



2024 PSO Climate Change Accountability Report

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Land Acknowledgment

The University of the Fraser Valley is situated on S’olh Temexw, the traditional lands of the Stó:lō peoples. We are grateful to be able to work, learn, live and play on these traditional lands that have been kept pristine for thousands of years. To honour this relationship and in the spirit of reconciliation, the Office of Sustainability (OoS) works to contribute to this legacy by caring for our environment and its ecosystems.

PART 1. Legislative Reporting Requirements

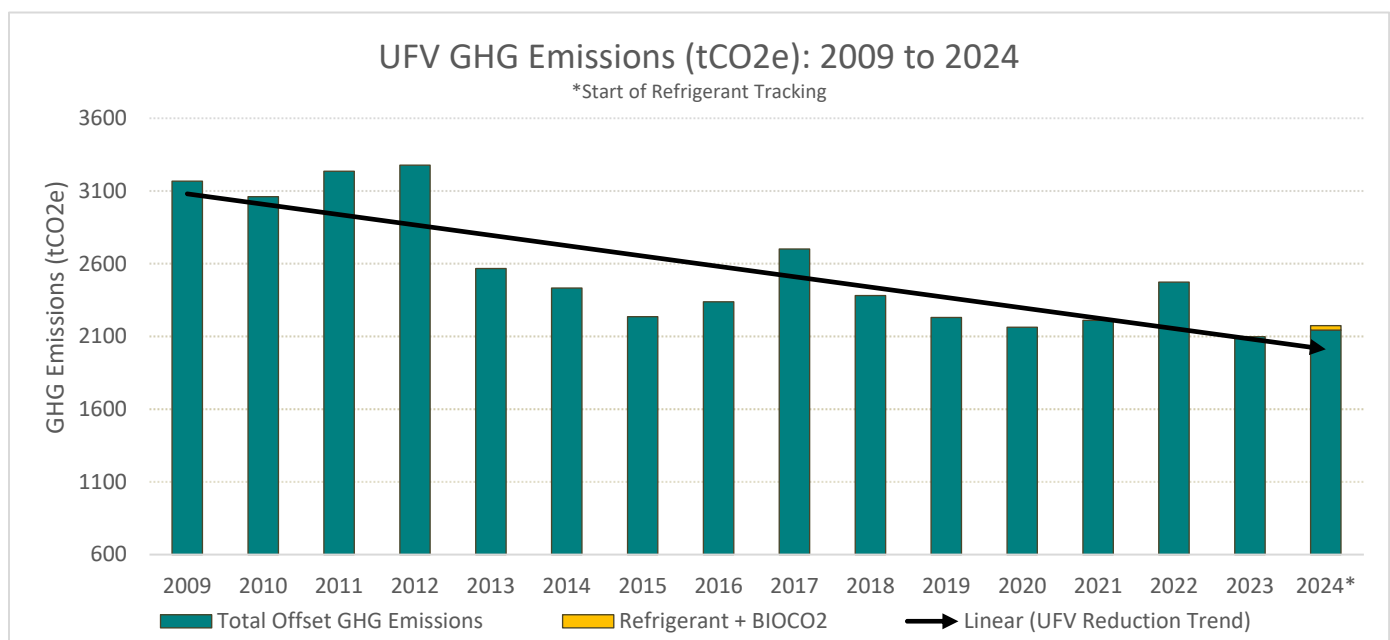
Declaration Statement

This PSO Climate Change Accountability Report for the period January 1, 2024 to December 31, 2024 summarizes our greenhouse gas (GHG) emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2024 to minimize our GHG emissions, and our plans to continue reducing emissions in 2025 and beyond.

