



University  
of Victoria

# 2022 PUBLIC SECTOR ORGANIZATION CLIMATE CHANGE ACCOUNTABILITY REPORT

UNIVERSITY OF VICTORIA



Sustainability in action.

May 31, 2023



## EXECUTIVE SUMMARY

This Climate Change Accountability Report for the period January 1st to December 31st, 2022 summarizes the University of Victoria's (UVic) emissions profile, the number of offsets purchased to reach carbon neutrality, the actions that we have undertaken to reduce our GHG emissions and our plans to continue reducing emissions in 2023 and beyond. As of 2022, UVic has achieved a 29 per cent reduction below the 2010 GHG emissions baseline.

While emissions are below 2010 levels, in 2022, offsettable emissions totalled 11,932 tonnes of CO<sub>2</sub>e (tCO<sub>2</sub>e), representing a 6 per cent increase over the prior year. This increase is attributed to increases across all reporting categories, driven by the transition back to pre-pandemic campus operations and the completed construction/opening of Čeqʷəŋín ʔéʔləŋ (Cheko'nien House), a new student housing building include 398 student beds and new dining hall. Despite this increase, UVic continued to deliver on a number of strategic priorities, including the completion of a new Climate and Sustainability Action Plan and the completion of the Carbon Reduction Plan Technical Pathways Report.

The university will continue to develop and implement climate action initiatives in support of our goals of a 50 per cent reduction in campus operations emissions below our 2010 baseline and achieving Net Zero for campus operations by 2040. The New Student Housing and Dining project demonstrates this commitment, as the design and construction of the two new buildings meet the Passive House standard as well as Leadership in Energy and Environmental Design (LEED) V4 Gold. This included electrification of space heating and hot water supply resulting in significantly lower carbon emissions, which is critical, while continuing to support long term growth of UVic. As the first passive house kitchen of its scale worldwide, The Cove Dining Hall consumes an average of 87% less energy than other industrial kitchens of a similar size.



**Andrew Coward**

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

May 31, 2023



## DECLARATION STATEMENT

This PSO Climate Change Accountability Report for the period January 1, 2022 to December 31, 2022 summarizes our greenhouse gas (GHG) emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2022 to minimize our GHG emissions, and our plans to continue reducing emissions in 2023 and beyond.

## 2022 GHG EMISSIONS AND RETIREMENT OF OFFSETS SUMMARY

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 2022 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.

Offsets required to achieve carbon neutrality in 2022 total 13,216 tCO<sub>2</sub>e. This value includes offsets required for 2022 (11,932 tCO<sub>2</sub>e) minus the offset adjustment of 1,284 tCO<sub>2</sub>e, which was a result of under reported emissions related to the District Energy Plant for the month of January 2021. As seen in Table 1, BioCO<sub>2</sub> is included in total emissions but not total offsets. They are not required to be offset due to their renewable resource.

University of Victoria's 2022 GHG Emissions and Offsets Summary	
GHG emissions for the period January 1 – December 31, 2022	
Total Emissions (tCO <sub>2</sub> e)	11,943
Total BioCO <sub>2</sub>	11
Total Offsets (tCO <sub>2</sub> e)	11,932
Adjustments to Offset Required GHG Emissions Reported in Prior Years	
Total Offsets Adjustment (tCO <sub>2</sub> e)	1,284
Grand Total Offsets for the 2022 Reporting Year	
Grand Total Offsets to be Retired for 2022 Reporting Year (tCO <sub>2</sub> e)	13,216
Offset Investment (\$25 per tCO <sub>2</sub> e)	\$330,400 (plus GST)

Table 1: 2022 Greenhouse Gas Emissions and Offsets for the University of Victoria



