TERRITORY ACKNOWLEDGEMENT

We acknowledge and respect the Lək̓ʷəŋən (Songhees and Esquimalt) Peoples on whose territory the university stands, and the Lək̓ʷəŋən and W̱SÁNEĆ Peoples whose historical relationships with the land continue to this day.

University of Victoria

2023 PUBLIC SECTOR ORGANIZATION CLIMATE CHANGE ACCOUNTABILITY REPORT

UNIVERSITY OF VICTORIA

Sustainability in action.

May 31, 2024

EXECUTIVE SUMMARY

This Climate Change Accountability Report (CCAR) for the period January 1st to December 31st, 2023, summarizes the University of Victoria's (UVic) emissions profile, the number of offsets purchased to reach carbon neutrality, the actions undertaken to reduce GHG emissions and the university's plans to continue reducing emissions in 2024 and beyond. As of 2023, UVic has achieved a 34 percent reduction below the 2010 greenhouse gas (GHG) emissions baseline.

In 2023, offsetable emissions totaled 10,302 tonnes of carbon dioxide equivalent (tCO2e), representing a 14 percent decrease over the prior year and another step toward the university's goal of reducing campus operational emissions by 50% by 2030. UVic continues to deliver on its strategic leadership and innovation goals by advancing stringent building design standards consistent with Leadership in Energy and Environmental Design (LEED) Gold and Passive House certifications. In 2023, the university completed two new buildings: Čeqʷəŋín ʔéʔləŋ (Cheko'nien House) and Sŋéqə ʔéʔləŋ (Sngequ House). It is now initiating a vehicle fleet strategy that will document and scale our ongoing efforts towards full fleet electrification. Efforts are also in progress for the electrification of the District Energy Plant, which is a critical step towards achieving the university's greenhouse gas reduction targets.

The 2023 Times Higher Education (THE) Impact Rankings rated UVic 9th in the world and 3rd in Canada for university contributions to the United Nations' Sustainable Development Goals (SDGs) out of 1,591 institutions. UVic ranked third in the world and first in Canada for climate action. In 2023, UVic submitted its most recent report under the Association for the Advancement of Sustainability in Higher Education (AASHE) Sustainability Tracking, Assessment & Rating System (STARS) and became one of fourteen post-secondary institutions in the world to reach a STARS Platinum sustainability rating. Achieving this Platinum rating is particularly significant, as it is one of UVic's Climate and Sustainability Action Plan's three key Targets.

These milestones represent major achievements for the campus community, as UVic continues to explore innovative solutions such as renewable energy integration, enhanced energy efficiency measures, and sustainable campus planning to achieve net zero emissions by 2040 and expand upon efforts to address extended impact emissions.

Andrew Coward

Associate Vice-President, Financial Planning and Operations
University of Victoria
May 31, 2024

DECLARATION STATEMENT

This PSO Climate Change Accountability Report for the period January 1, 2023, to December 31, 2023, summarizes our greenhouse gas (GHG) emissions profile, the total offsets to reach carbon neutrality[1], the actions we have taken in 2023 to minimize the university's GHG emissions, and plans to continue reducing emissions in 2024 and beyond.

2023 GHG EMISSIONS AND RETIREMENT OF OFFSETS SUMMARY

The total offsets required for the University of Victoria to achieve carbon neutrality in 2023 are 10,302 tCO2e. This value represents the inventory of GHG emissions from UVic's operations from buildings owned or leased by the university, mobile assets, and paper use.

The BC Climate Secretariat outlines seven key steps in the measurement and reporting process to prepare a complete and accurate inventory of GHG emissions from operations and report on them annually. These steps include a high-level overview of the institution's in-scope/out-of-scope GHG inventory, developing a communication strategy to capture and collect all consumption-related data, compiling and recording the data in a consistent and organized manner, and reviewing the results, ensuring there are no errors when performing reconciliation techniques.

RETIREMENT OF OFFSETS

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 carbon offset's obligation reported for the 2023 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.

