



2020 PSO Climate Change Accountability Report

SUBMITTED UNDER THE CARBON NEUTRAL GOVERNMENT REGULATION
OF THE B.C. GREENHOUSE GAS REDUCTION TARGETS ACT



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ABOUT VCC

Located in the heart of the city, Vancouver Community College (VCC) offers academic, cultural, and social environments that inspire relevant real-world training. Our on-campus facilities - including gourmet restaurants, an auto shop, and salon and spa - allow students to hone their skills and training while providing high-quality lower-cost services to the Downtown and East Vancouver communities.

Mission Statement

VCC serves a diverse urban community by providing excellent programs and services that prepare learners for ongoing education, direct entry into employment, career advancement and greater participation in the community.

Mandate

VCC responds to existing and emerging community needs. In co-operation with other educational institutions, licensing and accrediting bodies, employers, community groups and governments, the College offers flexible and responsive instruction. Our accessible and transferrable programs help students reach their personal, educational and professional goals.

VCC is committed to delivering innovative instruction in developmental education, adult basic education, English language programs, special education, vocational, career, technical, academic, and continuing education programs. We use creative instructional methods in concert with professional support services which are integral to the success of all students. The College champions a learning environment that maximizes the educational experience by continually improving its resources, technology and facilities.

DECLARATION STATEMENT

This Climate Change Accountability Report (CCAR) for the period January 1, 2020 to December 31, 2020 summarizes our emissions profile, the total offsets to reach net-zero emissions, actions we have taken in 2020 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2021 and beyond.

By June 30, 2021, VCC's final 2020 Climate Change Accountability Report will be posted to our website at www.vcc.ca.

EXECUTIVE SUMMARY

Vancouver Community College (VCC) believes that a healthy environment is essential for the well-being of present and future generations. We have focused on protecting the natural environment by reducing our day-to-day impacts and by building a more sustainable community through our program offerings. By demonstrating leadership and accountability through environmentally conscious decision-making in all aspects of our operations, we hope to inspire our students, staff and graduates to extend these sustainable practices beyond the classroom, further motivating others in their homes, communities, and workplaces.

As part of VCC's 2011-2014 Strategic Plan, we committed to seeking innovative and improved practices that reduce our greenhouse gas (GHG) emissions. The college set a GHG reduction target of 20% below fiscal year 2010/11 levels by March 2018. We surpassed this goal, reporting a total reduction of 46% by March 2018. As a result, VCC selected a new target to reduce GHG emissions by 50% by March 2021. As of December 2020, we have also surpassed this goal, achieving a total reduction of 59% in GHG emissions compared to 2010/11 levels.

Over the past nine years, VCC has participated in BC Hydro's Energy Management Program and has made great strides in achieving our environmental sustainability goals. In an effort to continue our energy reduction achievements, VCC developed a three-year Strategic Energy Management Plan (SEMP) to identify opportunities to further reduce our energy consumption.

Working across our college campuses with the direct support and participation of our staff, faculty and students, we have achieved the following major milestones as of December 2020:

- Over \$3,200,000 in energy cost avoidance since 2010.
- VCC's energy saving of approximately 53,800,000 kWh is equal to: Annual Energy Use of 2,410 BC Households.

To celebrate achieving over \$3 million in energy savings since 2010, a case study (featured at the end of the report) was also produced to help communicate and showcase our success in meeting and exceeding our energy savings and GHG reduction targets.

More information about our 2020 SEMP can be found here:

<https://www.vcc.ca/about/college-information/reports-and-publications/>

VCC is a carbon neutral institution. Following the Carbon Neutral Government Regulation of BC's Greenhouse Gas Reduction Targets Act, VCC measures and reports GHG emissions to the BC Climate Action Secretariat, and purchases credits to offset all remaining GHG emissions that cannot be reduced through our implemented energy conservation initiatives. In addition to these requirements, the PSO Climate Change Accountability Report is prepared each year by VCC.