Emission Reductions: Actions and Plans

The total carbon footprint for the University of the Fraser Valley registered at 2174tCO₂e in 2024. The emissions UFV includes in this report are based on the scope outlined by the Carbon Neutral Government program. The scope includes electricity and natural gas from buildings owned and leased by UFV, gasoline and diesel used in operation of UFV's fleet, paper used for printing, and fugitive refrigerant emissions, the later of which UFV began reporting in 2024. UFV has continued to reduce its carbon emissions, as measured in these CCAR reports, recording a 32% overall reduction in carbon emissions (that were offset) from 2009 to 2024.

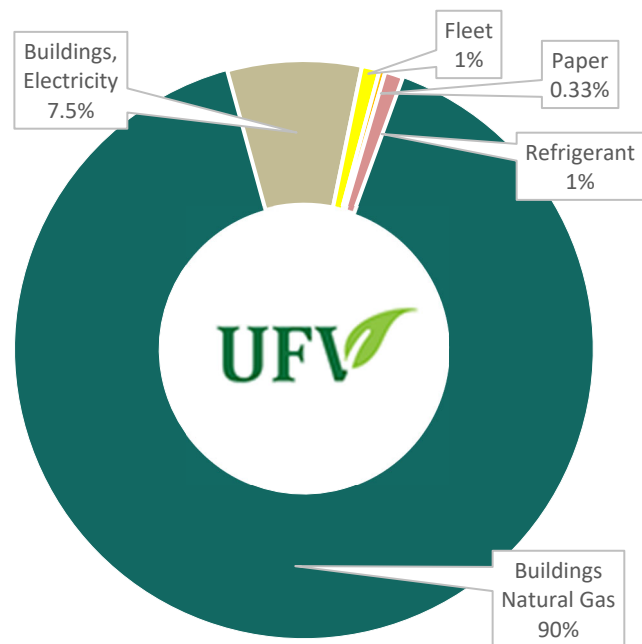
UFV aims to align with the provincial targets by reducing emissions by 50% from the 2010 baseline by 2030 and will be following the newly developed UFV Energy and Climate Resilience Plan to meet these targets. Note that the values here are not normalized for weather. 2022 was colder in comparison to some of the years prior and following 2022. The increased emissions in 2022 are partly a result of the additional need for heating. Other variations over the years can be



attributed to energy efficiency projects, electrification projects, and changes in UFV's building portfolio including selling, leasing, purchasing, and construction of new buildings.

The 2024 GHG emissions distribution:

- Natural gas used in buildings: 90%
- Electricity used in buildings: 7.5%
- Fleet combustion: 1%
- Paper consumption: 0.33 %
- Refrigerant: 1%



UFV has prioritized reducing energy consumption, costs and environmental impacts, and being able to respond to climate change events that could impact services and the wellbeing of employees, students, and broader communities. In 2024, the University implemented projects that support and advance these priorities. This section provides an overview of the main campus-wide initiatives that form UFV's strategy for climate change mitigation and adaptation. Behaviour change campaigns are also done to help contribute towards greenhouse gas reduction goals and are outlined in the other sustainability initiatives section of this report.

Overarching Plans and Actions

- **Energy Management and Climate Resilience Plan:** UFV is currently developing the Energy and Climate Resilience Plan, which is expected to be complete early 2025. This plan aims to establish new University-wide GHG emissions, energy conservation and climate resilience targets; and identify specific pathways that will be taken to achieve these targets, including annualized capital projects. UFV is working to formulate a strategy and identify action plans to improve resilience to climate change.
- **Sustainability Action Plan:** The Sustainability Action plan (still under development) maps out UFV goals and direction to align with the United Nations Sustainable Development Goals. It will be working in tandem with the Energy and Climate plan outlined above.

