Camosun College

2018

Carbon Neutral Action Report

CAMOSUN

Declaration Statement

This Carbon Neutral Action Report for the period January 1st, 2018 to December 31st, 2018 summarizes Camosun College's:

- Emissions profile
- The total offsets to reach net-zero emissions
- The actions we have taken in 2018 to reduce our greenhouse gas (GHG) emissions
- Plan to continue reducing emissions in 2018 and beyond

By June 30, 2019, *Camosun College's* final *Carbon Neutral Action Report* will be posted to our website at http://camosun.ca/sustainability/our-commitment/index.html.

Executive Summary

Camosun College is located in Victoria, British Columbia**.** Our two campuses, Lansdowne and Interurban, serve approximately 18,500 learners a year in certificate, diploma, bachelor's degree and continuing education programs.

There was a small reduction in the College's overall Greenhouse Gas (GHG) emissions from 2058 tCO_2e in 2017, to 1990 tCO_2e in 2018. This represents a decrease in overall emissions by 3% from the previous year. From 2010 to 2018, Camosun has had a 2% decrease in overall GHG emissions.

In 2018, the most significant project to improve energy efficiency and reduce GHG emissions was the Jack White building roof replacement at Interurban campus.

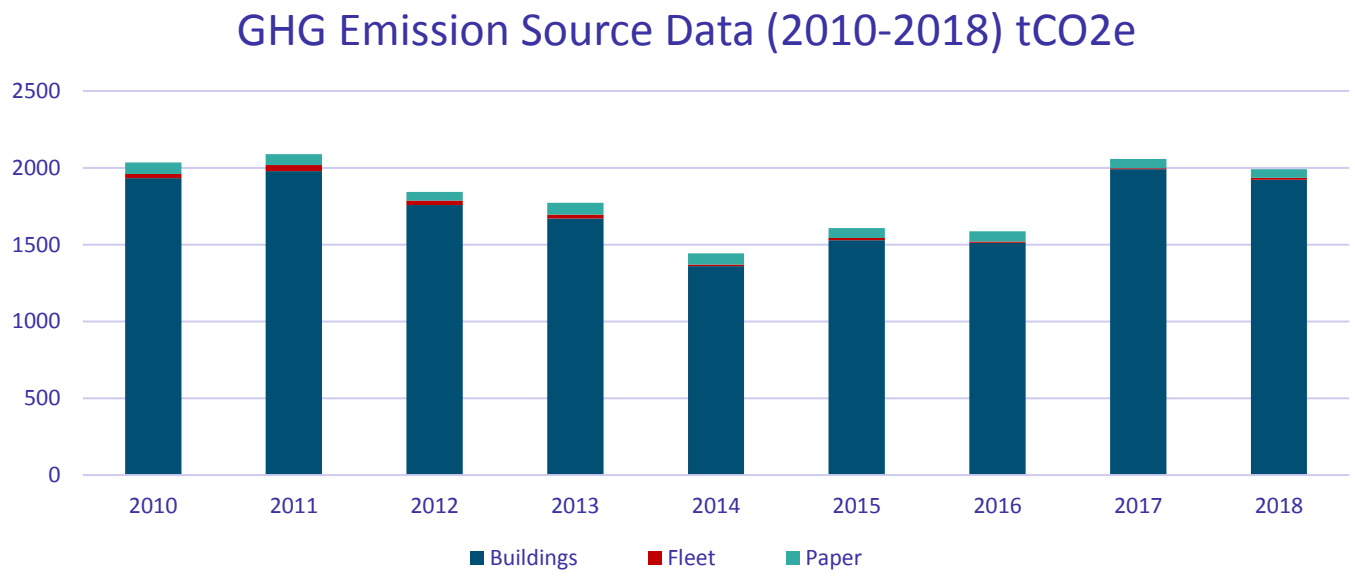
Other work in 2018, also involved:

- Construction of the Alex and Jo Campbell Centre for Health and Wellness Building to LEED® Gold standards.
- Completion of the 2018/19 – 21/22 *Sustainability Plan,* which identifies new Energy & Emissions goals and commitments for the college.
- Campus Master Plan process which will guide Camosun's development over the next 20 – 25 years.