ACTIONS TAKEN TO REDUCE GHG EMISSIONS IN 2020

Since 2013, VCC has partnered with BC Hydro through the Energy Manager Program and has developed and implemented the Strategic Energy Management Plan (SEMP). The SEMP supports VCC's commitment to increase energy efficiency and conservation by providing a framework for reducing energy consumption and its associated environmental impacts.

Following the achievement of our original GHG reduction target set for March 2020, the SEMP includes an updated energy reduction target and an action plan to ensure our success. Through the implementations of cost-effective management initiatives identified in the SEMP, VCC worked toward reducing campus energy intensity in existing buildings (Annacis Island campus excluded) and achieved a 49% energy reduction by end of December 2020 through the implementation of cost-effective energy management initiatives.

During the last fiscal year, VCC completed the following projects to reduce energy use and GHG emissions:

Broadway Campus

- **REPLACING GAS-FIRED DOMESTIC HOT WATER HEATER WITH HEAT PUMPS**
The gas-fired domestic hot water heaters at Building B were replaced with air-to-water heat pumps resulting in an annual natural gas reduction of 780 GJ.
- **LIGHTING UPGRADE**
VCC implemented a lighting upgrade for the Broadway Campus, which included replacing all T8 fluorescent luminaires with LED technology, resulting in an annual energy savings of 61,000 kWh.

Downtown Campus

- **LIGHTING UPGRADE**
VCC implemented a lighting upgrade for the Downtown Campus, which included replacing all T8 fluorescent luminaires with LED technology, resulting in an annual energy savings of 5,000 kWh.
- **FLUID COOLER REPLACEMENT**
A second fluid cooler which was at the end of its useful life was replaced with one equipped with premium efficiency motors and variable frequency drive. The electricity savings is estimated to be 18,000 kWh per year.

Annacis Island Campus

- **LIGHTING UPGRADE**
VCC implemented and completed a lighting upgrade for Annacis Island Campus in December 2020. This upgrade included replacing all T8 fluorescent luminaires with LED technology, resulting in an annual energy savings of 83,000 kWh.

Energy Conservation and Awareness Campaigns

As a participant of the BC Hydro Energy Wise Network (EWN) Program, VCC continues to engage staff and students through behaviour change campaigns focused on energy conservation. Since our first year, VCC has run a number of successful campaigns such as Lights Off, Green On, Holiday Shutdown, Take the Stairs, Space Heater Replacement, and Bundle Up.

With the support of the EWN and program coaches, VCC successfully implemented two behaviour change campaigns in 2020. The first campaign, “Lights Off, Green On”, began in November 2020 and was completed in February 2021. Using updated light switch stickers and matching campaign materials across campus, students and staff were prompted to turn lights off when they left classrooms, meeting rooms, administrative offices, and walk in freezers. Over 1,000 stickers and posters were installed across campus to increase awareness and provide reminders to take daily energy conservation actions. Additional energy conservation opportunities were identified by reviewing energy consumption data and adjusting lighting controls. A total of 12 prizes of food delivery gift cards were distributed to recognize and celebrate campaign participants.

The second campaign, “Holiday Shutdown”, ran during December before the winter break. Targeting VCC staff, departments were incentivized to reduce phantom power during the holidays by unplugging unnecessary equipment, cords and appliances. A total of three prizes were awarded to VCC departments to celebrate participants for unplugging before the holiday season. The lucky winners were the Marketing, Facilities Broadway, and Procurement Services departments.

In addition to these two campaigns, a COVID-19 Energy Saving Campaign was developed and delivered to remind VCC staff to turn off equipment in unoccupied spaces during the pandemic response.

These behaviour changes and actions drove total annual energy use down a further 0.5% this past year.



PLANS TO CONTINUE REDUCING EMISSIONS IN 2021 AND BEYOND

Building on our successful energy reduction projects and behaviour change campaigns, VCC will continue to engage staff, students, and faculty through future initiatives across both campuses. In the upcoming years, our plan is to roll out more energy reduction projects and behaviour change campaigns that will further reduce our annual GHG emissions including:

Broadway Campus

- Replace standard efficiency motors of pumps and fans with premium efficiency type
- Install heat pump for domestic hot water for Building A
- Install photovoltaic panels
- Behavioral Change Campaigns

Downtown Campus

- Replace standard efficiency motors of pumps and fans with premium efficiency type
- Makeup air units electrification
- Behavioral Change Campaigns



EMISSIONS SUMMARY

The total GHG emissions reported and offset in 2020 was 1,226 tCO₂e. Approximately 98% of our reported GHG emissions is a result of our building energy use including natural gas, steam and electricity. We have also reported our paper use, which totalled 2% in 2020.