UNIVERSITY OF VICTORIA'S 2023 GHG EMISSIONS AND OFFSETS SUMMARY

GHG emissions for the period January 1 – December 31, 2023	
Total Emissions	10,315 tCO2e
Total BioCO2 *(biogenic emissions)*	13 tCO2e
Total Offsets	10,302 tCO2e
Adjustments to Offset Required GHG Emissions Reported in Prior Years	
Total Offsets Adjustment	0 tCO2e
Grand Total Offsets for the 2023 Reporting Year	
Grand Total Offsets to be Retired for 2023 Reporting Year	10,302 tCO2e
Offset Investment ($25 per tCO2e)	$257,550 (plus GST)

Note: *BioCO2 is included in Total Emissions but not Total Offsets.*

Table 1: *2023 Reporting Year GHG Emissions and Offset Summary for the BC Carbon Neutral Government Program.*

1 Under the Carbon Neutral Program, legislated by the Climate Change Accountability Act, UVic is required to achieve carbon neutrality by measuring operational greenhouse gas emissions, planning, and taking action to reduce emissions, offsetting the remainder, demonstrating transparency through annual public reporting of these achievements and being subject to independent verification to ensure completeness and accuracy.

UVIC GREENHOUSE GAS EMISSIONS SUMMARY

2022-2023 Total GHG emissions reductions by Scope

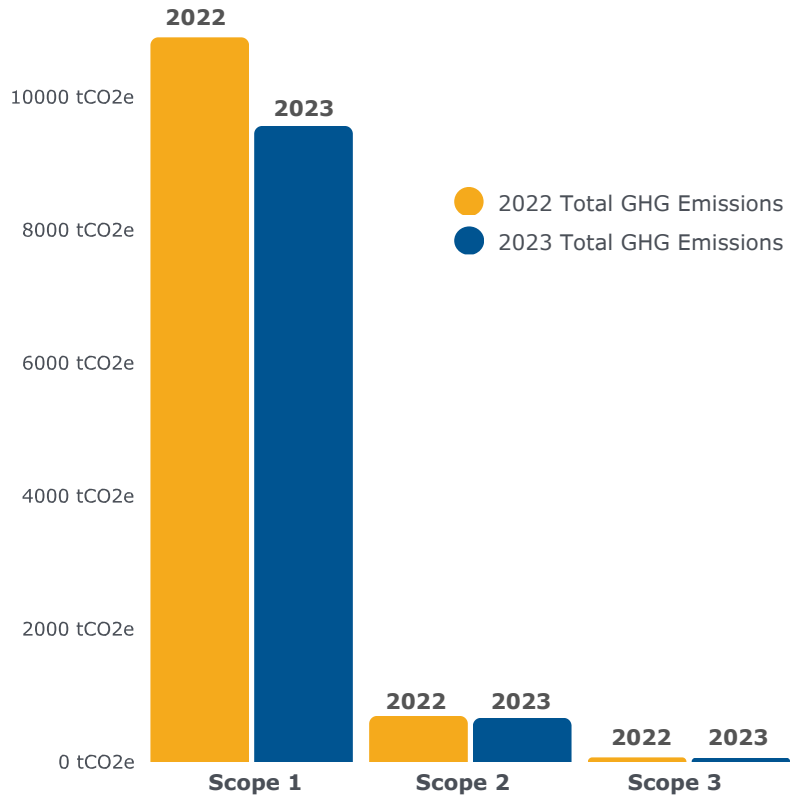


Figure 1. *2022-2023 total greenhouse gas comparison by Scope One, Two, and Three emissions.*

	2022 tCO2e	2023 tCO2e	% Change from 2022-2023
Scope One - Direct combustion (owned buildings, internal combustion engines in motor vehicles).	11,174	9,582	**- (14%)**
Scope Two - Purchased electricity (owned buildings, electric vehicles)	693	661	**- (5%)**
Scope Three - Paper emissions (20 lb. multipurpose copy paper purchased by UVic)	65	59	**-(9%)**

Table 2. *2022-2023 Total GHG emissions reductions by Scope.*

Greenhouse gas allocation methodology

The BC Carbon Neutral Program methodology for designing a greenhouse gas inventory measures emissions associated with stationary, mobile, and paper sources.

