



# 2019 CARBON NEUTRAL ACTION REPORT

UNIVERSITY OF VICTORIA



Sustainability in action.

May 30, 2020

## Executive summary

This Carbon Neutral Action Report is for the period of January 1 to December 31, 2019. The report summarizes the University of Victoria's (UVic) greenhouse gas emissions, the amount of offsets purchased to reach net zero emissions, the actions undertaken to reduce our greenhouse gas emissions and the university's plans to continue reducing emissions in 2020 and beyond.

In response to COVID-19, the university's greenhouse gas emissions and required offsets were calculated using the 2018 greenhouse gas emissions as a placeholder. The total greenhouse gas emissions UVic is required to offset is 11,587 tCO<sub>2</sub>e for 2019. Adjustments to UVic's 2019 greenhouse gas emissions will be accounted for the 2020 reporting year.

Several initiatives to reduce emissions were undertaken in 2019, including retrofit and optimization programs in campus buildings, energy efficiency studies and several behavioural change campaigns. In addition, the university completed the final report for the *Sustainability Action Plan: Campus Operations 2014-2019*. The report provided an opportunity to benchmark the university's progress toward 32 goals in eleven sections. The university made significant progress in several areas, eighteen goals were achieved, nine were in progress,

two required re-examination and three goals were not achieved. Addressing climate change through greenhouse gas emissions reductions projects continues to be a key objective.

In 2020, the new District Energy Plant is scheduled to be fully operational and the district energy loop will be decommissioned. The project will have the single biggest impact in helping UVic meet its greenhouse gas reduction goal of 30 percent below 2010 levels by December 31, 2021. In addition, the university will undertake two strategic planning projects to identify long-term emission reduction strategies.



**Kristi Simpson**  
Associate Vice-President, Financial Planning and Operations  
University of Victoria



## 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.

## Emissions and offset summary

In response to COVID-19, the BC Climate Action Secretariat issued a Directive on March 31, 2020. As a result, the emissions and offsets for the 2019 reporting year were calculated using the 2018 greenhouse gas emissions as a placeholder. Adjustments to UVic's 2019 greenhouse gas emissions will be accounted for the 2020 reporting year.

### The University of Victoria's GHG Emissions and Offsets for 2019

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.

<b>Total Emissions (tCO<sub>2</sub>e)</b>	<b>11,603</b>
<b>Total BioCO<sub>2</sub></b>	<b>16</b>
<b>Total Offsets (tCO<sub>2</sub>e)</b>	<b>11,587</b>
<b>Offset Investment (\$25 per tCO<sub>2</sub>e)</b>	<b>\$289,675.00 (plus GST)</b>

Table 1: 2019 greenhouse gas emissions and offsets for the University of Victoria.



The new District Energy Plant is scheduled to be fully operational in 2020.

## Retirement of offsets statement

In accordance with the requirements of the *Climate Change Accountability Act* and Carbon Neutral Government Regulation, the University of Victoria (**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.

The total greenhouse gas emissions UVic is required to offset is 11,587 tCO<sub>2</sub>e for 2019.

## Overview

The following sections were completed using qualitative data from 2019.

### Actions taken to reduce greenhouse gas emissions in 2019

The university continued to complete building energy efficiency projects in the 2019/2020 financial year; these included:

- Optimization work and/or lighting upgrades in the following buildings:
  - Centennial Stadium Building
  - Centre for Athletics, Recreation and Special Abilities
  - Continuing Studies Building
  - Ian Stewart Complex
  - MacLaurin D-Wing Building
  - Michael Williams Building
- A detailed review of the energy use of the Student Union Building was completed in March, 2019 to identify high yield and/or low payback opportunities.
- The final report of the *Sustainability Action Plan: Campus Operations 2014-2019* was completed in December 2019, which benchmarked the university's progress toward 32 goals and provided actions for the *Sustainability Action Plan: Campus Operations 2020-2021*.

The university completed several behaviour change campaigns to target greenhouse gas emissions. With funding from BC Hydro's Energy Wise Network program, the Staff Sustainability Network (SSN) continued with behavioural change activities involving staff and faculty through the Holiday Device Shutdown. Through an online survey and shutdown toolkit, the university was able to track the number of participants and reduction in plug load power of each device. The SSN's Holiday Device Shutdown complemented the campus shutdown managed by the Controls Groups within Facilities Management. From December 23 to January 2, the heating and lighting schedules were reduced across campus buildings. In addition, as a result of the

SSN's engagement, over 100 staff and faculty participated in the Holiday Device Shutdown campaign adding to a reduction in the total energy consumption for this period.