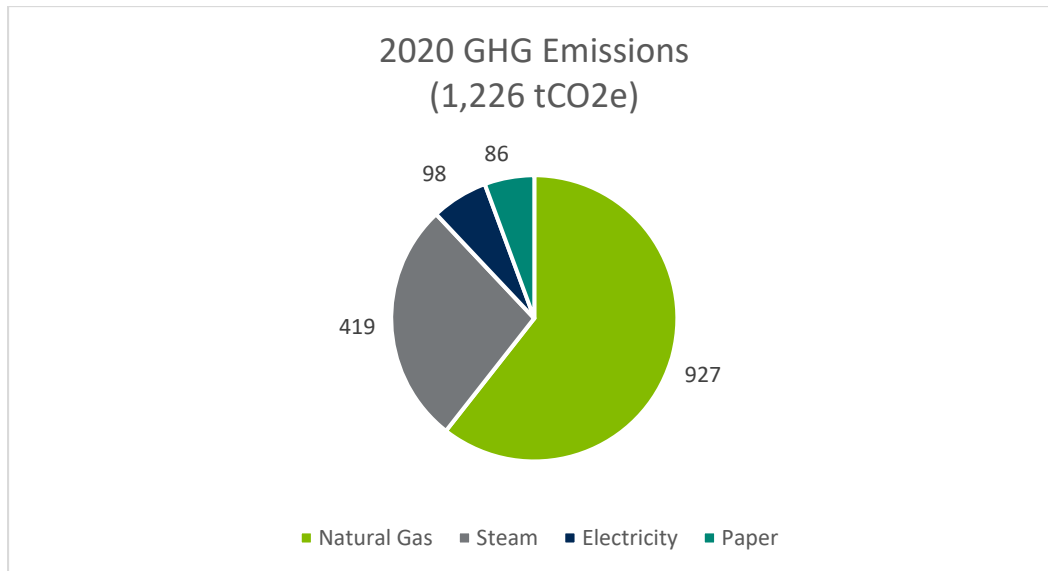


Figure 1: 2020 Emissions Breakdown

Compared to 2019 levels, VCC has decreased total organizational emissions by 20% year-over-year and has achieved a 60% reduction in emissions compared to our 2011 baseline.