Other organizations, such as the Greenhouse Gas Protocol Institute, outline a methodology for designing a greenhouse gas inventory by Scope One: Direct Combustion, Scope Two: Purchased Electricity, and Scope Three: Lifecycle Emissions.

Both methodologies, despite their differences, share a common goal: measuring and reducing the six greenhouse gases emitted from fuel combustion and other sources that contribute to the greenhouse effect and global warming.

- Carbon dioxide - CO2
- Methane - CH4
- Nitrous oxide - N2O
- Sulphur Hexafluoride- SF6
- Perfluorocarbons - PFCs
- Hydrofluorocarbons – HFC

UVIC'S CLIMATE AND SUSTAINABILITY GREENHOUSE GAS TARGETS

In October 2022, the university released its first campus-wide Climate and Sustainability Action Plan 2030 (CSAP). The plan represents the university's urgent call to action to limit global warming to 1.5°C to reduce risks to biodiversity, ecosystems, resources, and their functions. It was developed in partnership with governments, communities, and industry, valuing Indigenous ways of knowing and being, to offer ambitious, creative, and integrated solutions.

CSAP includes three ambitious targets in greenhouse gas emissions, sustainability, and the advancement of the United Nations Sustainable Development Goals (UN SDGs). Alongside these targets is a Strategy and an associated Actions Plan, which provide integrated responses to the challenges and opportunities afforded by climate change and guide the university's contribution to sustainability and planetary health.

TARGET 1: Reduce campus operational[2] greenhouse gas emissions (GHGs) by 50% below our 2010 baseline by 2030 and to reach Net Zero[3] emissions by 2040.

