



Carbon Neutral Action Report 2017

Camosun College

Declaration Statement

This Carbon Neutral Action Report for the period January 1st, 2017 to December 31st, 2017 summarizes Camosun College's:

- Emissions profile
- The total offsets to reach net-zero emissions
- The actions we have taken in 2017 to reduce our greenhouse gas (GHG) emissions
- Plan to continue reducing emissions in 2018 and beyond

By June 30, 2018, *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 serves approximately 19,000 learners a year in certificate, diploma, bachelor's degree and continuing education programs. With two campuses, many buildings, over 1,100 employees, a diverse student population, we are the largest public college in British Columbia.

This 2017 Carbon Neutral Action Report (CNAR) details many of the activities that we have undertaken as part of our commitment to reduce our energy use and associated emissions, as well as contributing to overall sustainability for the environment and society.

Overall, we are pleased with our performance in reducing electricity use. This work has spanned many years, and has resulted in some significant energy savings over the years. In 2017, several highlight actions contributed to overall reductions in electricity use. These were the implementation of Digital Direct Controls on many light switches, the installation of LED lighting, and the replacement of water chillers with air chillers for refrigeration which led to both energy and water consumption reductions.

We also experienced some lessons learned in 2017. We saw an unfortunate increase in our natural gas consumption due to two factors – the failure of heat pumps in one of our major buildings, and the increased use of natural gas fired boilers to deal with colder seasonal temperatures. If these external events had not occurred, we would have likely continued with our annual trend in reducing GHG emissions. Reviewing these results has reinforced our commitment to renewables being an essential part of our energy future. We will continue our efforts to retrofit and construct buildings to high green standards, and we will combine this with education, monitoring and management.

This report also outlines our sustainability work and achievements. This is a strategic priority for the college and integral to our climate action. An engaged student community will support our approach that includes many climate-related priorities such as energy, waste, food and transportation.

Moving forward, into 2018 and beyond, we are committed to continuing to find new ways to improve sustainability and energy use at Camosun's two campuses.

We are pleased to share the following Carbon Neutral Action report as a highlight of our 2017 efforts towards climate action.

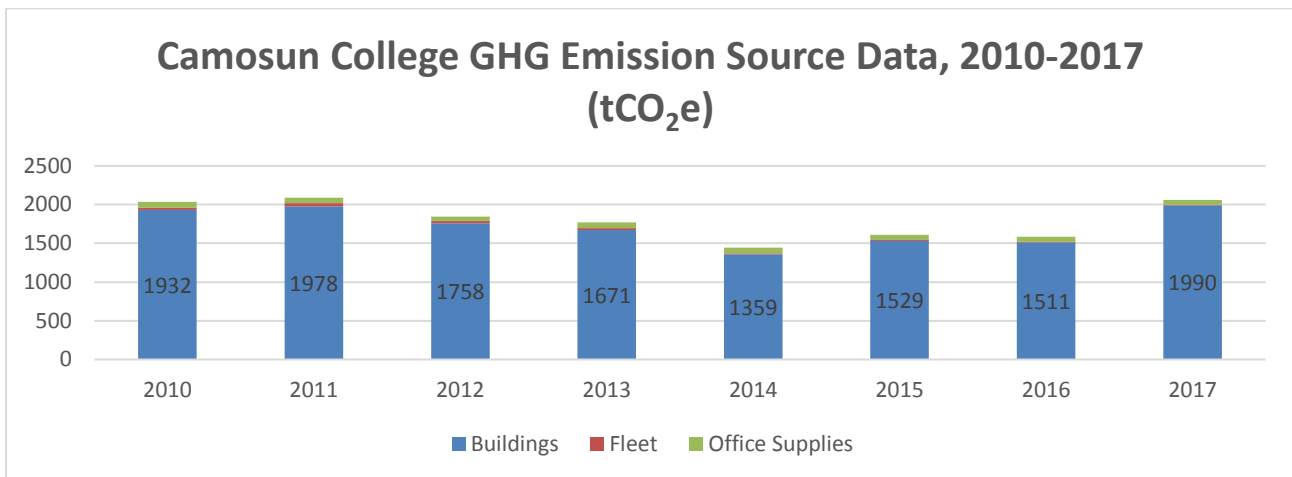
Shane Busby
Vice President Administration

Camosun College GHG Emission Source Data, Over Time

The following table and chart illustrates Camosun’s GHG emissions since 2010. In 2017, the College experienced an increase in overall emissions by 29%, primarily related to an increase in natural gas consumption in buildings. The reasons for this are described in further detail later in the report. Alternatively, fleet and office supply emissions were down this year compared to averages and over previous years.

