshops and conferences as part of their mandate.	
<b>1.6 Sustainability Actions (others)</b>			
<b>Action</b>	<b>Action Taken</b>	<b>Outcome/Performance Measure</b>	<b>Notes Clarifying Action Taken</b>
Used re-usable dishes	In Progress	Cafeteria provides re-usable dishes and cutlery for student and staff dining.	

## Part 2: Plans to Continue Reducing Greenhouse Gas Emissions 2009 -- 2011

### Overview

CNC will build on the progress of 2008 by forming an energy committee in 2009. (This committee was formed in Jan.'09) Also, the recommendations made in previous audits will be acted upon, beginning with lighting retrofits that are underway as of April 2009. Further analysis to determine the best way to save energy from the boiler plant will occur in Summer 2009. This initiative alone is expected to save significant amounts of GHGs as the boiler plant accounts for over 40% of total energy consumption for the school. From a behavioural perspective, training, education and awareness activities will occur in 2009, focusing on how students, staff and faculty can reduce energy usage and in turn reduce their carbon footprint. Future plans for CNC include additional energy retrofit projects, enhanced reporting of GHG emissions, and the continued co-ordination of the energy and sustainability teams objectives under a unified strategy.

### 2.1 Mobile Fuel Combustion

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Encourage use of public transit/active transportation	In Progress	Student public transit discounts now incorporated into tuition fees.		
Establish travel reduction goals	Planned	Travel budget to be cut for 2009 and beyond.	Amount of budget reduction to be determined.	

### 2.2. Stationary Fuel Combustion (including electricity):

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Undertake workstation tune-ups to help staff understand what they can do to reduce personal energy use	In Progress	Executive committee educated on measures for the workplace to reduce personal energy use.	Next planned step is to roll out these measures to employees as part of a wider awareness campaign. Campaign is to begin in late 2009.	
Undertake lighting retrofit	In Progress	First round of retrofits completed in March 2009, replacing 3' T12s with 3' T8s. Further retrofits planned.	Funding for additional projects to be requested in 2010 -2011 2009	
Undertake building energy audit at LOCATION(s)	Planned	Boiler/Chiller plant to undergo follow up feasibility study to quantify exact cost and savings opportunities for retrofit and improvement.	Results of the audit will be directly used for supplier tender later in 2009.	
Initiate or complete a building energy retrofit	Planned	351,000 kWhs of electricity and 2000GJ of natural gas potential savings. Opportunities cover Lighting, HVAC, BAS, Domestic Hot Water	Funding for additional projects to be requested in 2010-2011 2009	

### 2.3 Travel

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Set a X% Travel reduction goal	Planned	Travel budget to be cut for 2009 and beyond.	Amount of budget reduction to be determined.	

## 2.4 Employee Engagement

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Provide climate change education	Planned	Green Team to be educated by 3rd party climate change consultants. Wider education to be rolled out as part of Awareness Program.		Spring/Summer 2009
Provide conservation education	In Progress	Provided through awareness program. Educational information and surveys to be sent to students and staff.	Survey results to be compiled and analyzed to develop needs specific awareness collateral	Spring/Summer 2009
Develop Green Teams	In Progress	Energy & Environment Committee formed in January 2009. Team is led by Burke Galbranson and supported through third party services (Energy Advantage). Funded in part through the BC Hydro Energy Manager Program.	Committee meets monthly to discuss all energy and environmental issues relating to climate change.	Current, monthly meetings
Support Green Teams (resources)	In Progress	Green Team supported by 500 person hours annually from 3rd party energy and environmental management service provider.		Current
Provide green tips	Planned	To be provided to students and staff as part of energy awareness campaign		Summer 2009
Support professional development	In Progress	Burke Galbranson acting as "Energy & Environmental Champion" on behalf of CNC. Actively supported and trained by Energy Advantage.		

## 2.5 Sustainability Actions (others)

Action	Action Planned	Outcome/Performance Measure	Notes Clarifying Action Taken	Timeframe
Improve recycling measures	Planned	CNC is actively investigating the use of a private recycling firm for expansion of current recycling practices.		