



Overview

As part of its deep commitment to equitable access to education and fostering engaged, lifelong learning, VIU strives to meet expected levels government targets for the reduction of greenhouse gas emissions through embedding sustainability in all aspects of the institution as well as by encouraging a vibrant community of climate action. 2019 saw a robust combination of climate action through addressing physical buildings and infrastructure, and engaging the community in a variety of behavioural sustainability activities.



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 Vancouver Island University's final 2019 Carbon Neutral Action Report will be posted to our website at <https://adm.viu.ca/sustainability/carbon-neutral-action-report>.

2019 Actions to Minimize Emissions

Building envelope upgrades, HVAC improvements and tuning, and lighting systems upgrades have contributed to a modest downward trend in energy use. The geo-exchange system which makes use of the heating/cooling properties of flooded mine shafts under the Nanaimo campus has also contributed to fewer greenhouse gas emissions versus conventional heating and cooling systems.

These undertakings support the institution's ongoing commitment to carbon neutrality, the UN's Sustainable Development Goals (SDGs), and VIU's leadership in sustainable action as well as reinforcing the institution's efforts to better address, and be more resilient to, climate change.



- Restoration of Cowichan Campus solar thermal system which uses solar energy to partially heat water for the whole building decreasing need for fossil fuel energy
- Clerestory glazing replacement which will reduce heat loss and solar gain, and provide comfort benefits
- Upgrade or replacement of building automation systems for improved energy-efficiency and maintainability. This will allow VIU to perform its own energy consumption analysis.
- Addition of secondary pump in the Geo-Exchange system to maximize system uptime and provide redundancy in case of mechanical breakdown
- Ductwork and exterior painting for corrosion and weather protection
- Roof replacements and insulation upgrades for end-of-life roof systems (3 buildings)



- Light switches in student housing storage areas and common spaces were replaced with motion detection sensors so no more lights are left on.
- Conversion to LED Interior lighting in for the theatre stage and replacement of 1020 T2 lamps to LED. Annual energy avoidance is similar to powering 16 average BC homes for a year.



- Replacement of the remainder of potable water cooled fridges in the main cafeteria which will result in large reductions of potable water use – estimated yearly avoidance is equivalent 20 years of daily 20-minute showers.



- Installation of EV chargers and designated parking spaces throughout the campuses
- Increased the number of carpool parking spaces on campus



- Accessibility improvements and upgrades include (ADA) compliant storm grates in walkways, railing replacements and concrete repairs, and upgrades to student accommodations, curb/sidewalk upgrades, power door openers, seating accommodations, scooter charge station, universally accessible exterior ramps, and washroom upgrades.



- Support of clean energy learning with the installation of overhead cranes for LNG-CNG and Heavy Mechanical Trades programs
- Completed a 12 classroom refit project addressing deficiencies in furniture, lighting, flooring, and audio-visual systems



As well as operational actions, VIU engaged in a variety of behavioural sustainability activities this year intended to support the institution's ongoing commitment to carbon neutrality.

VIU continues to work toward encouraging and supporting active transportation, and is an enthusiastic participant in the Canada-wide Commuter Challenge and the provincial Go By Bike initiative and providing organizational assistance and leadership at the city level. The spring 2019 event saw over 40 riders log over 4,000 kilometers – roughly equivalent to cycling from Vancouver to Toronto.

2019's Sustainability Week welcomed students and employees to engage with sustainability in a number of ways. A screening of *Just Eat It* followed by discussion was organized in partnership with VIU's student Eco Club and the Regional District of Nanaimo's Zero Waste program. The well-attended event, open to students, employees, and the community at large provided a forum for teaching, learning, and information exchange regarding food waste and food security.

The inaugural Slow Couture Fashion event, where students and employees were invited to create and model their upcycled outfits (attire created from recycled clothing or other materials), provided awareness of fast fashion and its impact on the environment and society.

Through efforts of students and funding in part from the Sustainability Advisory Committee, VIU was designated as a Pollinator Friendly campus through [Bee City Canada](#).



Emission Reduction in 2020 and beyond

A mechanical project for one of VIU's poorly performing buildings is currently under design, as is replacement for a large atrium skylight in the Library building. These projects, as well as further roofing and insulation upgrades are anticipated to significantly lower GHGs and make buildings more comfortable for occupants.