GHG Emission Source Data, 2010-2017 (tCO ₂ e)								
	2010	2011	2012	2013	2014	2015	2016	2017
Buildings	1932	1978	1758	1671	1359	1529	1511	1990
Fleet	28	39	28	24	12	14	8	7
Office Supplies	75	72	57	77	72	65	67	61
Total Emissions	2034	2084	1843	1771	1442	1608	1586	2058

The total GHG emissions that Camosun College is required to offset is 2,058 tCO₂e for 2017.



Actions Toward Carbon Neutrality in 2017

Buildings

Overall actions towards Carbon Neutrality for Camosun buildings include:

- Implementation of Direct Digital Controls (DDC) on many light switches and thermostats across both campuses
- Installation of LED lighting (specifically outdoor lighting at Lansdowne Campus)
- A jointly sponsored water audit was conducted at Camosun’s Lansdowne campus via the Capital Regional District (CRD). The audit identified areas for improvement and avenues of

action; many of which have energy savings implications. Camosun has begun to action several of the subsequent recommendations.

Building related upgrades, retrofits and new construction:

- A heating plant upgrades in the Paul Building (Lansdowne Campus), including replacing old boilers with new, more efficient boilers.
- A heating plant upgrade in the Jack White Building (Interurban Campus), including replacing three (3) old boilers with two new, more efficient models, replacing recirculation pumps, and replacing roof top air handling units
- Cooling plants replacement in Liz Ashton Campus Center (LACC) and Technologies Buildings, (Interurban Campus). High efficiency units were installed which use no water and substantially less energy than the original systems serving two large buildings.
- Replacement of water chillers with air chillers for refrigeration (leading to energy and water consumption reduction) occurred at Huber Hall Cafeteria (Interurban Campus).
- Our largest remediation project with significant environmental benefits was the envelope remediation at the Fisher Building (Lansdowne Campus). The scope of this project required removal of existing stucco cladding and replacing it with exterior insulation and metal composite paneling. The new exterior insulation added during this process is in addition to the existing batt insulation inside the walls, thereby greatly increasing the energy efficiency of the building (based on ASHRAE 90.1 (2010) standards). The project was completed in May 2018.



- Last, the project with the highest sustainability impact is the construction of a new Centre for Health & Wellness at the Interurban campus. The project is well underway and is being built to a LEED Gold standard. Learn more about the Health building at <http://camosun.ca/about/>. The new building epitomizes Camosun's commitment to sustainability and to reducing its carbon footprint whilst providing the best student experience it can offer.



Important note regarding 2017 GHG Emission Increase: From 2016 to 2017, Camosun saw an *increase* in building-related emissions (i.e. an increase of 479 tCO₂e). While electricity consumption decreased by a 10% from 2016 levels, natural gas consumption increased by 33% (and, unfortunately, natural gas has a significantly higher emission factor compared to electricity – almost 17 times higher). Camosun’s gas consumption increase is due to two main reasons:

- The failure of the air to water heat pumps at the new CTEI building at the Interurban Campus, and the subsequent difficulty and delays the College has experienced in replacing the units. Consequently, the only option available to heat the building this past winter was by natural-gas-fired boilers. Camosun is working with building contractors and suppliers to expedite the replacement of the air to water heat pumps, in an effort to mitigate against future emissions.
- Colder temperatures required gas fired boilers to operate more frequently and for longer durations in 2017 versus 2016, resulting in an increase in natural gas use in most buildings.

Fleet

- Camosun continues to use its streamlined regular “Courier/Receiver” routes and “minimum travel, maximum cargo” efficiency program.

Paper

- In 2017, Camosun embarked on a Multi-Functional Device (MFD) (i.e. printers/copiers/scanners) program refresh via the *BC Public Post-Secondary Purchasing Consortium*. The program updated the college’s printer fleet with more energy efficient devices, paper consumption tracking systems. The MFD renewal project reduced the total number of devices at the college. In addition, the vendor program provides Camosun with recycling services for ink/toner bottles/cartridges.
- Camosun’s Print Shop continues to use 100% recycled paper for letter and legal size copy paper, with specialty papers being the only exception (recycled options are more limited in these cases). In addition, MFDs have been set up for double-sided printing further reducing paper consumption.