UVIC'S GREENHOUSE GAS EMISSIONS

Total emissions over time

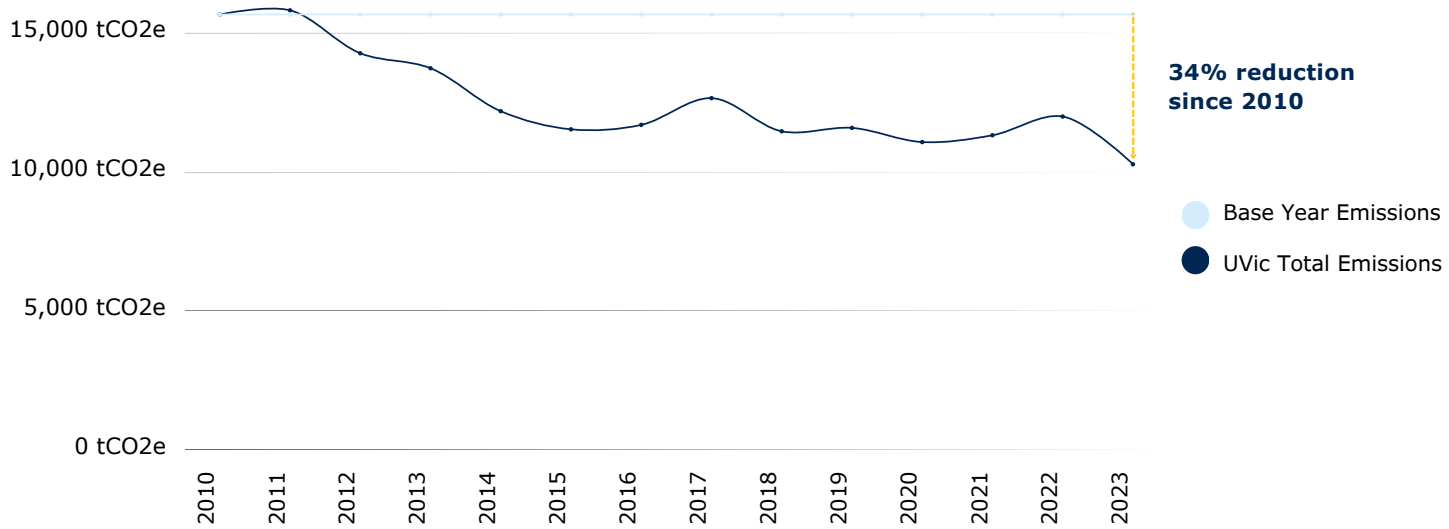


Figure 2. *UVic's Total greenhouse gas emissions reductions from 2010 to 2023. This inventory is inclusive of all emissions from sources outlined in the BC Carbon Neutral Program, including off-campus buildings managed by UVic Properties, leased office space for university business, joint partnership properties, and research stations.*

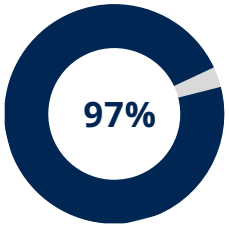
2. Operational emissions are defined as emissions from sources directly controlled and operated by UVic, including combustion of natural gas (Scope One), and from upstream emissions from purchased electricity (Scope Two).

3. Reducing and negating operational GHG emissions from human activities to as close to zero as possible and matching any remaining emissions with an equivalent amount of carbon sequestration.

EMISSIONS REDUCTIONS: ACTIONS & PLANS

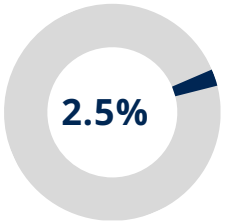
Stationary sources: buildings

Following the scope guidelines provided by the BC Carbon Neutral Program, the University of Victoria (UVic) reports on the greenhouse gas emissions from buildings owned or leased by the institution, as defined by the university's yearly financial statements. This includes over 200 buildings in and around Ring Road on the Gordon Head Campus and 11+ off-campus properties that serve as core research facilities, investment properties, and housing.



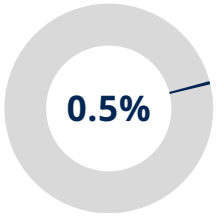
Building emissions

UVic reports on the energy consumption for any building owned by the institution as per annual financial statements. This includes over 250 buildings on and off campus, including core research facilities such as Vancouver Island Technology Park and investment properties such as Swans Brewpub and Hotel.



Mobile emissions

Mobile emissions are associated with the combustion of vehicles, vessels, and off-road equipment owned by the University of Victoria. Electric vehicle fuel consumption is captured as building emissions.



Paper emissions

GHG reporting for paper emissions involves measuring all paper usage (including colour), quantified in units of 500 sheets/20lb, for three different paper sizes. Paper that is resold is out-of-scope as per the BC Carbon Neutral Program.

Building emissions account for 97% of the university's carbon inventory. These emissions are quantified by calculating the total quantities of purchased electricity (BC Hydro), purchased energy (Fortis BC), and backup generator fuel (various suppliers). This crucial data is fed into the BC Government's Clean Government Reporting Tool (CGRT) software, which applies emissions factors to estimate total carbon dioxide equivalent values.

In-action

Carbon Reduction Plan Technical Pathways Report

The Energy Management Team is preparing to implement the key actions outlined in the Carbon Reduction Plan Technical Pathways Report to support GHG reduction targets outlined in UVic's Climate and Sustainability Action Plan 2030.

Image 1. *The District Energy Plant completed construction in 2018 provides domestic hot water and space heating to 80% of the gross floor area across campus.*

A primary focus in 2024/2025 will be the first phase to electrify the District Energy Plant with the introduction of two new electric boilers. Once complete, the project will reduce campus emissions by approximately 4,500t tCO2e. The District Energy Plant currently uses natural gas to heat water, which is then distributed in underground pipes to provide domestic hot water and space heating to 80% of the gross floor area across campus.

