



College of  
New Caledonia

## **2021 PSO Climate Change Accountability Report**

**Organization: College of New Caledonia**

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## **Contents**

1	Declaration statement	3
2	Land Acknowledgement	3
3	Executive Overview	3
4	Emission Reductions: Actions & Plans	
4.1	2020 GHG Reduction Strategies Implemented	4
4.2	2021 GHG Emission Reduction Successes	4
4.3	2022 GHG Emission Reduction Strategies	5
5	Public Sector Leadership	
5.1	Climate Risk Management	5
5.2	Sustainability Initiatives	5
5.3	Successful Risk Management	6
6	Emissions and Offset Summary Table	6
7	Retirement of Offsets	7

## **1. Declaration Statement:**

This Climate Change Accountability Report for the period January 1, 2021 to December 31, 2021 summarizes our greenhouse gas (GHG) emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2021 to reduce our GHG emissions, and our plans to continue reducing emissions in 2022 and beyond.

## **2. Land Acknowledgement:**

CNC is honoured to work with the Aboriginal people in this region, inclusive of the First Nations, Métis and Inuit peoples. We acknowledge the graciousness of the First Nations peoples in welcoming those who are seeking knowledge on their traditional unceded territories. CNC has campuses in six communities, serving 22 First Nations communities.

It is also important to acknowledge the participation of other Indigenous groups whose participation on Aboriginal Advisory Committees and the Yinka Dene Council contributes to the success of Aboriginal Education at CNC: Carrier Sekani Tribal Council, PG Nechako Aboriginal Employment & Training Association (PGNAETA), Métis Nation of BC, Prince George Native Friendship Centre, North Cariboo Family Program, Cariboo Chilcotin Aboriginal Training Centre, Tillicum Friendship Centre, and Aboriginal representatives from the University of Northern British Columbia as well as School Districts of Nechako-Lakes (91), Prince George (57), and Quesnel (28).

## **3. Executive Overview:**

The College of New Caledonia (CNC) took great strides in 2021 to implement and execute framework required to approach a net-zero emissions future. Initiatives were taken through equipment upgrades, operational changes, and administrative changes. Initiatives and operational reductions have resulted in a reduction of overall GHG emissions by 10.8% from 2020 levels. GHG emissions for 2021 are 2009 tCO<sub>2</sub>e.

2022 initiatives include maintaining a baseline analysis to help quantify results from modifications, building automation system optimization through modern control strategies, higher efficiency replacements of failing equipment, fleet emission reduction through ZEV alternatives, and research into renewable energy sources and carbon sequestering technologies. Targeted goal is another 5% reduction from 2021 to 2022 GHG emission levels. This goal is lower than previous years due to increased building demand as the pandemic is becoming less impactful on operations, this would result in a 22.3% reduction in emissions from pre-pandemic levels.

## **4 Emission Reductions: Actions & Plans:**

## **4.1 2021 GHG Reduction Strategies Implemented**

CNC has taken great steps toward a net-zero emission future during the reporting period of 2021. Changes in equipment, operations and administration were applied to create immediate and future emission reductions.

### **GHG Emission Reduction Through Equipment Upgrades**

- Completed LED Lighting upgrade for the John A. Brink Trades and Technology Centre.
- Installed CO sensors in kitchen and reduced range hood/airhandler runtime by 964 hours per week.
- Added Ft St James Campus to DDC network.
- Added Vanderhoof building to DDC network.
- Added 900 Block/920 Block building to DDC network.

### **GHG Emission Reduction Through Operational Modifications**

- AHU scheduling optimized (reduced run time by 550 hours per week).
- Restructuring of custodial scheduling to reduce HVAC system runtime.

### **GHG Emission Reduction Through Administration**

- Working towards admission to BC Hydro's Energy Manager Program.
- Configuration of automated fault detection program to notify operators of equipment beginning to fail.
- Promoting professional development of operators in building controls and energy management programs.
- Continuing with CNC's baseline consumption to analyze building performance and efficiently target areas with emission reduction potential.