Camosun College GHG Emission Source Data, Over Time

The following table and chart illustrates Camosun's GHG emissions since 2010. In 2018, the College experienced a decrease in overall emissions by 3% from 2017 levels, this represents a 2% decrease from 2010 levels.

GHG Emission Source Data (2010-2018) tCO_2e									
	2010	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Buildings	1932	1978	1758	1671	1359	1529	1511	1990	1923
Fleet	28	39	28	24	12	14	8	7	11
Paper	75	72	57	77	72	65	67	61	56
Total Emissions	**2035**	**2089**	**1843**	**1772**	**1443**	**1608**	**1586**	**2058**	**1990**



Actions Taken in 2018 to Reduce GHG Emissions

Buildings

The decrease of Camosun's GHG emissions are largely due to energy conservation efforts resulting from the rupture of a natural gas transmission pipeline in late 2018. For natural gas conservation, we reduced the set temperature points to 19 degrees for all buildings from 7am to 10 pm, and down to 17 degrees overnight (normal set points range from 21 to 23 degrees). These measures were temporary as they were related to potential shortage of supply. For next year's reporting, given the extreme weather and cold temperatures in February, consumption will be higher than 2018 same time frame.

The roof replacement at the Jack White Building at Interurban was the project in 2018 with the largest impact. This project significantly improved overall efficiency of this building, with better installation and ventilation.

Other actions in 2018 for Camosun buildings include:

- Exterior building lighting upgrade to LED at Interurban
- Replacement of once-through water cooled refrigeration equipment to air cooled refrigeration at both Helmet Huber Food Service/Culinary Arts kitchen and Urban Diner, Interurban campus.
- Upgraded six classroom furnaces, seven electric wall heaters, two ceiling mounted electric radiant panels in Portable A at Interurban Campus

Another significant project for 2018 was the construction of the *Alex & Jo Campbell Centre for Health and Wellness at Camosun* at Camosun Interurban. The building envelope was completed October 2018. The project is being built to LEED Gold standard. The building will be completed in fall 2019

Paper

In 2018, Camosun reduced its number of office printing machines by 20%, compared to 2017 fleet, resulting in overall reduction in energy and paper usage. The college is also moving forward to bring easy and fast scanning capabilities to more departments to reduce the need for paper archives.

Fleet

Overall, Camosun has moved towards opting for smaller, fuel efficient or Electric Vehicles (EV) when older gas and diesel vehicles reach their end of life. Between its two campuses, Camosun's Receiving department continues to use its streamlined regular "Courier/Receiver" routes and "minimum travel, maximum cargo" efficiency program.

Emissions from fleet increased slightly in 2018, due to new vehicles added to the overall fleet. This included the purchase and usage of the College's Culinary Arts Food Truck. The food truck is designed as a learning vehicle and is entirely operated by students who practice the fundamentals of successfully managing a complex business and restaurant operation on wheels. The college also purchased a new heavy duty pick-up truck as part of Trades and Technology operations.

Other Actions in 2018 to Improve Sustainability

Camosun Sustainability Plan 2018/19- 2021/22

In the fall of 2018, Camosun's Sustainability Plan was released.

Amplifying the work done in 2017 to engage students and employees, 2018 started with an Elders Blessing Ceremony to recognize traditional territories of the Lkwungen and W̱SÁNEĆ peoples and acknowledge indigenous knowledge that contributes to Camosun's sustainability journey. Next, face-to-face consultations and workshops refined the college's sustainability vision, priorities and action areas, and the approach.