In 2023, emissions from natural gas accounted for 9,237 tCO2e (90%) of the university's greenhouse gas inventory. With the District Energy Plant's primary fuel source being natural gas, this facility alone accounted for 66% of the UVic's total emissions. Electrifying energy systems in this facility is a crucial step for achieving the university's greenhouse gas reduction targets.

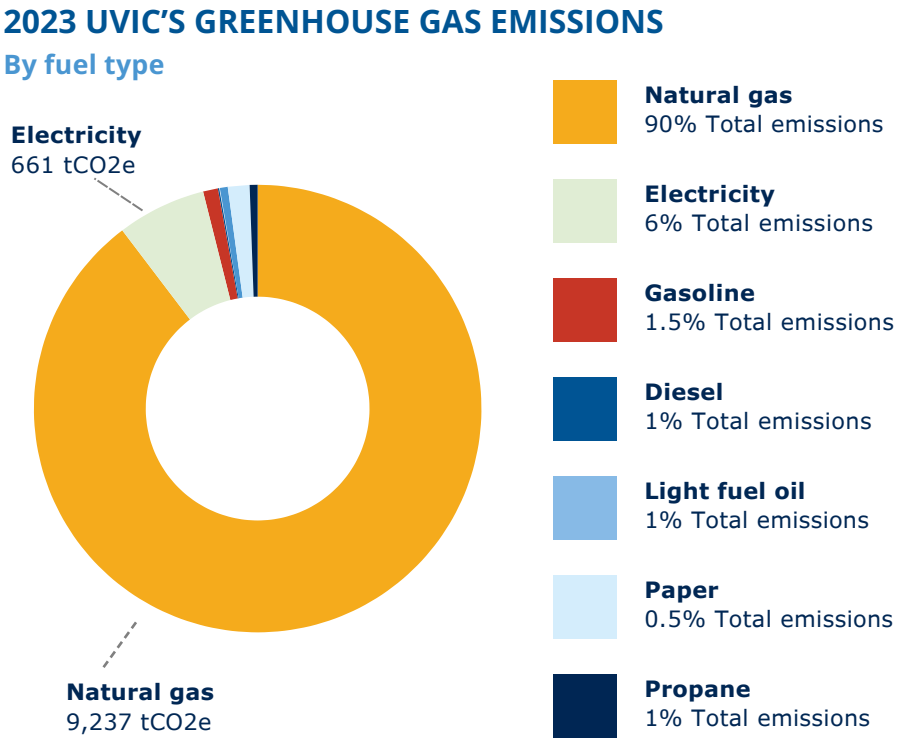


Figure 3. *2023 UVic greenhouse gas emissions by fuel type.*

Image 2. *View from inside the new Cove Dining Facility.*

Continuous optimization

Continuous building systems optimization is an ongoing program championed by Facilities Management to optimize building performance, reduce energy consumption and GHG emissions. The program consists of minor retrofits, such as scheduling and controls optimization, and major retrofits, including mechanical system and lighting upgrades, to increase the energy efficiency across campus.

In 2023, minor retrofit projects took place in the Clearihue and Cornett Buildings, and a major retrofit project to optimize ventilation was completed in Bob Wright Centre.

Image 3. *The two new student housing buildings include solar shading features to prepare buildings for 2030 temperatures.*

Green building certifications

Since 2022, UVic has completed two new buildings that increased the gross floor area of the University by 6% while decreasing the total GHG emissions associated with the campus. This achievement can be attributed to the deconstruction of three older buildings and new buildings meeting stringent design standards including Leadership in Energy and Environmental Design (LEED) Gold and Passive House certifications.

Future campus development includes the Engineering Building Expansion Project, set to be completed in 2026. This project will strive to achieve three new green building certifications for UVic, supporting the university's Net Zero targets by focusing on building performance and on-site renewable energy:

- **Canada Green Building Council (CAGBC)**
  Net Zero Carbon Building 'Design' and 'Performance' Certifications

- **International Living Futures Institute**
  Zero Carbon Certification – High Bay Research and Structures Lab.