- **Sustainability Policy:** The UFV Sustainability policy was established in October of 2023 and identifies sustainability as a priority for the university. The policy provides UFV's common understanding of what sustainability means. It is a framework for integrating sustainability into decision-making, university practices, initiatives, and education.
- **UFV Energy and Climate Mitigation Committee (ECMC):** The purpose of this committee is to coordinate the creation and successful implementation of university-wide energy and greenhouse gas (GHG) emissions reduction policies, plans, and best practices. The committee is still in the early stages of development and is expected to be reengaged largely in 2025 with plans to implement ISO 50001 certification.
- **Metering Gap Analysis:** This analysis involved a review of the condition and locations of current utility meters and submeters on campus and identified opportunities where new meters can be installed. New meters can help to better identify where natural gas, electricity and water is being used on campus so that new projects can target the highest consuming areas. New metering can also help inspire behavior change and quickly flag issues in equipment performance. An implementation plan is currently in development and will be completed alongside ISO50001 certification to follow best practices. This project also involves the integration of data with energy management analytics tools.
- **Collaboration and Partnerships:** In 2024, UFV once again participated in the FortisBC Energy Specialist Program, BC Hydro Energy Manager Program as well as Energy Wise Network led by the BC Hydro and FortisBC. These programs look to help organizations foster a culture of strategic energy and carbon management within the organization. Partnerships are also formed internally between different departments on campus.

Stationary Sources

Building operations are responsible for a significant portion of UFV's total greenhouse gas (GHG) emissions. As part of UFV's commitment to sustainability, the University is diligently working on the development of a Strategic Energy Management and Climate Resiliency Plan. This plan will provide a comprehensive and long-term framework to guide campus development and operations, with a specific emphasis on transitioning to low-carbon energy sources. This strategic approach will ensure that UFV effectively addresses its emissions from building operations, fostering a more sustainable and climate-resilient campus.

UFV has an annualized budgeting plan to upgrade existing equipment, implement energy efficiency measures and optimize processes to reduce emissions and energy consumption. The major projects that were completed and planned for in 2024 are as follows:

- **Roof-top Unit Replacement- Abbotsford, Building A:** Existing gas-fired RTUs are being replaced with equivalent air-source heat pump (ASHP) type RTUs to reduce natural gas use and GHG emissions. Engineering design was completed in 2023 and with tendering and preparation made in 2024 so that the units could be installed the first week of January 2025.
- **Roof-top Unit Replacement- Abbotsford, Building K:** A condition assessment and energy study at the Abbotsford campus in 2022 identified Buildings K as a priority site for rooftop unit replacements. Existing gas-fired RTUs are being replaced with equivalent air-source heat pump (ASHP) type RTUs to reduce natural gas use and GHG emissions. Engineering design was completed in 2023. While other projects took priority in 2024, this project will be revisited in 2025 to plan for installation.
- **Energy Efficiency Audits:** Through the Fortis Rental Apartment & Accommodation Efficiency Program, UFV completed an energy assessment report on each of its buildings. These reports highlight current energy consumption and infrastructure conditions. The reports also provide UFV some typical energy conservation measures could be implemented to save energy and how additional rebates could be used to support the work. These recommended measures include adding insulation to pipes, replacing door sealing and adding additional control demand controls on equipment.
- **Dedicated Heat Recovery Chillers (DHRC)- Abbotsford, Buildings A, B & D:** In 2022 an energy study was conducted to identify gas-saving opportunities by interconnecting the heating and chilled water systems of three buildings to create the start of a campus district energy system. Steps were taken during 2023 and 2024 to prepare for completing the detailed design and for scheduling installation in 2025.
- **Gas Absorption Heat Pump (GAHP) - Chilliwack, TTC (Cover Photo):** As of October 2024, there are six heating and one combined heating/supplemental cooling GAHP units installed and operational at the Trades and Technology Centre. The GAHP will result in gas and GHG savings for providing domestic hot water, space heating for the entire building as well as supplemental cooling for nearby classrooms at the Trades and Technology Center. This project has been set up as an educational facility for property managers, engineers, and contractors interested in GAHP technology and can be used a teaching tool for courses at UFV. This project was done in collaboration with Fortis BC as part of their GAHP pilot program.
- **Construction of a New Student Housing - Abbotsford:** The new student residence building will meet the requirements of Energy Step Code 4 and LEED Gold. These standards signify a high level of energy efficiency and sustainability. During 2023 the design process occurred using an Integrative project delivery (IPD) approach to promote

energy efficiency and sustainable practices throughout the project construction and operation. The construction began in 2024 and is still ongoing in 2025.