Camosun's resulting *Sustainability Plan* identifies the following **seven key sustainability priority areas:**

Priority	Response
Energy & Emissions	**Sustainability Action Plan** (including aspirations, KPIs, 3-year goals)
Waste & Recycling	
Food	
Transportation	
Indigenization	**Integrated Priorities** (sustainability actions will support and complement the College's actions)
Equity, Diversity & Inclusion	
Wellness	

Specific to climate action and emissions reduction, the *Sustainability Plan* outlines three-year goals under the priority area of **Energy & Emissions.** These goals support the achievement of 2050 targets to:

- Reduce greenhouse gas (GHG) emissions to 80% below 2007 levels.
- Have buildings that model energy leadership and are powered by 100% renewable energy.
- Be training, retraining and educating the future renewable energy experts of BC.

Transportation Demand Management

Camosun embarked on a new Transportation Demand Management (TDM) Plan in 2018. The Plan will aim to provide a roadmap on how the College can better provide transportation choices while reducing Single Occupancy Vehicle trips. While commuting (personal and business) emissions are not part of Public Sector Organization reporting requirements, they comprise a significant part of our community's emissions. Camosun takes a broader view that reducing these emissions is still a sustainability priority.

Highlight programs in 2018:

- The Alternative Transportation Dividend Program (ATD) continued in 2018 for the third year and was again offered to faculty and exempt staff. The ATD program incentivizes staff to forgo parking permits in order to receive active transportation benefits.
- Bike to Work Week. Camosun continues to support Bike To Work Week and in 2018 the College focused on an intercampus mega challenge. The spring event encouraged more than 100 staff and students to cycle to Camosun.
- Camosun Express. Camosun College continued the Camosun Express, a free shuttle service for staff and students which provides transportation service between the two campus locations. In 2018, there were 9,140 unique student and employee trips made on the Express.

Campus Master Planning

The Campus Master Plan was updated to reflect long-term vision and plan for the Lansdowne and Interurban campuses. The process will identify new development opportunities, for both new and existing infrastructure. The Campus Master Planning process launched in 2017 and continued throughout 2018 with a focus on engagement. The Campus Master Plan will be finalized in 2019.

Student Education

In 2018, the School of Trades and Technology continued development of its Clean Energy and Efficient Buildings post diploma program in renewable energy. The program is expected to launch in 2019.

Food Service Providers

The College's food services contractor, Aramark has a focus on sustainability regarding dining operations. Examples of such initiatives include: purchase and provision of sustainable, locally grown/raised and socially responsible products and Green Seal certified cleaning products. Of particular note, Aramark's food waste reduction program (LeanPath) resulted in a 37% (1,186 kg) reduction in food waste for 2018.

Local food

Food connects us to place and people. The kind of food we eat, how it is grown and how it get to our plates also has implications on GHG emissions. Several activities occurred in 2018 to strengthen the connection and awareness that people to food.

- The ETP EARTH Gardening program, in partnership with the Employee Wellness program, offered a number of hands-on employee workshops focused on sustainable gardening practices, pollinators, and farm-to-table cooking.
- In partnership with Songhees Nation, an inaugural Food Sovereignty and Reconciliation event was held, celebrating Indigenous cuisine and culture.
- Camosun's first Farmers Market (October) was held to raise awareness about local growers and fresh sustainable products and practices.

Plans to Reduce GHGs in the Future (2019 and beyond)

Buildings

Ongoing actions to reduce emissions for Camosun buildings in 2019 and beyond include:

- Installing new efficient air to water heat pumps at the Centre for Trades Education and Innovation Center
- Replacing/upgrading boilers at five buildings (Young Building, Liz Ashton Campus Centre, Technologies Building, Centre for Business Building and Interurban's Child Care Centre)
- Replacement of existing once-through water cooled refrigeration equipment to air cooled refrigeration at Lansdowne Cafeteria Fisher Building
- Exploration of solar array options at both campuses
- Conversion of exterior roadway and parking lot lighting to LED, parking lots P1, P2 and Markham Road Interurban Campus.