UVIC'S GREENHOUSE GAS EMISSIONS

Relative to heating degree days (HDD)

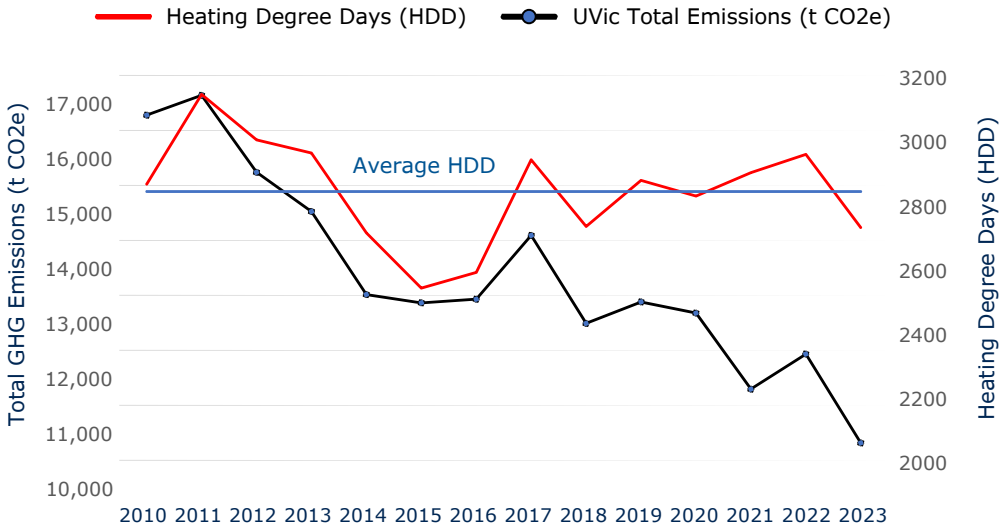


Figure 4. *Graph demonstrating the relationship between heating degree days (HDD) and the total annual greenhouse gas emissions (tCO2e) for UVic from 2010-2023.*

EMISSIONS REDUCTIONS: ACTIONS & PLANS

Mobile sources: fleet vehicles, off-road and portable equipment

Mobile emissions from internal combustion engines (ICE) account for 2% of the university's greenhouse gas inventory. Mobile emissions reductions can be attributed to the ongoing procurement of zero-emission vehicles as ICE vehicles are retired. In 2023, 65% of the university's vehicles were electric. The procurement of vehicles also shifted, displaying an upward trend of 55% procurement of electric vehicles.

To further reduce emissions from internal combustion engines, the Office of Campus Planning and Sustainability is collaborating with vehicle fleet distribution and management stakeholders. These enhancements will increase the efficiency and accuracy of reporting and provide essential insights into the deployment of electric vehicles and charging stations, which we expect to become the predominant fuel source in the coming years.

By focusing on vehicle fleet electrification and enhancing data management, the university is making significant strides in reducing mobile source emissions and supporting a more sustainable future.

Image 4. *UVic's growing electric fleet.*

Image 5. *Volunteer at Bike HUB, an on-campus bike loan and servicing program.*

In-action

Green Fleet Project – Sustainability Scholars Program

In 2023, UVic launched the "Sustainability Scholars Program" offering paid internships for graduate students from any discipline, to collaborate with community, government, Indigenous, and not-for-profit partners on professional and applied research projects that advance sustainability. The Office of Campus Planning and Sustainability applied as a program sponsor and hired a master's student to initiate a Green Fleet Strategy.

This project, scheduled for summer 2024, will involve research, analysis, stakeholder engagement, and the development of green fleet policy and implementation recommendations.

Additionally, the project will create a decision-making framework to document and scale the university's ongoing efforts to transition toward a fully electrified fleet.

EMISSIONS REDUCTIONS: ACTIONS & PLANS

Paper consumption

The BC Carbon Neutral Government program calculates paper emissions as life cycle emissions. These Scope 3 emissions encompass all greenhouse gases released throughout a product's life cycle, from raw material extraction to disposal.