- **Expansion of the Dining Hall - Abbotsford:** Like the New Student Housing, the expansion of the current dining hall went through the design phase in 2023 using an integrated design process and will be completed in 2025. Energy systems and the building envelope will be more efficient resulting in GHG reductions within the dining hall's operation.
- **VFA Building Condition Assessment:** An audit that will assess the conditions of all UFV buildings and equipment occurred in 2024 and is helping to identify priority areas for new projects on campus. The energy management and sustainability team at UFV will be heavily involved in maximizing the opportunities identified for energy and GHG reductions and has incorporated it into the Energy and Climate Resilience plan.
- **University-Wide Solar Assessment:** In 2024 UFV hired a consultant to assist in completing a campus wide assessment for new solar projects. This assessment will determine which areas of campus would be most suitable for solar projects that would help generate electricity on campus. The project also involves determining what upgrades would need to be completed on campus for solar projects to be installed. The assessment is being completed in early 2025.
- **District Energy Planning:** UFV is planning to hire a consultant to conduct a feasibility study in 2025 that will determine if a district energy system would be suitable for the UFV campuses and what the implementation strategy would be. District energy systems take away the need for buildings to have individual boiler units and allows energy to be drawn from lower emissions sources such as geothermal or heat recovery from sewer. Work was done in 2024 to prepare for the hiring of a district energy consultant.
- **LED Lighting Upgrades:** In 2024 UFV completed substantial lighting retrofits in Buildings E, D, and G at the Abbotsford campus, as well as some additional office spaces in Building B (Abbotsford), and Building A utility rooms at the Chilliwack Campus. These retrofits transition UFV to state-of-the-art LED lighting. This retrofit underscores UFV's dedication to creating a more environmentally responsible campus environment. LED lighting offers numerous benefits, including reduced energy consumption, longer lifespan, and improved lighting quality, contributing to a more comfortable and productive learning, and working environment for our students, faculty, and staff. Additionally, in 2025 a detailed lighting audit is planned that will look at completing a full inventory of lighting fixtures, and controls (including outdoor lighting), understanding implications related to safety, and identify new opportunities for energy savings.

Mobile Sources

EV Charging Stations:

Continued installation and maintenance of EV Chargers is part of a broader effort, led by UFV's Office of Sustainability, to reduce scope 3 GHG emissions and foster a culture of sustainability throughout the entire university community. Currently, there are four Level 1 EV charging stations, nine Level 2 stations and one DC Fast Charger (23 ports in total) accessible to students, employees, and the public across the university campus.

In addition to the UFV owned EV Chargers, the University is partnering with BC Hydro to almost double the available public charging stations on campus through BC Hydro owned stations. Plans have been developed throughout 2024 with installation planned for 2025.

Fleet Management Plan: UFV worked throughout 2024 with a consultant to develop a fleet EV Ready Plan that provides a comprehensive framework for transitioning the university's vehicle fleet to electric. This plan includes determining what vehicles would be suitable as electric, both from a technical and economic perspective, and determines new charging infrastructure that is needed. The plan is set to be completed early 2025 with continued internal discussion to decide the next steps for implementation.

In addition to the EV Ready Plan, UFV plans to develop an EV Policy, a Fees Schedule, and a Responsibilities guide, to guide future EV infrastructure development.

Paper Consumption

UFV's GHG emissions associated with paper consumption are less than 1 percent (0.33 %) of the total reported emissions. The paper consumption reported is based on the paper used in printers, at UFV and does not include notepads, envelopes, or paper sold in the bookstore. UFV Printing Services has adopted environmentally friendly practices in its printing operations and has made a dedicated commitment to using paper with a recycled content. In 2024, all of the paper in the reporting scope was 30% recycled content and the amount of paper purchased compared to 2023 was less than half in 2024. By actively transitioning from paper-based to digital workflows, this downward trend in paper-related GHG emissions is expected to continue in the future.