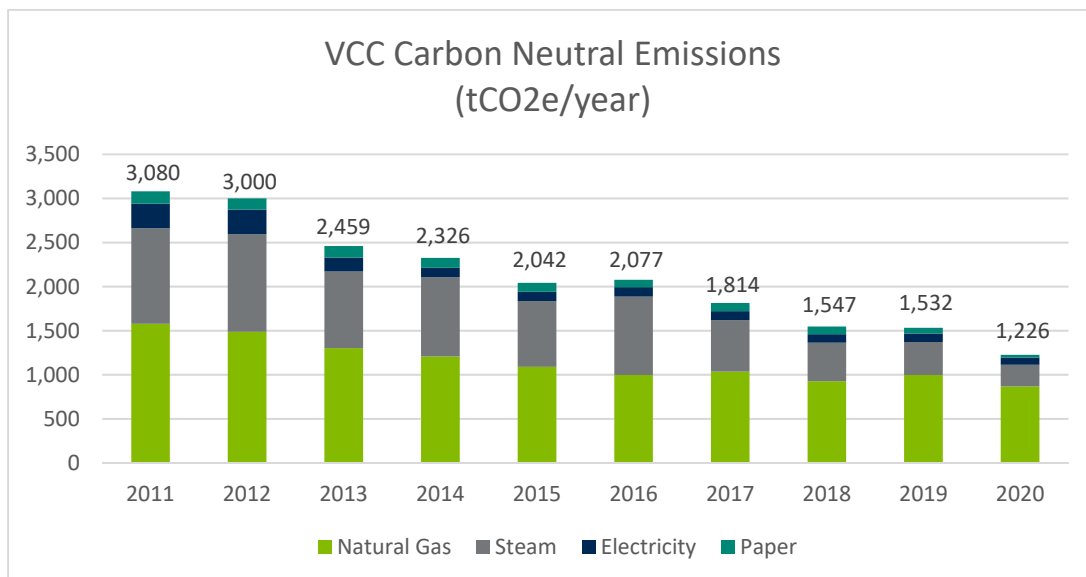


Figure 2: Historical Annual Emissions 2001-2020

Fugitive emissions from cooling and mobile fuel emission from fleet vehicles is estimated to be less than 0.01% of annual GHG emissions. These levels do not meet the materiality threshold necessary to be included in the annual data collection and reporting.

Emissions and Offset Summary Table

VCC 2020 GHG EMISSIONS AND OFFSETS	
Total Emissions (tCO ₂ e)	1,226
Total BioCO ₂	0
Total Offsets (tCO ₂ e)	1,226
Adjustment to Offset Required GHG Emissions Reported in Prior Years	
Total Offsets (tCO ₂ e)	-15
Grand Total Offset for the 2020 Reporting Year	
Grand Total Offsets (tCO ₂ e) to be Retired for 2020 Reporting Year	1,226 - 15 = 1,211
Offset Investment (\$25 per (tCO ₂ e))	1,211 x \$25

Retirement of Offsets

In accordance with the requirements of the Climate Change Accountability Act and Carbon Neutral Government Regulation, Vancouver Community College is responsible for arranging for the retirement of the offsets obligation reported above for the 2020 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.

Executive Sign-Off:



May 26, 2021

Signature

Date

Ian Humphreys

VP Administration & International Development

Name (please print)

Title



LIGHTS OFF, GREEN ON

Lights Off Campaign

SMALL ACTIONS HAVE BIG IMPACT

As a participant of the BC hydro Energy Wise Network (EWN) Program, VCC continues to engage staff and students through behaviour change campaigns focused on energy conservation. Since our first year, VCC has run a number of successful campaigns such as Lights Off, Green On, Holiday Shutdown, Take the Stairs and Bundle up.

VCC successfully implemented a “Lights Off, Green On” Campaign in November 2019 and 2020. Using updated light switch stickers and matching campaign materials across campus, students and staff were prompted to turn lights off when they left classrooms and meeting rooms.

Did you know?

VCC has achieved **over \$3,000,000** in energy cost avoidance since 2010 by implementing **energy saving measures**.

Holiday Shutdown

Supporting VCC energy conservation through behavioral change



VCC continued the tradition of holding a Holiday Shutdown campaign to raise awareness about energy savings opportunities during the holiday break.

Holiday closures are an important opportunity for the VCC Facilities Team to achieve major energy savings by shutting off heating, ventilation and air conditioning (HVAC) systems in buildings across both campuses during the winter break. As a large proportion of VCC's energy use and carbon emissions comes from heating and cooling buildings, this action has a big impact.

The Holiday Shutdown Campaign, which runs annually in December before and during the winter break, also encourages staff from all departments to unplug equipment and electronics, turn off lights and close windows and blinds to avoid energy waste. The campaign was promoted via the VCC Digest and campaign participants submitted photos of energy saving actions for the chance to win a prize.



Fun Fact

- These shutdown actions help to save energy, reduce campus greenhouse gas emissions, and contribute towards meeting VCC's sustainability targets.