Paper emissions account for less than 0.5% of UVic's total greenhouse gas inventory. These emissions significantly declined during COVID-19, demonstrating the potential for sustainable behavioral change.

For the 2023 reporting year, the university engaged with paper suppliers to improve reporting on additional paper categories, such as wheat and sugar paper products. This process identified that 83% of the university's paper emissions stem from non-recycled content copy paper.
In 2024, UVic will explore opportunities to update purchasing guidelines to encourage the procurement of recycled paper products. This will help the university continue to reduce emissions associated with paper use and promote more sustainable practices.

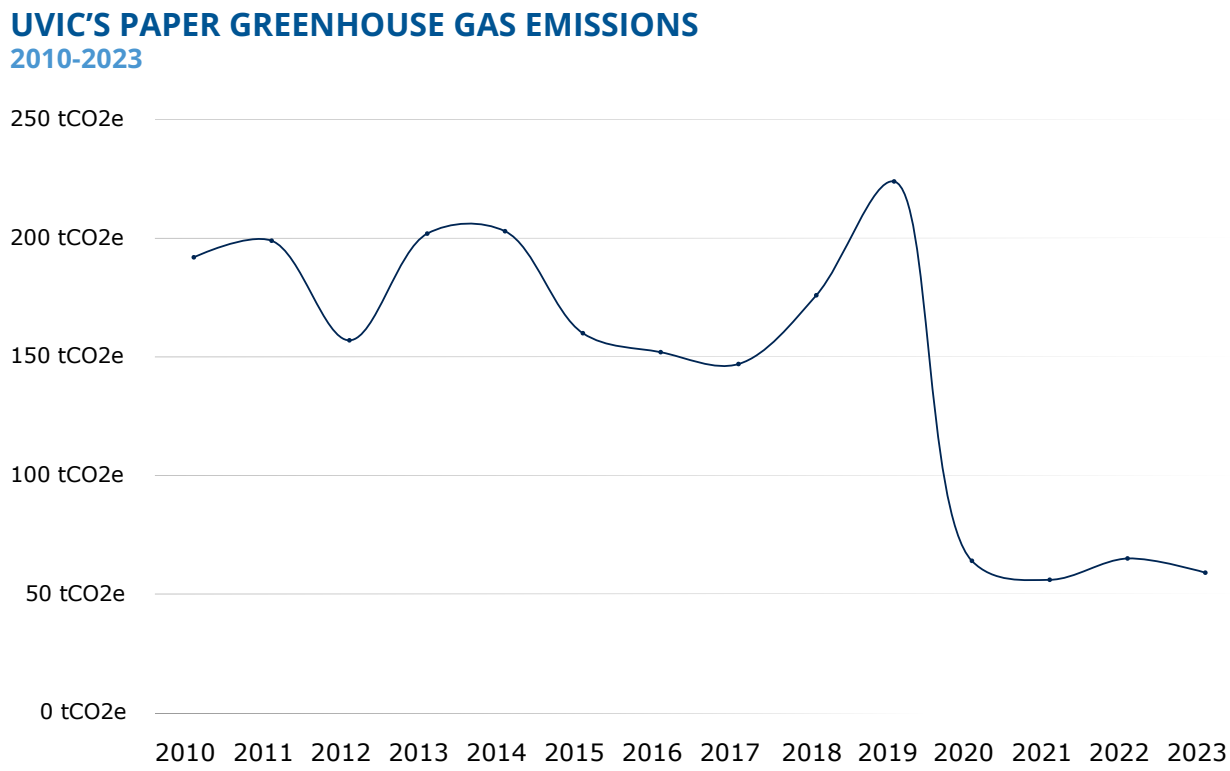


Figure 5. *Graph demonstrating the impact of COVID-19 on copy paper use, and the sustained behaviour change for UVic employees. The graph reflects a value adjustment in 2023 following an assessment of in- scope purchases.*

CLIMATE RISK MANAGEMENT

British Columbia is already experiencing the impacts of climate change:

- Average temperatures are increasing;
- Sea levels are rising;
- The weather is becoming more variable;
- Extreme weather is becoming more frequent.