Refrigerants

With guidance from the Carbon Neutral Government Program, UFV will now be putting a higher emphasis on tracking and understanding refrigerant use on campus moving forward. Refrigerants

are found in any piece of equipment that provides cooling including air conditioning units, heat pumps, and small refrigerators in kitchens and labs.

To determine refrigerant use, the number of non-maintained pieces of equipment were estimated (such as staff and lab fridges), and a leak rate factor determined through the Carbon Neutral Government Program was applied. Refrigerant used in regularly maintained equipment gets reported when levels need to be topped up. This allows the fugitive, or leaked refrigerant to be calculated based on the amount that is refilled.

The main source of refrigerant emissions were larger pieces of equipment including air conditioner, walk in fridge, and display units that are regularly maintained and were topped up with refrigerant due to leaks. Refrigerant has a large global warming potential, so it is important to quickly address any leaks and keep units maintained.

2024 GHG Emissions and Offsets Summary Table

University of the Fraser Valley 2024 GHG Emissions and Offsets

GHG emissions for the period January 1 - December 31, 2024	
Total BioCO ₂	9.28
Total Emissions (tCO ₂ e)	2174
Total Offsets (tCO ₂ e)	2165
Adjustments to Offset Required GHG Emissions Reported in Prior Years	
Total Offsets Adjustment (tCO ₂ e)	0
Grand Total Offsets for the 2024 Reporting Year	
Grand Total Offsets (tCO ₂ e) to be Retired for 2024 Reporting Year	2165
Offset Investment (\$25 per tCO ₂ e)	\$54,125
Offset Investment (\$25 per tCO ₂ e) including taxes (5% gst)	\$56,831.25

Note that BioCO₂ (those from released from the combustion or decomposition of biomass) are not currently included in the emissions that are required to be offset by UFV through the Carbon Neutral Government Program. The rise of BioCO₂ in this year’s report can be attributed to Fortis BC allocating 1% of customer natural gas as renewable natural gas. The refrigerants reported are included in the amount to be offset.

Retirement of Offsets

In accordance with the requirements of the Climate Change Accountability Act and Carbon Neutral Government Regulation, the University of the Fraser Valley (the Organization) is responsible for arranging for the retirement of the offsets obligation reported above for the 2024 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.

PART 2. Public Sector Leadership

Climate Risk Management

The University has begun the process to identify and respond to current and future climate change related risk.

- UFV has initiated the process of developing an Energy and Climate Resilience Pathway Plan, which will identify climate-related risks, and actions that will be taken to reduce energy consumption and GHG emissions and reduce climate vulnerability that may result in service disruptions.
- The Office of Sustainability (OoS) is working with the Joint Occupational Health and Safety Committee to identify current and future risks of climate change on the health and wellbeing of staff, students, and faculty. This includes forest fires, flooding, extreme heat, and extreme weather.
- UFV Procurement teams have been involved in the development of a Sustainable Procurement Policy through BCNET. The policy will integrate environmental, social, and economic considerations into the procurement process and will be designed to ensure that the goods, services, and work procured by the university will have minimal negative impacts on the environment and society.
- An enterprise risk manager was hired on to UFV to support identifying risks to the University's projects, including those associated with climate.
- In 2024 UFV partnered with the Fraser Valley Regional District and Fraser Health to install air quality monitors at the Abbotsford campus. For the pilot stage of this project, indoor air quality will be measured by monitors placed inside the Student Union Building and the Library, and outdoor air quality will be measured by a monitor placed on the roof of Building B. Additional work is planned to further expand and develop air quality monitoring programs on campus. This work is especially important as dry summers and forest fires impacts increase due to climate change.
- An Outdoor Space Plan is under development for UFV campuses. The plan seeks to balance beauty, functionality, and sustainability in all its forms (social, environmental, economic) in UFV's outdoor spaces. It includes many aspects seeking to address climate risks including water management and vegetation growth.
- In 2024 UFV continued to expand its Office of Sustainability to expedite its actions to advance sustainability, energy security and climate resilience. UFV's Office of Sustainability is focused on bringing a pan-institutional approach of holistic sustainability to UFV. Much of