The university continued the electrification of its fleet in the 2019/2020 financial year and now has 14 Nissan Leafs utilized by Facilities Management for tool and trade transport. UVic's *Sustainability Action Plan: Campus Operations 2020-2021* outlines further actions to be taken towards harmonizing fleet management with the Clean BC Plan goal of a 40 per cent reduction in fleet emissions by 2030.



In December 2019, the university completed the *Campus Greenway Landscape Plan and Design Guidelines*. The plan will serve to support and coordinate the implementation of landscape and public realm improvements to the multi-modal pathway through the campus. The plan further harmonizes the cycling and pedestrian connections with the Districts of Saanich and Oak Bay, and contributes to UVic's transportation modal-split goal. The university was a gold-level sponsor for the 2019 Greater Victoria Bike to Work Week (BTWW) as an opportunity to promote active transportation to campus. The 2019 BTWW had the highest participation rate, with 500 participants cycling over 17,000 km from May 27 to June 2.

## Plans to continue to reduce emissions in 2020 and beyond

UVic will further reduce greenhouse gases in 2020 through the following activities:

- Conduct building optimization and/or lighting upgrades in the following buildings:
  - Business and Economics Building
  - Bob Wright Centre
  - Engineering and Computer Science Building
  - Engineering Lab Wing Building
  - Human and Social Development Building
  - Strong Building
  - University Centre Building
- Implement actions identified in the *Sustainability Action Plan: Campus Operations 2020-2021* to achieve greenhouse gas reductions across the university's Scope 1, Scope 2 and Scope 3 emissions portfolios.

- Implement projects through the UVic Revolving Sustainability Loan Fund.
- Commission the District Energy Plant and decommission the district energy loop.
- Implement the Campus Cycling Plan's Dawnview Crescent CARSA pathway and the University Drive Connection pathway improvements to enable the university to increase the rate of active transportation to campus.
- Begin construction of the new Student Housing and Dining project. The design and construction of the new buildings will meet Leadership in Energy and Environmental Design Gold and Passive House standards, the most rigorous global standards for sustainability and energy efficiency.

The university has undertaken two strategic planning projects to identify long-term emission reduction strategies. The Climate and Sustainability Action Plan and the Carbon Reduction Plan will provide comprehensive plans to reduce greenhouse gas emissions and achieve the university's Strategic Framework's "Promote Sustainable Futures" section.

For additional information on sustainability, along with greenhouse gas reporting and energy initiatives at the University of Victoria, please see our website at [uvic.ca/sustainability](http://uvic.ca/sustainability) [uvic.ca/sustainability](http://uvic.ca/sustainability).



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# 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](mailto: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"><li>The final, signed version of the <b>CNAR</b> (or Small Emitters Form) must be submitted by email to: <a href="mailto:Carbon.Neutral@gov.bc.ca">Carbon.Neutral@gov.bc.ca</a></li></ul>
June 30, 2020*	<ul style="list-style-type: none"><li>Ministry of Environment and Climate Change Strategy must post a final CNAR for each organization on the BC Government's CNG <a href="#">website</a> and each PSO is encouraged to post the report on their website.</li><li>The <b>CNAR Survey</b> (optional for Small Emitters) must be completed and submitted online. *Deadline extended from May 29, 2020.</li><li><u>All offset invoice payments must be submitted to CAS.</u></li></ul>
Sept 30, 2020*	<ul style="list-style-type: none"><li><b>Clean Government Reporting Tool (CGRT) Data Entry</b> must be completed for the 2019 reporting year.</li></ul>

	*Deadline extended from April 30, 2020.
Oct 15, 2020*	<ul style="list-style-type: none"> <li>• <b>Self-Certification checklist</b> must be completed, signed and submitted by email to: <a href="mailto:Carbon.Neutral@gov.bc.ca">Carbon.Neutral@gov.bc.ca</a>.</li> </ul> *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](#).

<b>Contact Name:</b>
<i>Eleri Davies</i>
<b>Contact Email:</b>
<i>sustcoord@uvic.ca</i>
<b>Organization Name:</b>
<i>University of Victoria</i>
<b>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:</b>
Sustainability Coordinator
<b>Please select your sector:</b>
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

<b>Do you have a strategy to reduce emissions from stationary sources?</b>
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)

Over the medium-term term, UVic will complete the following projects:

- Conduct building optimization and/or lighting upgrades in the following buildings: Business and Economics Building, Bob Wright Centre, Engineering and Computer Science Building, Engineering Lab Wing Building, Human and Social Development Building, Strong Building, and University Centre Building.
- Implement actions identified in the Sustainability Action Plan: Campus Operations 2020-2021 to achieve GHG reductions in UVic's buildings.
- Implement projects through the UVic Revolving Sustainability Loan Fund.
- Commission the District Energy Plant and decommission the district energy loop.
- Complete construction of the new Student Housing and Dining project. The design and construction of the new buildings will meet LEED Gold and Passive House standards.