VCC achieves three million dollars in energy cost avoidance

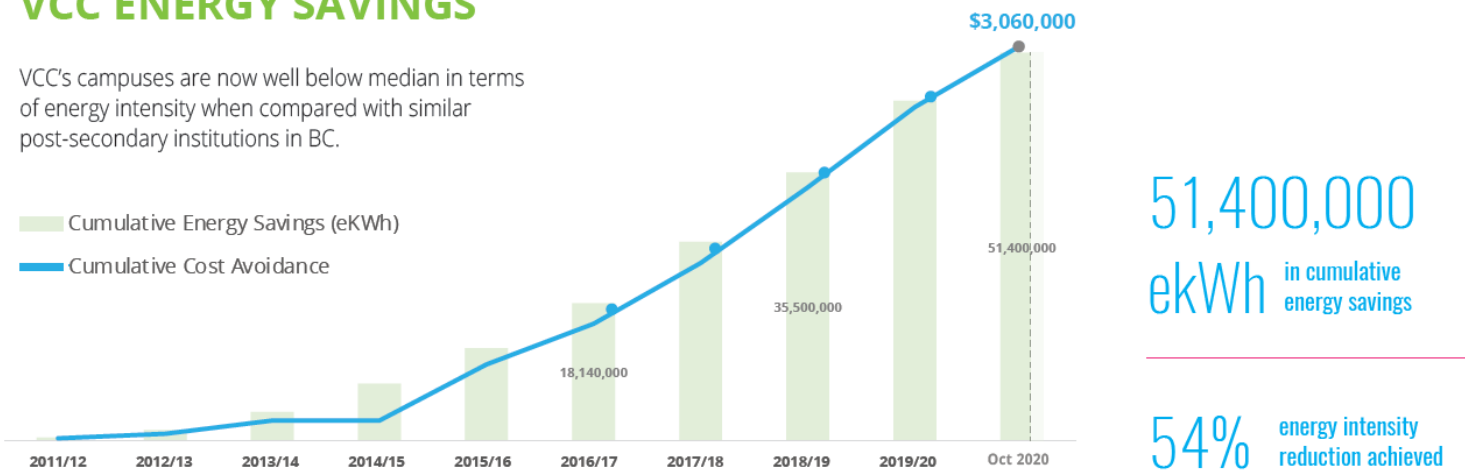
Vancouver Community College (VCC) is the oldest community college in British Columbia. With over 140 certificate and diploma programs, it is also the largest public community college, serving over 26,000 students each year at their three campuses: Broadway, Downtown and Annacis Island. As of September 2020, VCC has proudly exceeded three million dollars in total energy cost avoidance in existing buildings since 2010. While VCC had set the goal of reaching 45% below 2010 levels by March 2021, they have already well exceeded this goal with a 54% reduction in energy intensity. These figures represent actual energy savings of 51,400,000 ekWh, enough energy to power over 2,300 BC households for an entire year. VCC has also cut greenhouse gas emissions from both Broadway and Downtown campuses by nearly 70% since 2010.

Reducing carbon footprint through innovative practices

As part of their most recent Strategic Plan, VCC committed to seeking innovative and improved practices that reduce their carbon footprint. VCC has since undertaken significant projects to change the way energy is used on campuses. Major upgrades include LED lighting installation for exterior and parking lights at both campuses, adding occupancy sensors and digital controls at Downtown campus classrooms, and implementing energy saving measures from continuous optimization programs for heating and cooling systems at both campuses. These projects have, in part, helped keep VCC's campuses well below median in terms of energy intensity when compared with similar post-secondary institutions in BC.

VCC ENERGY SAVINGS

VCC's campuses are now well below median in terms of energy intensity when compared with similar post-secondary institutions in BC.



Creating a culture of energy conservation

VCC has also worked to integrate energy conservation and sustainability into the culture on campus. VCC is part of BC Hydro and FortisBC's Energy Wise Network program, which consists of both public and private sector organizations committed to saving energy through behaviour change and engagement.

Over the years, VCC's energy team has collaborated with IT staff to update computer settings to switch to energy saving modes while the user is away. VCC's "Take the Stairs" campaign encouraged people on campus to skip the elevator, thereby saving energy and staying active. In early 2018, VCC's Facilities Management Team launched an Energy Saving Ideas Competition inviting staff to submit their ideas for saving energy on their campuses.

A greener future

Today, with the achievement of over three million dollars of energy cost avoidance and with the college handily meeting energy reduction targets ahead of schedule, VCC is proud to be making progress towards a greener future.