- Paperless initiatives: Camosun continues to seek out ways in which it can reduce its printing by eliminating paper copies of resources (plans, documents, forms, etc.) as well as supporting entire departments to go paperless. For example, efforts to reduce office printing has contributed to Camosun’s online strategy regarding reports and documents. Receipts handled by finance, including travel claims, parking and registration receipts are also transitioning to paperless.

Other Actions to Reduce Emissions and Improve Sustainability in 2017

Sustainability Plan Refresh

- In 2017, Camosun College initiated a refresh of its Sustainability Plan, with the aim of aligning Camosun sustainability efforts with the College’s new Strategic Plan (2016-2021.) The Strategic Plan identifies “Sustainability for the Environment & Society” as one of four institutional corner-posts for the college. The overarching goal of this process was to plan and implement a holistic approach to sustainability—engaging the community through consultation and focusing on increasing student participation.
- In the fall and winter of 2017, Camosun launched online and in person consultation where we received an overwhelming positive response from students and employees. This included a Student Outreach team, which presented in classrooms and engaged students across the college. The consultation process identified the following priorities:
 - Waste & Recycling
 - Energy & Emissions
 - Food
 - Indigenization
 - Diversity, Equity & Inclusion
 - Wellness, and
 - Transportation.



Many of the resulting goals and actions will have direct connections with emissions reductions.

Campus Renewal Process and Plan

- The Campus Renewal Process and Plan or Master Campus Planning, launched in 2017/18, will identify new and upcoming changes to infrastructure and building operations that will lead to more efficiencies and lower emissions. The engagement process for Campus Renewal began in 2018 and is expected to wrap up in 2019.

- The vision for Campus Renewal at Camosun is “A Student Centered Campus.” Design principles identified via the consultation may directly impact future emissions include: student residence/living space, sustainable models of building, environmental standards and sustainability, natural lighting, and minimized travel time, and use of vehicles

Student Engagement

- Representatives from the Office of Sustainability and Department of Ancillary Services visited classrooms frequently throughout the year to speak directly to students about sustainability.
- The Sustainability Office also worked with instructors to develop and execute projects that infuse sustainability into everyday learning.
- The Camosun College Student Society Sustainability Day event (October at the Interurban campus), highlighted sustainability projects taking place at Camosun, and celebrated sustainable businesses and initiatives in our region.



Transportation Demand Management

- Camosun continued to engage the community in our two annual cycling challenges with great success; Bike to Work Week (May), and Nasty November Bike Challenge (November).
- The Alternative Transportation Dividend Program (ATD), offered to all faculty and exempt staff, continued in 2017. The ATD program incentivizes staff to forgo parking permits in order to receive active transportation benefits such as secure bike parking, locker rentals, towel service, subsidized BC Transit ProPass, and access to the emergency ride home services. The aim of the ATD program is to encourage individuals to use alternate forms of commuting methods instead of single occupancy vehicles.
- Camosun Express: Camosun College continued its offering of a free shuttle service, known as the Camosun Express, to staff and students to provide transportation service between the two campus locations. Thousands of student and staff trips occurred on the shuttle in the 2017 academic year (September to April).



Food Services Contractor on Campus

- Although the College’s food services contractor – Aramark – is a separate entity from the college, it is worth noting the contractual agreement in place includes a focus on sustainability regarding dining operations. Examples of such initiatives include: purchase and provision of sustainable, locally grown/raised and socially responsible products; Green Seal certified

cleaning products; compostable containers, cutlery, and coffee cups. Of particular note, Aramark's food waste management program (LeanPath) that resulted in a 29% (687 kg) reduction in food waste for 2017. Aramark consistently receives awards for being one of the most sustainable companies in Canada, and again has won the "Greenest Employer in Canada Award" for the second year running.

Other Sustainable Actions

- Camosun's "Healthy Together! Workplace Wellness Program" run by Human Resources organizes various events and programs that often weave together themes of sustainability and wellness, such as active transportation, plant-based diets and cultural wellbeing. The program also promoted April 2017 as "Sustainability Month," featuring information and resources for personal sustainability as well as hosting a gardening workshop.
- Camosun continues to be a proud member of the Association for the Advancement of Sustainability in Higher Education (AASHE). In early 2017, Camosun became a member of the Canadian College and University Environmental Network.