Supporting Energy & Emissions Action Plan Goals

As noted above, the *Sustainability Plan* outlines long-term aspirations to achieve significant energy and emissions reductions. Three-year goals will guide Camosun's work. By the end 2021, Camosun will have:

- A formal Energy Management Plan supported by an Energy Manager.
- Established an Energy Savings Revolving Fund where savings from reduced energy use can fund further sustainability initiatives.
- Established monthly and annual resource consumption reporting in all buildings through smart meters for electrical, gas, water and hydro.
- Developed and launched a one-year advanced diploma program in renewable energy.
- Develop capstone projects with a focus on interdisciplinary learning and sustainable energy.

Paper

Camosun College plans to continue its reduction in the number of office printing machines by an additional 20% over the next five years, targeting a 5% reduction every year going forward.

Emissions and Offsets Summary Table

***Camosun College* GHG Emissions and Offset for 2018 (tCO_2e)**	
GHG Emissions created in Calendar Year 2018	
Total Emissions (tCO_2e)	1990
Total $BioCO_2$	0.35
Total Offsets (tCO_2e)	1989
Adjustments to GHG Emissions Reported in Prior Years *:*	
Total Emissions (tCO_2e)	0
Total Offsets (tCO_2e)	0
Grand Total Offsets for the 2018 Reporting Year*:*	
Grand Total Offsets Required (tCO_2e)	1989
Total Offset Investment (*Grand Total Offsets Required X $25/tCO_2e$*)	$49,725

Retirement of Offsets:

In accordance with the requirements of the Greenhouse Gas Reduction Targets Act and Carbon Neutral Government Regulation, Camosun College (the Organization) is responsible for arranging for the retirement of the offsets obligation reported above for the 2018 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:

Deborah Huelscher — May 28, 2019

Signature — Date

DEBORAH HUELSCHER — Interim Vice President, Administration & Chief Financial Officer

Name (please print) — Title

Part 1: CNAR Survey

1. General Information

Name: Shannon Craig

Contact Email: craigs@camosun.bc.ca

Organization Name: Camosun College

Sector: Post Secondary

Role - Please select your role(s) below.
If more than one individual completed the survey, multiple categories may be selected:

Energy Manager: No

Sustainability Coordinator: No

Administrative Assistant: No

Facilities/Operations Manager/Coordinator: No

CEO/President/Exec Director: No

Treasurer/Accounting: No

Superintendent: No

Other - Please Specify: Operations Assistant Sustainability Office

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

1. Actions taken by your organization in 2018 to support emissions reductions from buildings.

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

Yes

If yes above, what are the main goals?: - Implement new, more efficient HVAC technology
- Increase scope of Building Management System use
- Lighting upgrades to LED

b) Whether you have a strategy or not (1.a), briefly describe your organization's plans to continue reducing emissions from stationary sources:

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

- Correct/Replace heat pumps in CTEI (2019/2020)
- Boiler Replacement (Buildings: Young, LACC, Technology, CBA, Interurban Childcare, Helmet Huber)
- Furnace Replacement (Portable A & Lansdowne Childcare Centre)
- Lighting upgrades to LED
- Energy and Emissions Tracking
- Sustainability Plan (Energy Reduction Goals and Energy Manager Position)
- Campus Master Plan
- Centre for Health and Wellness (LEED Gold)

II. Over the long term (6-10 years)

Campus Master Plan and Sustainability Plan will guide this.

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

No goals to date for energy audits.

