Coast Mountain College 2019 Carbon Neutral Action Report

Declaration Statement

This Carbon Neutral Action Report for the period January 1, 2019 to December 31, 2019 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2019 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2020 and beyond.

By June 30, 2020 Coast Mountain College's final 2019 *Carbon Neutral Action Report* will be posted to our website at www.coastmountaincollege.ca

Executive Summary

Coast Mountain College is pleased to submit its 2019 Carbon Neutral Action Plan. This year's report contains our 2019 emissions profile, offsets purchased, the actions we have taken in 2019 to reduce our GHG emissions and our plans to continue reducing emissions. By June 30th Coast Mountain College's final CNAR will be posted to our website at www.coastmountaincollege.ca.

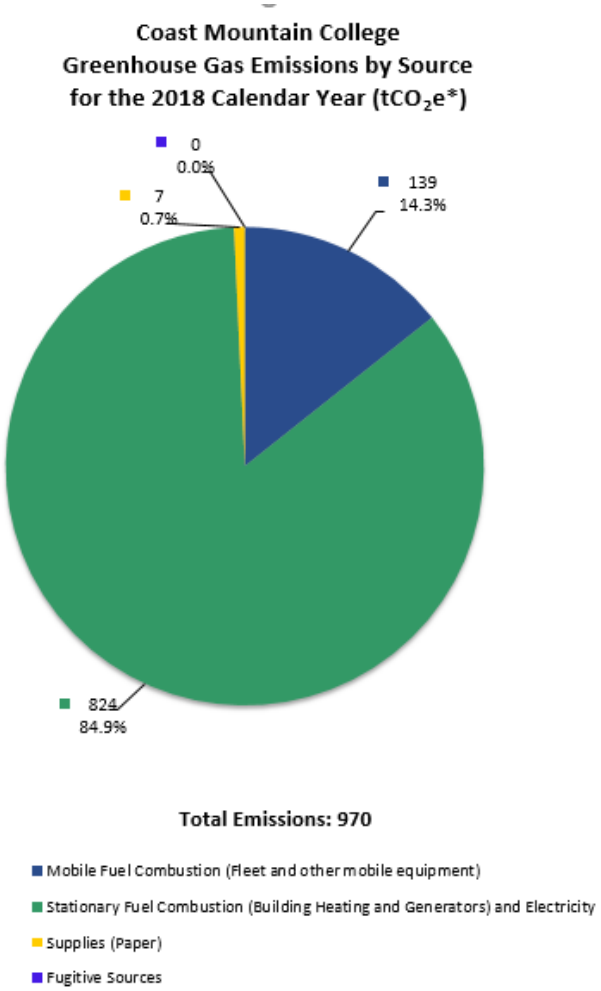
Coast Mountain College has completed a number of mechanical and electrical upgrades listed in this report, but most significantly we completed a substantial upgrade to our DDC (Digital Direct Controls) system. The new system includes a new graphic interface and a comprehensive control system allowing us to fine-tune heating in specific areas, schedule dust extraction, and reduce fuel consumption. This upgrade also allows us to schedule lighting campus-wide, significantly reducing our electrical usage.

The College is excited to be in the planning stages of two major projects that will both significantly reduce our emissions, and enhance student experience and services on our campus. Specifically, we intend to build a new student housing facility using BC StepCode 4 guidelines to replace aging buildings constructed in 1970. This modern space will replace the old, inefficient buildings, which will be removed from campus in accordance with our strategic plan. This will be a significant project that will reduce emissions and provide students with a modern facility that mirrors our natural surroundings and unique history in its design.

Additionally the College is preparing to move forward with a substantial renovation of the existing library space in the Spruce Building. This area will be remediated and brought up to current codes, and mechanical and electrical systems will be upgraded to high-efficiency systems throughout.

The College will continue to demonstrate its commitment as a post-secondary institution to reduce greenhouse gas emissions, while engaging all members of the college community, by supporting the many initiatives that contribute to sustainability and the reduction of our carbon footprint.