Plans to Continue Reducing GHGs in the Future (2018 and beyond)

Buildings

Ongoing Building Upgrades and Retrofits will include:

- Installing new efficient air to water heat pumps at the Center for Trades Education and Innovation Center
- Replacing/upgrading boilers at four buildings (Young Building, Liz Ashton Campus Center, Technologies Building, and Interurban's Child Care Centre)
- Furnace replacement in two buildings (Portable A at Interurban and the Child Care Center at Lansdowne)
- Replacement of cooling coils in the Fisher Building at Lansdowne Campus
- Replacement of gas fired units at Helmut Huber Cafeteria building at Interurban Campus
- Exploration of solar array options at both campuses

New Building:

- Continuing the construction of the new Health building continues at the Interurban campus in 2018, which will be built to LEED Gold standard. Learn more about the Health building at <http://camosun.ca/about/health-building/>. Building envelope completion is anticipated for October 2018.

Energy and Emissions Tracking:

- Facilities Services at Camosun is planning to implement building-by-building energy use monitoring and tracking and to make those more readily available to college community.

Fleet

- Camosun hopes to replace two campus delivery vehicles with electric carts. In 2018, we will be exploring feasibility and timelines for these options.

Paper

- Camosun will continue the MFD program by refreshing devices not replaced in initial roll-out.
- Camosun will review and implement wherever possible double-sided printing for full breadth of college machines, including those devices used by students.

Sustainability Plan Refresh

- Sustainability Plan development will continue, with a goal of finalizing the plan in late 2018. Steps in 2018 will include interviews, a series of action planning workshops, and plan approval and rollout.
- Energy and Emissions is a priority area identified in the Plan development. In 2018, the college will refine this action area, and develop three-year goals and action plans.

Campus Renewal Process and Plan

- Campus Renewal planning will identify potential changes and recommendations to infrastructure and building operations which lead to more efficiencies and lower emissions. Campus Renewal planning moves forward in 2018.

Student Education and Engagement

- Representatives from the Office of Sustainability and Department of Ancillary Services will continue to visit classrooms to speak directly to students about sustainability and active transportation.
- The Office of Sustainability will continue to have a presence at “CamFest” welcome back to school initiatives as well as the Student Society’s annual “Sustainability Day.”
- To celebrate and promote student participation in sustainability, Camosun will sponsor an eligible student to attend the 2018 Association for the Advancement of Sustainability in Higher Education (AASHE) Conference and Student Summit in October 2018.
- Camosun will make climate-focused information available to increase awareness and understanding about personal and collective actions related to the impacts of food, waste, transportation and energy.
- The School of Trades and Technology will be working to develop a one-year diploma program in renewable energy.



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 2017 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:

Shane
Busby

Digitally signed by Shane Busby
DN: cn=Shane Busby,
o=Camosun College, ou=Vice
President, Administration,
email=busbys@camosun.bc.ca,
c=CA
Date: 2018.05.29 10:23:25
-07'00'

May 29, 2018

Signature

Date

Shane Busby

Vice President, Administration

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

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

During 2017, did your organization take any of the following actions to support emissions reductions from buildings? (please select all that apply)

Performed energy retrofits of the organization's building(s); Built, or are building new LEED Gold or other "Green" buildings

If you selected "*Performed energy retrofits of the organization's building(s)*":

How many buildings were retrofitted?: 4

If you selected "*Built, or are building new LEED Gold or other "Green" buildings*":

How many new "Green" buildings?: 1

Did your Organization perform any retrofits during 2017? Please describe briefly:

Construction of a new Centre for Health & Wellness has commenced at the Interurban campus in May 2017. The building will be built to LEED Gold standards. Learn more about the Health building at <http://camosun.ca/about/health-building/>.

2a. Stationary Sources (eg. Buildings, Power Generators): Fuel Combustion, Electricity use, Fugitive Emissions.

Please briefly describe your organization's plans to continue reducing emissions from its stationary sources:

a) Over the next 1-5 years

Camosun College will continue with building upgrades and retrofits as outlined in CNAR overview. Building-by-building energy use monitoring and tracking will be enhanced and communicated. Construction of a new Centre for Health & Wellness (LEED Gold) at Interurban will be completed. The Sustainability Plan will be finalized, with climate-related priority areas of Energy & Emissions, Waste & Recycling, Food and Transportation being part of three-year goals.

b) Over the following 6-10 years

The Campus Renewal Process and Plan (commencing 2017/18) will identify new and long-term changes to infrastructure as well as building operations that lead to more efficiency and lower emissions. The College's Sustainability Plan will also guide emission reductions from stationary sources with a focused Energy and Emissions priority area leading to potentially a specific Energy Plan for Camosun.