These impacts directly affect the province and require government and public sector organizations (PSOs) to re-think how to develop resilient infrastructure and operational capacity to provide services to the public.

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.

Image 6. *Wooden bridge located in Bowker Creek Headwaters.*

Existing strategies and actions to manage climate risks

Operational and infrastructure changes

In preparation for future climate impacts, UVic has integrated stormwater management features into new buildings and infrastructure to increase resilience to intense rainfall events, following LEED guidelines. These measures include installing stormwater retention facilities and drought-tolerant plantings to conserve water.

Changes to operational procedures

In response to climate-driven impacts such as heatwaves, drought, wildfires, and floods, UVic has developed specific procedures for poor outdoor air quality and managing extreme heat, as detailed on our emergency procedures page, and heat safety guidelines.

Changes to service delivery

To accommodate clients, partners, employees, and stakeholders affected by climate-related impacts, UVic has adjusted the timing of certain research and academic activities, particularly in response to wildfires. These changes ensure the safety and effectiveness of our operations, aligning with the procedural adaptations mentioned above.

Steps to enhance UVic's resilience to climate change.

1. Conduct a climate risk assessment to prioritize investments in adaptation measures.
2. Plan, design, and develop campus buildings, utilities, and infrastructure with consideration for climate impacts over their lifespan to minimize disruptions from extreme weather events.
3. Explore and advance decarbonization strategies, including energy-efficient HVAC upgrades.

These initiatives will help ensure our campus remains operational and sustainable in the face of future climate challenges.

SUCCESS STORIES

2023 AASHE STARS Platinum rating

UVic proudly achieved a Platinum rating in AASHE STARS, reaffirming its commitment to sustainability. The Platinum rating is a testament to the collective efforts of the UVic community. It reflects transparent reporting and adherence to stringent sustainability criteria. This milestone underscores UVic's leadership in environmental stewardship, social responsibility, and economic vitality within higher education.

THE Impact Rankings 2023

In 2023, UVic achieved a high ranking in the Times Higher Education (THE) Impact Rankings, affirming its commitment to the United Nations' SDGs. Notably, UVic ranked 9th globally and 3rd in Canada overall, highlighting its contributions to sustainability and climate action.

UVic's impressive performance in THE Impact Rankings reaffirms its strategic focus on sustainability and social responsibility, positioning it as a global leader in addressing pressing challenges and fostering positive change.

Plant-based menus

Between 2020 and 2023, University Food Services made significant strides, increasing their total plant-based food expenditures from 11.5% to 29.2%.

University Food Services partners with the Food Forward Initiative and Default Veg to develop an intentional plant-forward menu and kiosk experience focusing on menu clarity, diverse food options, default plant-based condiments and milks, and personalized choices empowering customers to "add-in" protein to their meals, putting the power to opt for meat or stay plant-based in their hands.

Image 7. *The Cove Dining Facility located in Čeqʷəŋín ʔéʔləŋ (Cheko'nien House).*

MOVING FORWARD

Scope 3 emissions

Scope 3 emissions are carbon emissions from activities that UVic does not always fully control but that the institution impacts and influences through purchasing decisions, plans, policies, guidelines, behavioral change programs, and others.

A key priority for 2024/2025 will be determining pathways to establish baseline, tracking, reporting, and reduction procedures for Scope 3 extended impact emissions as outlined in the University's Climate Action and Sustainability Plan 2030 (CSAP).

Energy Star Portfolio Manager

A significant achievement in the 2023 reporting year was the successful culmination of a three-year initiative aimed at integrating all buildings owned by UVic into benchmarking software known as Energy Star Portfolio Manager, marking a substantial step towards our emission reduction goals.

This project has enabled UVic to analyze energy consumption data and utilize it to inform strategic projects that will support UVic in meeting its targets in greenhouse gas emissions as outlined in the CSAP 2030.

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**.