Coast Mountain College GHG Emissions and Offset for 2019 (tCO_2e)	
GHG Emissions created in Calendar Year 2019	
Total Emissions (tC)	*970*
Total $BioCO_2$	*4.66*
Total Offsets (tCO_2e)	*963*
Offset Investment ($25 per tCO_2e)	
Grand Total Offsets (tCO_2e)	24,075



Actions Taken to Reduce Greenhouse Gas Emissions in 2019

- Repairs made to aging hot water distribution systems in Birch Building
- New multi-speed pumps and drives were installed to replace all old single speed pumps throughout campus. These units allows pumps to slow down when demand for hot water is low, with a potential power reduction of up to 40% per unit
- A/C units at end of useful life were replaced with high efficiency heat pump systems, resulting in an immediate reduction in electricity use
- Replacement of aging infrastructure including exterior envelope, plumbing, and mechanical in Birch Building
- Replacement of aging infrastructure including HVAC systems in Spruce building to reduce GHG emissions
- Upgrades made to roofing envelope, mechanical and electrical systems during installation of Wellness Centre in Cedar Building
- Upgrade of lighting to LED in numerous locations across campus
- Upgrade to MUA pump in Spruce building a new, high efficiency pump, requiring less electricity and fuel
- Water heater replaced with high efficiency unit at Prince Rupert Campus

Plans to Continue Reducing Greenhouse Gas Emissions in 2020

- Continued replacement of older fleet vehicles with more fuel efficient and/or electric vehicles
- Continued replacement of aging infrastructure with new, high efficiency equipment
- Transition to working from home means a significant reduction in electricity and heat use across campuses
- Transition to Distributed Learning means a significant reduction in paper use and printing on campus

Retirement of Offsets:

In accordance with the requirements of the Climate Change Accountability Act and Carbon Neutral Government Regulation, Coast Mountain College is responsible for arranging for the retirement of the offsets obligation reported above for the 2019 calendar year, together with any adjustments reported for past calendar years. The Organization hereby agrees that, in exchange for the Ministry of Environment and Climate Change Strategy ensuring that these offsets are retired on the Organization's behalf, the Organization will pay within 30 days, the associated invoice to be issued by the Ministry in an amount equal to $25 per tonne of offsets retired on its behalf plus GST.

Executive sign-off

	June 04, 2020
Signature	Date
Michael Doyle	Vice-President, Corporate Services
Name	Title

coast mountain college

Confirmation number: 00C4E0E0
Submitted date: 2020-06-25 09:25:31 Pacific Daylight Time

Carbon Neutral Action Report Survey - 2019

Public sector organizations (PSOs) are required to complete this survey, in addition to a Carbon Neutral Action Report (CNAR) as mandated by BC's *Climate Change Accountability Act* and the Carbon Neutral Government Regulation.

Due to the COVID-19 pandemic, the following Directive was issued on March 31, 2020. Certain deadlines were also extended for the 2019 reporting year (see below).

> **March 31, 2020 Directive:**
> *Under my authority as the Director for the purposes of the Act, and under the authority delegated to me in Section 6 of the Carbon Neutral Government Regulation,* ***I hereby direct that all ministries and Public Sector Organizations covered by the Carbon Neutral Government requirement shall use their 2018 GHG emissions as a temporary estimate for their actual 2019 GHG emissions, for the purposes of the 2019 Carbon Neutral Action Reports and 2019 Carbon Neutral Government reporting required under the Climate Change Accountability Act.***
>
> Neil Dobson, Executive Director, Clean BC Implementation
> Climate Action Secretariat

Although 2018 emissions data will be used as a placeholder for 2019, **all other (qualitative) components of the CNAR and CNAR Survey are to be completed with information from 2019 (e.g., actions taken or planned to reduce emissions).** The only change to the survey is that the deadline was extended by one month to June 30, 2020.

This survey is divided into two parts:

Part 1 - Will be made public on the Climate Action Secretariat (CAS) website after June 30, 2020; however, it will not be appended directly to each individual PSO CNAR as was done in previous years. This section collects details about actions taken or planned to reduce emissions and is intended to supplement the legislative requirements in your CNAR.

Part 2 - Will NOT be made public. Information you provide in this section is important and will be used internally to help CAS staff with planning for emissions reduction and climate change adaptation initiatives. Although not required, PSOs are highly encouraged to complete Part 2.

Note: Survey progress can be saved at any time by clicking the "Save and continue later" button at the bottom of each page. A new window will open and you will be asked to provide your name and email. An email will be sent to you from Carbon.Neutral@gov.bc.ca with the subject line: "Questionnaire Link", which will include a hyperlink for the "Project: Carbon Neutral Action Report Survey – Broader Public Sector 2019". You can then continue responding at another time or email the hyperlink to a colleague to complete remaining section(s).