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

During 2017, did your organization take any of the following actions to support emission reductions from its mobile sources? (please select all that apply)

Took steps to drive less than previous years

3) Mobile Sources - Other? Please specify: Camosun continues to use its streamlined regular "Courier/Receiver" routes and "minimum travel, maximum cargo" efficiency program.

If you selected "*Replaced existing vehicles with more fuel efficient vehicles (gas/diesel)*":

How many vehicles?: 0

If you selected "*Replaced existing vehicles with hybrid or electric vehicles*":

How many vehicles?: 0

3a. Mobile Sources (Vehicles, Off-road/portable Equipment): Fuel Combustion:

Please briefly describe your organization's plans to continue reducing emissions from its mobile sources:

a) Over the next 1-5 years

Camosun hopes to replace our two campus designated delivery vehicles with electric carts. In 2018, we will be exploring feasibility and timelines for these options.

b) Over the following 6-10 years

4. Supplies (Paper): Indicate which actions your PSO took in 2017:

During 2017, did your organization take any of the following actions to support emissions reductions from paper supplies? (please select all the apply)

None of the above

4) Supplies (Paper): Indicate which actions your PSO took in 2017: - Other? Please describe briefly: While Camosun does not have a formal policy, the college has been using and supplying 100% recycled copy paper for many years. In 2006, the Camosun Student Society passed a referendum which charges students \$0.15 per month which is used towards the cost of recycled paper. Since this time, Camosun has been committed in its purchasing to ensure 100% recycled content paper is the first choice.

Camosun embarked on a Multi-Functional Device (i.e. printers/copiers/scanners) program refresh (in 2017/18) via the BC Public Post-Secondary Purchasing Consortium. This program updated the college's fleet with more energy efficient devices, as well machines with paper consumption tracking systems. The MFD renewal project reduced the total number of devices at the college. In addition, the vendor program provides Camosun with recycling services for ink/toner bottles/cartridges.

Paperless initiatives: Camosun continues to seek out ways in which it can reduce its printing by making applicable resources and departments "paperless." For example, efforts to reduce office printing have resulted in all of Camosun's reports and documents being available online. Receipts handled by finance, including travel claims, parking and registration receipts have also gone paperless.

If you selected "*Had a policy requiring the purchase of recycled content paper*":

State the required recycled content here (30%, 50%, 100%):

If you selected "*Had a policy requiring the purchase of alternate source paper (bamboo, hemp, wheat, etc)*", which type of alternate source paper did you use?

Please briefly describe your organization's plans to continue reducing emissions associated with its office paper use in future years.

Camosun will continue the Multi-Functional Device program refresh targeting devices not replaced through initial roll-out. Furthermore, Camosun will investigate default double sided policy/procedure for full breadth of college machines, including those devices used by students.

5. Other Sustainability Actions

a) Business Travel

During 2017, did your organization take any of the following actions to support emissions reductions from business travel? (please select all that apply)

Encouraged alternative travel for business (e.g. bicycles, public transit, walking)

5) Other Sustainability Actions - Other? Please specify:: The Alternative Transportation Dividend Program (ATD), offered to all faculty and exempt staff, continued in 2017. The ATD program offers incentives to these employees to forgo their parking permits in lieu of active transportation benefits such as secure bike parking, locker rentals, towel service, subsidized BC Transit ProPass, and access to the emergency ride home services. The aim of the ATD program is to encourage individuals to use alternate forms of commuting methods instead of single occupancy vehicles.

Camosun Express – Camosun College continued its offering of a free shuttle service, known as the Camosun Express, to staff and students to provide transportation service between the two campus locations. Thousands of student and staff trips occurred on the shuttle in the 2017 academic year (September to April).

b) Education/Awareness

During 2017, did your organization have any of the following programs or initiatives to support sustainability education and awareness? (please select all that apply)

A Green, Sustainability or Climate Action Team; Support for professional development on sustainability (e.g. workshops, conferences, training)

c) Other Sustainability Actions

During 2017, did your organization have any of the following programs or initiatives to support sustainability? (please select all that apply)

A water conservation strategy which may include a plan or policy for replacing water fixtures with efficient models; An operations policy or program to facilitate the reduction and diversion of building occupant waste (e.g., composting, collection of plastics, batteries) from landfills or incineration facilities