the work includes creating initiatives, increasing awareness and education about environmental, social, and economic sustainability, and coordinating and tracking UFV's institutional-wide sustainability efforts. The Office of Sustainability team is made up of the Director of Energy and Sustainability, the Energy Manager, the Sustainability Manager, 2 coordinator positions, 2 intern positions and a student positions over the year. One of the goals is to provide work experience for students and people looking to enter Sustainability careers. UFV's Office of Sustainability works closely with all departments to advance sustainability across campus.

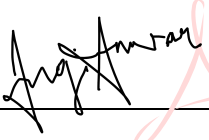
Other Sustainability Initiatives

UFV has implemented several actions to support the advancement of sustainability more generally:

- Hosted March for Sustainability, a series of over 20 coordinated events, co-hosted by various UFV departments and groups throughout the month of March to raise awareness and address sustainability topics such as climate change, biodiversity, EDI, and gender equity.
- Facilitated a Campus-wide **Eco Challenge** to encourage students and staff to lessen their impact on actions related to food, water, waste, nature, community, and more. This challenge is run through <https://drawdown.ecochallenge.org/> and promoted by the Office of Sustainability. 89 members of the UFV community signed up and committed to actions that lowered their carbon footprint, avoided waste, encouraged mental wellbeing and much more.
- Expanded the **Sustainable Office Certification** program which has UFV departments complete sustainability audits and a list of actions to take to boost a sustainability score. Various sustainability practices, including ways to reduce energy consumption, determines their score and a final designation of bronze, silver, gold or platinum. The program began in 2023 with officing working to improve upon their original designation and new departments signing up. The **Sustainable Events certification** also continued in 2024, that brings sustainability to the forefront of event planning at UFV, event holders can complete a checklist, opting for sustainable actions to complete during preparation, day of, or post-event in 2025 it is also the plan for this program to expand.
- Continued to publish a monthly newsletter and develop social media content, educating staff and students on sustainability initiatives and sharing tips and resources for sustainability practices including energy conservation. The Office of Sustainability website also saw a large redesign in 2024 and now has the most up to date information and resources available <https://www.ufv.ca/sustainable-ufv/>.

- In 2024 a new pollinator garden was established to replace a nutrient deficient, unused grass area at the Abbotsford campus. This is the second pollinator focused garden at UFV and is one of numerous gardens at UFV that will be used as a teaching space for biology, conservation, biodiversity, and sustainability. The garden will support native pollinators on campus and contributes to a more climate resilient campus due to added vegetation that can help with improved soil drainage, cooling, and air quality.
- A permeable pavement pilot was installed on campus in 2024 at the parking location of a food truck that services the campus. This pilot aims to explore alternatives to traditional concrete sidewalks/parking lots with the goal of improved stormwater management by allowing water to infiltrate into the ground.
- The Plastic-Free July campaign was run, to educate the university community on ways to reduce plastic consumption.
- 2024 saw the reintroduction of an annual waste audit and development of a new waste management plan began.
- A Changemaking team was created aimed to empower students and educators to contribute innovative, evidence-informed solutions to complex problems. This is largely done through curriculum development that addresses topics of sustainability, innovation, and equitability in UFV's courses. The team works closely with the Office of Sustainability to connect ideas.

Executive Sign-off:

	Digitally signed by Ingi El-Hadi Date: 2025.05.01	08:19:26 -07'00'	Date
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Name (please print)	Title
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