I. What % on average of your building portfolio has an energy audit completed each year (if any)?: 0

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

Goals include retrofit for specific buildings each year. List of buildings for next 5 years:

Lansdowne:
Young Building & Lansdowne Childcare Centre

Interurban:
LACC, Tech, CBA, Helmet Huber, Portable A and Interurban Childcare Centre

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

Minor retrofits (e.g., low cost, easy to implement measures including caulking, lighting, adding roof insulation, etc.) (%): 10

Major retrofits (e.g., replacing windows and doors, equipment replacement such as boilers, etc.) (%): 25

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.) (%): 10

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

1. Review life of building systems (VFA) and plan capital replacement
2. Identify opportunities for lighting updates and plan appropriate capital
3. Identify opportunities to update, integrate and increase use of Building Management Systems

I. What % on average of your building portfolio do you recommission each year?: 25

f) Do you keep records of Refrigerant gases category and refilling volumes?

No

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

None

g) How many newly constructed buildings received at least LEED Gold certification in 2018: 0

I. How many newly constructed buildings did not receive LEED Gold certification?: 0

II. Please explain why LEED Gold certification was not obtained.

Centre for Health and Wellness (LEED Gold Cert) is the only new build and has not be commissioned yet.

h) Other actions? Please describe briefly.

none

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

3. Actions taken by your organization in 2018 to support emissions reductions from mobile sources.

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

No

b) Whether you have a strategy or not (3.a), briefly describe your organization's plans to continue reducing emissions from mobile sources:

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

Overall, Camosun has moved and will continue to move towards opting for smaller, fuel efficient or Electric Vehicles (EV) when older gas and diesel vehicles reach their end of life. Between its two campuses, Camosun's Receiving department continues to use its streamlined regular "Courier/Receiver" routes and "minimum travel, maximum cargo" efficiency program.

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

"Plug In" Electric Vehicle – PHEV (e.g., plug-in Prius, Chevy Volt): 3

Gas/diesel vehicle: 2

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

Two new gas/diesel vehicles were purchased in 2018. One of them included the purchase and usage of the College's Culinary Arts Food Truck. The food truck is designed as a learning vehicle and is entirely operated by students who practice the fundamentals of successfully managing a complex business and restaurant operation on wheels. The college also purchased a new heavy duty pick-up truck as part of Trades and Technology operations.

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

level 2: 6

How many level 2 stations (if any) are specifically for your fleet vehicles: 1

f) Other actions, please describe briefly (e.g. charging station feasibility studies, electrical panel upgrades, etc.)

Electrical panel in Fisher Building replaced.

4. Please indicate the number of the vehicles in the following vehicle classes that are in your current fleet (including any purchased in 2018):

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)

a) 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) : 8

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: 0

b) 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): 2

Hydrogen fuel cell vehicles: 0

Natural Gas/propane: 0

Gas/diesel: 6

c) 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: 14

5. Please indicate the number of the vehicles you plan to replace in your fleet:

How much do you budget per LDV?: 25000

How many LDVs do you plan to procure annually over the next 5 years?: 5

How much do you budget per LDT?: 40000

How many LDTs do you plan to replace annually over the next 5 years?: 5

How much do you plan to spend per HDV?: 50000

How many HDVs do you plan to replace annually over the next 5 years?: 2

C. Office Paper: Indicate which actions your PSO took in 2018:

6. Actions taken by your organization in 2018 to support emissions reductions from paper supplies.

a) Do you have an Office Paper strategy?

Yes

I. If yes, what are its goals?

100% recycled paper will be used for all office copying and printing, without exception.

b) Whether you have a strategy or not (6.a), briefly describe your organization's plans to continue reducing emissions from paper use:

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

In 2018, Camosun reduced its number of office printing machines by 20%, compared to 2017 fleet, resulting in overall reduction in energy and paper usage. The college is also moving forward to bring easy and fast scanning capabilities to more departments to reduce the need for paper archives.

II. Over the long term (6-10 years)

With a scanning plan streamlined, the plan at this point is the reduction of the office print fleet by an additional 20% with a continued effort at a 5% reduction every year going forward.

c) Have an awareness campaign focused on reducing office paper use

No

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

Yes