To further encourage and support active transportation, a Bike Park upgrade and capacity increase is also in the works. This project will offer not only more bicycle parking, but a more secure area as well which has been an identified barrier to cycling. Longer range plans include constructing new buildings to replace aging structures that are unable to meet today's emission standards.

Other actions include collaboration with other institutions in such initiatives as the BC Cool Campus Challenge, offering thermal imaging cameras for community use to help give energy use a more concrete profile, more robust sustainability orientation for students and employees, and stronger links to curriculum. VIU looks forward to its continuing role as a leader and mentor of sustainability best practice.

Emissions and Offset Summary

Vancouver Island University

Emissions and Offset for 2019 (tCO₂e)

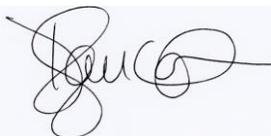
As per the [Directive](#) issued March 31, 2020, each PSO will use their 2018 GHG Emissions as a placeholder for the purposes of their 2019 CNAR.

Total Emissions (tCO₂e)	2995.1
Total BioCO₂	9.1
Total Offsets (tCO₂e)	2974.0
Offset Investment (\$25 per tCO₂e)	\$74350.00

Total Offsets will not equal Total Emissions minus Total BioCO₂ because offset exempt emissions for school buses are included within Total Emissions.

Retirement of Offsets

In accordance with the requirements of the *Climate Change Accountability Act* and Carbon Neutral Government Regulation, Vancouver Island University (**the Organization**) 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 (if applicable). The Organization hereby agrees that, in exchange for the Ministry of Environment and Climate Change Strategy (**the Ministry**) 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.



Deborah Saucier, Ph.D.
President and Vice-Chancellor
Vancouver Island University

May 29, 2020

Confirmation number: 00C59C57

Submitted date: 2020-07-09 17:04:34 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	<ul style="list-style-type: none">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*	<ul style="list-style-type: none">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.<u>All offset invoice payments must be submitted to CAS.</u>
Sept 30, 2020*	<ul style="list-style-type: none">Clean Government Reporting Tool (CGRT) Data Entry must be completed for the 2019 reporting year.

	*Deadline extended from April 30, 2020.
Oct 15, 2020*	<ul style="list-style-type: none"> • 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:	<i>Margot Croft</i>
Contact Email:	<i>margot.croft@viu.ca</i>
Organization Name:	<i>Vancouver Island University</i>
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:	Administrative Assistant
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
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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)	<i>Medium-term strategies center around education and behaviour change campaigns.</i>
Over the long term (6-10 years)	<i>Long-term plans include connecting more buildings to the geo-exchange system and replacing aging buildings with more efficient buildings.</i>
Please describe your strategy's goals (if any) related to energy audits.	<i>There are currently no specific energy audit goals, but funding is used to address the most beneficial and impactful needs.</i>

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

None

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

There are currently no specific goals related to building retrofits, but the overarching principles are emission reductions and occupant comfort increases.

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

See below.

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

20%

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

12%

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.)

8%

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

As we replace/update building automation systems, recommissioning is part of that process.

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

4%

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.

Yes

If yes, have you quantified and reported the associated emissions? What, if any, mitigation approaches have been considered? Please describe

Associated emissions are minimal, and because this amount is less than 1% of VIU's total emissions, they have not been quantified and reported in SMARTtool/SoFi.

What, if any, mitigation approaches have been considered? Please describe.

Mitigation approaches have not been formalized.

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

No new buildings were certified in 2019.

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

0

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

Not applicable.

Other actions? Please describe briefly:

Not applicable.

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?

Yes

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)

Generally, vehicle replacement will be guided by continued electrification and right-sizing the vehicle to the job. Mid-term, end-of-life vehicles will be replaced with electric/hybrid models as practicable.

Over the long term (6-10 years)

Support and encourage active transportation options for students and employees through partnerships, incentives, and awareness campaigns.

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)

1

Hydrogen fuel cell vehicle

0

Natural gas/propane

0

Gas/diesel vehicle

2

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

Trades vans were purchased, as the current market doesn't have suitable EV or HEV options in this area.

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?

10

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

1

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.)

No other related actions in 2019.

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)

1

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

1

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

25

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)

0

Hydrogen fuel cell vehicles

0

Natural Gas/propane

0

Gas/diesel

22

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

2

Gas/diesel

14

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)

Instituted a managed print system across the institution.

Over the long term (6-10 years)

Long-term strategies include increased remote work and shifting to a less paper-intensive culture.

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

No

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

No

Other 2019 actions, please specify

No other actions in 2019.