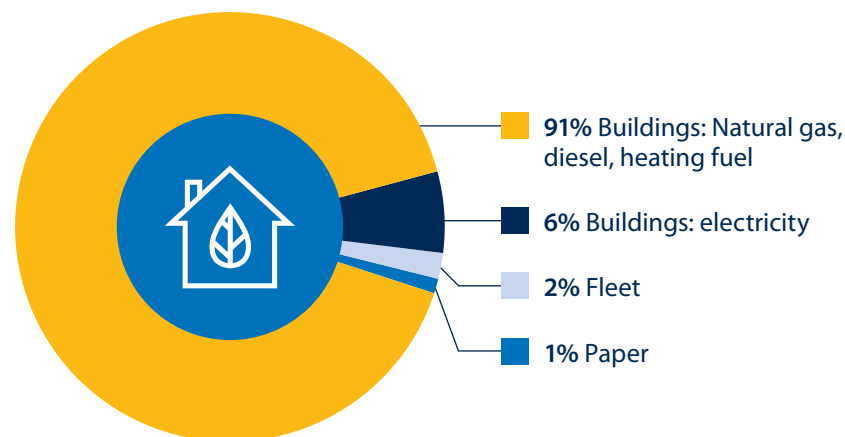
Reporting Category	2021 tCO <sub>2</sub> e	2022 tCO <sub>2</sub> e	% change
SCOPE ONE: University owned buildings & leased spaces: Natural gas, diesel, and heating fuel	10,417 <sup>1</sup>	10,882	4%
Actual consumption (GJ)	210,463	219,519	
SCOPE TWO: University owned buildings & leased spaces: Electricity	593 <sup>2</sup>	693	17%
Actual consumption (GJ)	210,064	218,327	
SCOPE ONE: Mobile Combustion (fleet)	228	292	28%
SCOPE THREE: Paper supplies	56	65	16%
Total tCO <sub>2</sub> e	11,294	11,932	6%

**Table 2:** UVic GHG comparison by reporting category 2021 & 2022

- 1 Value includes an adjustment for natural gas used for the District Energy Plant during the month of January that was underreported in 2022 as well as adjustments to leased office space from CGRT's Building Estimations.
- 2 Value includes an adjustment for electricity used for leased office space, calculated by CGRT Building Estimations.

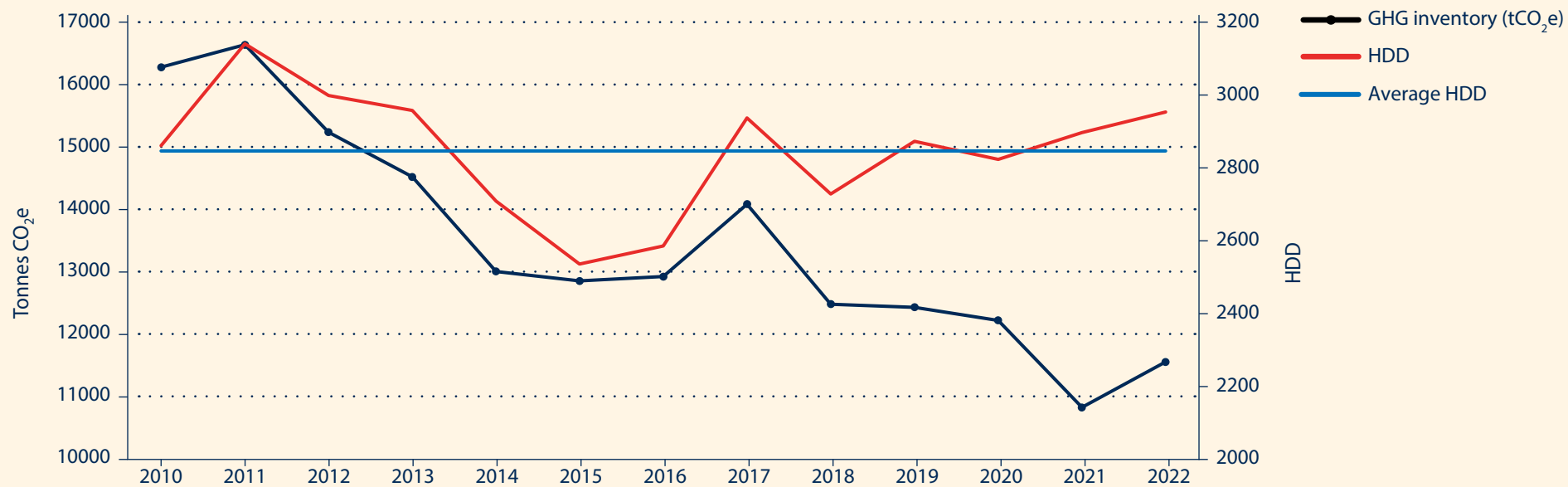
In 2022, Scope One Stationary emissions accounted for 91 per cent of the university's total emissions and Scope Two Stationary emissions (purchased electricity) accounted for 6 per cent (Figure 1). Of UVic's total Stationary emissions, Gordon Head campus buildings make up 91 per cent, compared to off-campus properties (Figure 3).

Figure 2 outlines the university's GHG emissions relative to the annual heating degree days (HDD) and average HDD. HDD is measured by identifying days with an average temperature below 18 degrees Celsius (heating days) and summing the total of degrees below that temperature for each day. In 2022, the campus experienced a 2 per cent increase in HDD relative to 2021.