The Sustainability Action Plan: 2020-2021 sets the following goals for energy efficiency in UVic's buildings:

1. All new building projects and major building additions will provide for a high-performance building envelope and passive design strategies to promote energy efficiency, climate resilience and greenhouse gas emissions reductions.
2. Evaluate the suitability of capital projects at the project planning and project management phases for opportunities to integrate measures that improve energy efficiency and reduce greenhouse gas emissions.

### Over the long term (6-10 years)

UVic has undertaken two strategic planning projects to identify long-term emission reduction strategies. The Climate and Sustainability Action Plan will address climate solutions across the university's operations, academic and research departments. The Carbon Reduction Plan, phase 1 of the Integrated Energy Masterplan, will identify carbon reduction strategies to lead to the 100% reduction of GHG emissions in UVic's buildings.

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

The university's Integrated Energy Master Plan identifies key future opportunities to reduce energy consumption and greenhouse gas emissions while harmonizing with the university's Strategic Plan, Campus Plan and Sustainability Action Plan to ensure its objectives are met.

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

Approximately 10%

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

The university's Integrated Energy Master Plan identifies key future opportunities to reduce energy consumption and greenhouse gas emissions while harmonizing with the university's Strategic Plan, Campus Plan and Sustainability Action Plan to ensure its objectives are met. UVic's Revolving Sustainability Loan Fund is one of the mechanisms the university uses to fund energy and water conservation projects on campus that provide a return on investment.

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

Approximately 15-20% of our building portfolio is retrofitted each year.

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

Estimated 10% per year.

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

Estimated less than 5% per year.

### 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.)

Estimated less than 5% per year.

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

Estimated 10% per year.

Do you keep records of Refrigerant gases<sup>1</sup> 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

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

*As of right now, the university does not keep refrigerant gases records. However, we have begun to investigate options for record keeping and mitigation approaches.*

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

*In 2019, the Facilities Management Service building was certified as LEED Gold.*

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.

*N/A – all newly constructed buildings achieved LEED Gold certification or are pending certification.*

Other actions? Please describe briefly:

*The university has begun construction of the new Student Housing and Dining project. Design and construction of the new buildings will meet Leadership in Energy and Environmental Design (LEED) Gold and Passive House standards, the most rigorous global building standards for sustainability and energy efficiency.*

## 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)

*Over the medium-term term, UVic will complete the following projects:*

- Explore opportunity for access to micromobility sharing network on campus.*
- Investigate an E-Bike purchasing plan for UVic employees.*
- Conduct an "E3 Fleet" energy savings and emissions reduction audit of fleet vehicles within the Facilities Management and Campus Security departments.*
- Establish a fleet purchasing policy or set of guidelines for low emission vehicles.*
- Conduct two pilot projects that address fleet functionality needs: electrify one fleet van, and purchase and modify an equipment trailer for Nissan Leaf fleet vehicles.*
- Implement other actions identified in the Sustainability Action Plan: 2020-2021.*

*The Sustainability Action Plan: 2020-2021 sets the following goals for transportation:*

- 1. Continue to increase the use of transit, cycling, walking and carpooling to 70% of the transportation modal split.*
- 2. Harmonize fleet management with the CleanBC goal of the 40% reduction in fleet emissions by 2030.*

Over the long term (6-10 years)

*Over the long-term UVic will continue to implement the Campus Cycling Plan and will further electrify our fleet.*

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

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

7

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

1

Hydrogen fuel cell vehicle

0

Natural gas/propane

0

Gas/diesel vehicle

8

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

*UVic's biggest challenge in purchasing non-gas/diesel vehicles is the cost and availability of vehicles to meet the needs of the end user.*

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

3

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?

1

Level 3?

0

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

1

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.)

*The Sustainability Action Plan: 2020-2021 identifies the following action: "investigate improved EV fleet electric charging infrastructure opportunities."*

*The university currently has 10 research faculty and students participating in zero emission vehicle research. These activities focus on the R&D and are funded through departmental budgets, federal government funding, non-profit organizations and municipal funding.*

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)

55

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

2

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

2

Hydrogen fuel cell vehicles

0

Natural gas/propane

0

Gas/diesel

64

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

0

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

0

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)

*In general, UVic's culture has trended toward the use of online or electronic data exchanges instead of paper use and we will continue to promote the use of these online tools.*

Over the long term (6-10 years)

*UVic is currently undergoing the planning of the Climate and Sustainability Action Plan, however, no specific goals have been set for paper emissions reductions yet.*

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

Yes

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

No

Other 2019 actions, please specify

N/A