May 29, 2020	• The final, signed version of the **CNAR** (or Small Emitters Form) must be submitted by email to: Carbon.Neutral@gov.bc.ca
June 30, 2020*	• Ministry of Environment and Climate Change Strategy must post a final CNAR for each organization on the BC Government's CNG website and each PSO is encouraged to post the report on their website. • The **CNAR Survey** (optional for Small Emitters) must be completed and submitted online. *Deadline extended from May 29, 2020. • All offset invoice payments must be submitted to CAS.
Sept 30, 2020*	• **Clean Government Reporting Tool (CGRT) Data Entry** must be completed for the 2019 reporting year.

	*Deadline extended from April 30, 2020.
Oct 15, 2020*	• **Self-Certification checklist** must be completed, signed and submitted by email to: Carbon.Neutral@gov.bc.ca. *Deadline extended from May 15, 2020.

*See the Carbon Neutral Government – Program Requirements website for more information on program requirements, timelines and templates.

PART 1 - Included as part of your public CNAR report.

Reminder that Part 1 will be made public on the CAS website.

Contact Name:

Amber Zanon

Contact Email:

azanon@coastmountaincollege.ca

Organization Name:

Coast Mountain College

Role – Please select the best category for your current role with your organization. If more than one individual completed the survey, multiple categories may be selected:

Facilities/Operations Manager/Coordinator

Please select your sector:

Post Secondary (PS)

Stationary Sources (e.g. Buildings, Power Generators): Fuel Combustion, Electricity use, Fugitive Emissions.

Actions taken by your organization in 2019 to support emissions reductions from buildings

Do you have a strategy to reduce emissions from stationary sources?

Yes

Whether you have a strategy or not, briefly describe your organization's plans to continue reducing emissions from stationary sources:

Over the medium-term term (1-5 years)

We plan to continue upgrading aging mechanical equipment with high-efficiency alternatives. The transition to distributed learning will mean a significant reduction in paper use. Upgrade of student housing will create energy efficiencies.

Over the long term (6-10 years)

We will pursue opportunities to redevelop our campuses with new energy efficient structures, and when possible, retrofit existing buildings with more energy efficient infrastructure.

Please describe your strategy's goals (if any) related to energy audits.

We are currently preparing to decommission several inefficient buildings on campus, as well as upgrade and construct new high efficiency structures. Once this work is substantially complete, it may be prudent to conduct an energy audit to see where we can find new efficiencies in remaining older structures.

What % on average of your building portfolio has an energy audit completed each year (if any)?

To my knowledge we do not conduct an energy audit on our building portfolio.

Please describe your strategy's goals (if any) related to building retrofits.

We regularly seek opportunities to upgrade infrastructure, particularly mechanical systems, to higher efficiency models, whenever aging systems are past their useful life.

What % on average of your building portfolio is retrofitted each year in the following categories (if any) - click here for further information:

35%

Minor retrofits (e.g. low cost, easy to implement measures including caulking, lighting, adding roof insulation, etc.)

Approximately 15%

Major retrofits (e.g. replacing windows and doors, equipment replacement such as boilers, etc.)

Approximately 10%

Deep retrofits (e.g. replacing roof, replacing the heating, ventilation and air-conditioning system with a renewable technology like a ground-source heat pump, etc.)

Approximately 10%

Please describe your strategy's re/retro-commissioning goals (if any)?

In 2019 we made significant improvements to our DDC system across all campuses. This significantly improves energy efficiency by allowing us to centrally control lighting, heating, and cooling.

What % on average of your building portfolio do you recommission each year?

0-10%. The DDC project was a one-time major project, but we don't typically do projects of this scope annually.

Do you keep records of Refrigerant gases1 category and refilling volumes?
[1] Fugitive emissions from stationary cooling equipment are attributed to the leakage and loss of HFC and PFC based coolants from air conditioning and commercial type refrigeration systems. Coolant loss can occur during the manufacturing, operation, and disposal of such equipment. Gases that may be reported via CGRT include HFC R-134, HFC R-134a, HFC R-404a, HFC R-407c, HFC R-410a.

No

How many newly constructed buildings received at least LEED Gold certification in 2019?

None - there were no newly constructed buildings in 2019.

How many newly constructed buildings did not receive LEED Gold certification?

None

Please explain why LEED Gold certification was not obtained for those new buildings.

There were no newly constructed buildings in 2019.

Mobile Sources (Fleet Vehicles, Off-road/portable Equipment): Fuel Combustion:

Actions taken by your organization in 2019 to support emissions reductions from mobile sources?

Do you have a strategy to reduce emissions from mobile sources?