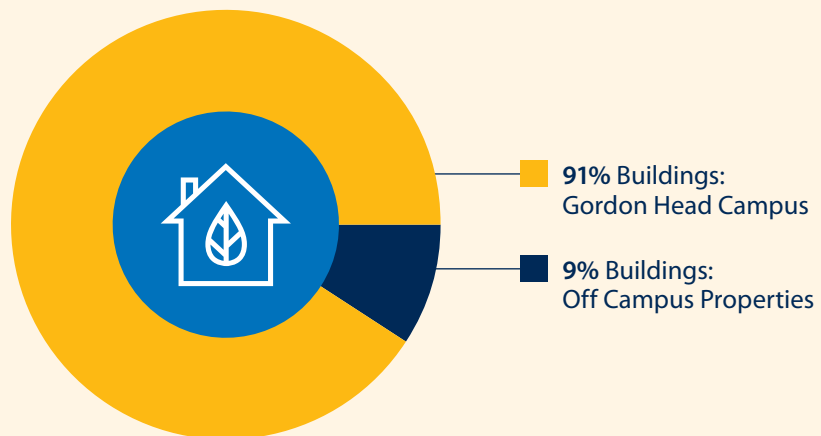


**Figure 1:** 2022 GHG percentage of each reporting category for the University of Victoria





**Figure 2:** Annual tCO<sub>2</sub>e emissions, relative to annual and average HDD at the University of Victoria



**Figure 3<sup>1</sup>:** Distribution of UVic's stationary GHG emissions: Gordon Head campus buildings vs off campus properties

<sup>1</sup> Off campus includes buildings managed by UVic Properties, leased office space for university business, joint partnership properties, and research stations.





## EMISSIONS REDUCTIONS: ACTIONS & PLANS

In Fall 2022, the University launched its new Climate and Sustainability Action Plan (2030), which provides an accelerated and integrated approach to the challenges and opportunities afforded by climate change. The Plan guides the university's approach to sustainability in every domain: Academics, Research, Indigenous, External Relations and Operations.

### Stationary sources: buildings

Building operations continue to represent the largest portion of UVic's total GHG emissions. The new Carbon Reduction Plan Technical Pathways Report, which replaces the Integrated Energy Master Plan, outlines a comprehensive and long-term framework to guide Gordon Head campus development and operations and move to low carbon energy sources.

In 2022, key actions included:

- Adoption and implementation of Energy Star Portfolio Manager to help streamline UVic's GHG emissions reporting for the Gordon Head Campus and benchmarking. Future actions include exploring opportunities to use the platform as a web portal for access by the campus community.
- Continued engagement with UVic Properties to plan future initiatives that facilitate reductions in building emissions related to leased and external properties.
- Ongoing monitoring and data analysis of energy and GHGs, including the identification and assessment of cost-effective, low-carbon alternative energy opportunities compatible with campus energy infrastructure.
- Continued construction of the new Student Housing and Dining Project, which has been designed with the industry's most rigorous sustainability and energy efficiency requirements—passive house. Čeqwəŋjín 7é7ləŋ (Cheko'nien House) officially opened in time for student move-in Fall 2022. The project was designed with mechanical cooling systems to ensure climate resiliency for anticipated warmer climates. Sŋéqə 7é7ləŋ (Sngequ House) will open Fall 2023.
- Planning of a Green Building Education Strategy for the new SHD project.

- Completion of the Carbon Reduction Plan Technical Pathways Report, which identified multiple technology pathways to realize a net-zero carbon campus. This report will be used to inform the new Carbon Reduction Plan, which will provide a long-term and comprehensive framework to achieve a net zero campus by 2040.
- Work with the Federal Government Low Carbon Economy Fund and BC Hydro to fund a new district heating electric boiler, which will enable UVic to achieve its 2030 greenhouse gas reduction goals and reduce campus greenhouse gas emissions by over 4900 tCO<sub>2</sub> per year.



## Mobile sources: fleet vehicles, off-road/portable equipment

UVic is continuously adopting new strategies to respond to innovative technology and transportation options, including infrastructure investments. Key actions taken in 2022 include:

- Completed installation of 10 new EV charging stations, carried over from 2021.
- Planning for the replacement of six EV charging stations with Level 2 stations, to be installed in 2023.
- Planning for the installation of two new Level 2 fleet charging stations for UVic's Motor Pool, to be installed in 2023.
- Approval of \$2.4 M in funding support from the Federal Government's Active Transportation Fund, supporting active transportation pathway improvements on campus in alignment with the Campus Cycling Plan (2019).
- Ongoing promotional events such as Don't Smash Your Pumpkin and corporate sponsorship of Go By Bike Weeks (Spring and Fall)
- Implementation of parking changes to support sustainability and flexibility, including the replacement of annual parking permits with monthly permits and other flexible options, as well as increasing the employee transit pass subsidy.
- Relaunch of UVic's bicycle loan program, BikeHub, with program improvements. Bike loans commenced Fall 2022.
- Successful launch of an Employee E Bike Loan Pilot Program, incentivizing the purchase of electric bikes as a sustainable alternative to commute to campus.
- Completion of the UVic Transit Exchange project, which included refurbishments, bus shelters, improved pedestrian pathways, and landscaping.
- Installation of bike racks and lockers as part of the New Student Housing and Dining Project.
- Development of a fleet management/electrification plan (2022-2031) in UVic's Facilities Management Department.
- Ongoing implementation of the [Campus Greenway Plan](#) and [Campus Cycling Plan](#).

## Paper consumption

In 2022, UVic observed a 16 per cent increase in GHG emissions associated with paper use compared to 2021. Approximately 73 per cent of paper purchased comprised of 30% and 100% post-consumer recycled (PCR) content.

UVic transitioned to pre-pandemic normal operations for the start of the 2022-2023 academic year. The university continued to pursue paperless options, purchasing recycled paper supplies where necessary. Strategic Plans for the University, such as the new Climate and Sustainability Action Plan 2030 (CSAP) were released virtually in accessible web formatting to discourage printing.





## CLIMATE RISK MANAGEMENT

Climate change is an urgent global issue that leads to profound social, economic and environmental challenges across BC, Canada and throughout the world. UVic recognizes the need for evaluating consequences of a warming climate to inform climate risk decision-making and planning on campus.

UVic consults the [Capital Regional District Climate Projections for the Capital Region Report](#) (2017) and the [District of Saanich Climate Risk Assessment Report](#) (2019) to identify climate related risks to campus operations and infrastructure.

Existing strategies and actions to manage climate risks include:

- Electrified HVAC equipment in new buildings to mitigate carbon emissions and provide increased comfort levels, which aligns with the Carbon Reduction Plan and climate adaptation.
- Stormwater management features in new buildings that mitigate and manage periods of intense rainfall.
- Low flow plumbing equipment and water conservation infrastructure in new buildings.
- Planting of native trees and shrubs adjacent to pathways to increase shading effects.
- Designing new buildings to achieve thermal comfort for occupant in future climate scenarios. The new Student Housing and Dining project was designed to consider thermal comfort of the student population in a 2050 climate.

Future initiatives to manage climate risks include:

- Conducting a climate risk assessment for the campus to assist the prioritization of investment in adaptation measures.
- Planning, designing and developing campus buildings, utilities, and infrastructure that consider the impacts of climate change over the life of the asset in order to minimize disruptions to campus operations caused by extreme weather events.
- Exploring and advancing decarbonisation strategies, such as HVAC energy efficient upgrades.





## OTHER SUSTAINABILITY INITIATIVES

### Behaviour change and staff engagement

Engaging and educating our students, staff and faculty through programs like the Staff Sustainability Network, student training programs, participation in the BC Hydro Energy Wise Network and collaborations with waste reduction services, and residence services.

### ECO Box Program

Supported by the Campus Sustainability Fund, University Food Services launched the ECO Box Program Fall 2022—an opt-in reusable container program aimed at reducing landfill waste. Approximately 1960 memberships were given out to residence students during move-in week. The pilot launched at The Cove dining facility and was later introduced to Mystic Market at the beginning of the Winter term.

## MOVING FORWARD:

### GHG reporting process improvements and systematic change

Data collection process improvements, implementing standards, developing guidelines and processes to embed energy conservation principles into standard operations, exploring opportunities for digitization—for Gordon Head Campus operations and off-campus properties.





## SUCCESS STORIES

### Launch of UVic's new Climate and Sustainability Action Plan

In October 2022, the university released its first campus-wide Climate and Sustainability Action Plan 2030 (CSAP). It is a plan that moves beyond established sustainability units and initiatives to involve students, staff and faculty across campus, including research, operations and the wider UVic and Vancouver Island communities.

### UVic recognized as global leader for its impact across all 17 SDGs

The University of Victoria's longstanding commitment and work in research, campus operations and partnerships to protect the environment and improve conditions for the planet and people were recognized by the Times Higher Education (THE). In 2022, UVic was second in the world among 1,400 universities for climate action and 12th overall in the world for its impact across all 17 SDGs

### UVic ranks third in campus sustainability planning

UVic was recognized, once again, as a top performer by the 2022 Sustainable Campus Index, with a 100% score and a gold star rating. UVic tied for third place in the coordination and planning category, with five other top-performing Canadian universities and several international institutions.

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](https://uvic.ca/sustainability).