## **4.2 2021 GHG Emission Reduction Successes**

Efforts made in 2021 have shown great results, as occupancy levels begin to return to normal there is still reduction in emissions compared to 2020 which had similar levels of enrollment. Emission reductions were still realized even though CNC added buildings and transitioned Vanderhoof campus from their old site into a newly constructed campus.

- CNC saw an increase of 1% natural gas consumption and reduction of 13.4% in electrical consumption.
- Mobile emissions have been reduced by 10% from 2020 levels due to encouraging ZEV fleet usage before assigning traditional vehicles where possible.
- Office paper emissions were reduced by 4.2% due to switching from 0% recycled paper to 30% recycled paper mid-year. Impact of change will be more visible as enrollment levels return to pre-Covid levels.

- CNC saw an overall reduction in GHG emission of 10.8% from 2020 levels in 2021.

### **4.3 2022 GHG Emission Reduction Strategies**

CNC is committed to creating a sustainable future through energy-saving projects and sustainable practices integrated into decision-making processes of future projects. (Caledonia, 2021). To continue our climate action successes from 2021 into 2022 the following actions are being pursued:

- Purchase of four ZEV fleet vehicles to reduce emissions caused by local travel and travel to nearby (within 150km) regional campuses.
- Generation of electrical drawings for the installation of ZEV charging stations at all campuses.
- Removal and replacement of fluorescent lighting with LED lights calibrated to avoid under/over lighting of spaces (multi-year project).
- Completion of CNC's baseline consumption analysis.
- Continued fine-tuning of building automation system.
- Higher efficiency alternatives considered for equipment replacement.
- Higher efficiency equipment considered for capital projects.
- Installation of ZEV infrastructure opportunities allowing for light-duty ZEV travel to all regional campuses.
- Exploration of renewable energy opportunities.
- Exploration of carbon sequestering opportunities for emissions that cannot be mitigated.
- Investigation into low-carbon emission renewable heat source, sewage heat recovery, to offset demand on centralized heating plant resulting in reduced emissions.

## **5. Public Sector Leadership**

### **5.1 Climate Risk Management**

CNC has been attending regular meetings held by Climate Ready BC to help increase our understanding and awareness of upcoming climate risks in order to prepare for and mitigate risk. Equipment inspections are continually undertaken to limit the risk of critical failure and promote preventative maintenance/replacement. This initiative helps prevent the risk of equipment failure during extreme climate events.

### **5.2 Sustainability Initiatives**

There are currently very limited waste management plans in place due to geographical constraints of campuses. Early level discussions are underway to evaluate options available to encourage sustainable solutions of diverting waste generated from both students and operations.

Continual investigation into building environment complaints are being undertaken to discover the underlying issue and increase occupant comfort. This is rebuilding occupant faith in the building control

system and reducing the use of independent space heating which leads to simultaneous heating/cooling and increased utility consumption.

### 5.3 Successful Risk Management

CNC continues to support and protect the immediate and surrounding communities that we are a part of. We were honoured to help wildfire evacuees in 2018, had implemented a plan in 2020 to be ready for evacuees when similar events were occurring, and offered respite in our common areas to all who required it during the 2021 heat dome event. Refreshments, entertainment, and a climate-controlled atmosphere were provided to protect the health of people negatively affected. CNC experienced minimal emission increases due to low carbon electricity required to provide cooling.

## 6. Emissions and Offset Summary Table:

<b>College of New Caledonia 2021 GHG Emissions and Offsets</b>	
<b>GHG Emissions created in Calendar Year 2021</b>	
Total Emissions (tCO <sub>2</sub> e)	2011
Total BioCO <sub>2</sub>	1.27
Total Offsets (tCO <sub>2</sub> e)	2010
<b>Adjustments to Offset Required GHG Emissions Reported in Prior Years</b>	
Total Offsets Adjustment (tCO <sub>2</sub> e)	0
<b>Grand Total Offsets for the 2021 Reporting Year</b>	
Grand Total Offsets (tCO <sub>2</sub> e) to be Retired for 2021 Reporting Year	2010
Offset Investment (\$25 per tCO <sub>2</sub> e)	\$50250