No

Whether you have a strategy or not, briefly describe your organization's plans to continue reducing emissions from mobile sources:

Over the medium-term term (1-5 years)

We will continue to purchase and use EV's when possible.

Over the long term (6-10 years)

As older fleet vehicles reach the end of their useful life, and as EV technology improves, we intend to replace older fleet vehicles with EV options.

As we are in Northern BC, there are constraints with the use of EV's as they don't always offer sufficient battery life and there are relatively few charging stations. Over the long term as conditions and technologies improve we should be able to adopt the use of EV's more readily.

How many fleet vehicles did you purchase from the following categories:

Electric Vehicle – EV - (e.g., Nissan Leaf, Chevy Bolt)

0

"Plug In" Electric Vehicle – PHEV (e.g., plug-in Prius, Chevy Volt)

0

Hybrid vehicle – HEV – non "Plug In"- (e.g., Toyota Highlander Hybrid)

0

Hydrogen fuel cell vehicle

0

Natural gas/propane

0

Gas/diesel vehicle

3

If you purchased new gas/diesel vehicles, can you briefly explain why vehicles from the other categories were not chosen?

We required vehicles with the passenger carrying capabilities of a minivan. There are not EV market equivalents for this need at this time.

Actions taken by your organization in 2019 to support emissions reductions from mobile sources? (Continued)

How many existing EV charging stations does your organization have in each category:

Level 2?

2

Level 3?

0

How many level 2 stations (if any) are specifically for your fleet vehicles?
As defined as Level 2 stations only your organization's fleet vehicles may use

0

How many level 3 stations (if any) are specifically for your fleet vehicles?
As defined as Level 3 stations only your organization's fleet vehicles may use

0

How many EV charging station(s) did you install in 2019 in each category:

Level 2?

0

Level 3?

0

How many level 2 stations (if any) were installed specifically for your fleet vehicles?
As defined in the previous section

0

How many level 3 stations (if any) were installed specifically for your fleet vehicles?
As defined in the previous section

0

Please briefly describe any other related actions, (e.g. charging station feasibility studies, electrical panel upgrades, etc.)

We haven't taken any other related actions at this time.

Please indicate the total number of the vehicles in the following vehicle classes that are in your current fleet

Definitions:

- Light duty vehicles (LDVs) are designated primarily for transport of passengers <13 and GVWR<3900kg
- Light duty trucks (LDTs) are designated primarily for transport of light-weight cargo or that are equipped with special features such as four-wheel drive for off-road operation (include SUVs, vans, trucks with a GVWR<3,900kg)
- Heavy duty vehicles (HDV) includes vehicles with a GVWR>3,900 kg (e.g. ¾ tonne pick-up truck, transport trucks)

Light duty vehicles (LDVs)

Electric Vehicles – EV - (e.g., Nissan Leaf, Chevy Bolt)

2

“Plug In” Electric Vehicle – PHEV -- (e.g., plug-in Prius, Chevy Volt)
0

Hybrid vehicles – HEV – (e.g., non “Plug In”- older Toyota Prius, Toyota Camry hybrid)
1

Hydrogen fuel cell vehicles
0

Natural gas/propane
0

Gas/diesel
16

Light duty trucks (LDTs)

Electric Vehicles – EV
0

“Plug In” Electric Vehicle – PHEV
0

Hybrid vehicles – HEV – (e.g., non “Plug In”- older Ford Escape Hybrid, older Chevrolet Silverado pickup hybrid, etc)
1

Hydrogen fuel cell vehicles
0

Natural Gas/propane
0

Gas/diesel
4

Heavy duty vehicles (HDV)

Electric Vehicles – EV
0

“Plug In” Electric Vehicle – PHEV
0

Hybrid vehicles – HEV – (e.g., non “Plug In”)
0

Hydrogen fuel cell vehicles

0

Natural Gas/propane

0

Gas/diesel

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Actions taken by your organization in 2019 to support emissions reductions from paper supplies.

Briefly describe your organization’s plans to continue reducing emissions from paper use:

Over the medium-term (1-5 years)

We have set all public machines to print double sided as the default. Whenever possible, jobs going through the print shop are also double sided. We use latest available printing technology which saves toner use.

Over the long term (6-10 years)

As we transition to distributed learning, there will be far less printing required for classroom materials. These will be digital and will not need to be printed.

Do you have an awareness campaign focused on reducing office paper use?

Yes

Purchased alternate source paper (bamboo, hemp, wheat, etc.)

No