



2022 PSO Climate Change Accountability Report



Table of Contents

- Our Acknowledgment 2
- PART 1. Legislative Reporting Requirements..... 3
 - Declaration Statement 3
 - Emission Reductions: Actions and Plans..... 3
 - Stationary Sources 5
 - Mobile Sources 6
 - Paper Consumption 6
 - 2022 GHG Emissions and Offsets Summary Table..... 8
 - University of the Fraser Valley 2022 GHG Emissions and Offsets 8
 - Retirement of Offsets 8
- PART 2. Public Sector Leadership..... 9
 - Climate Risk Management 9
 - Other Sustainability Initiatives..... 10

Our 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 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

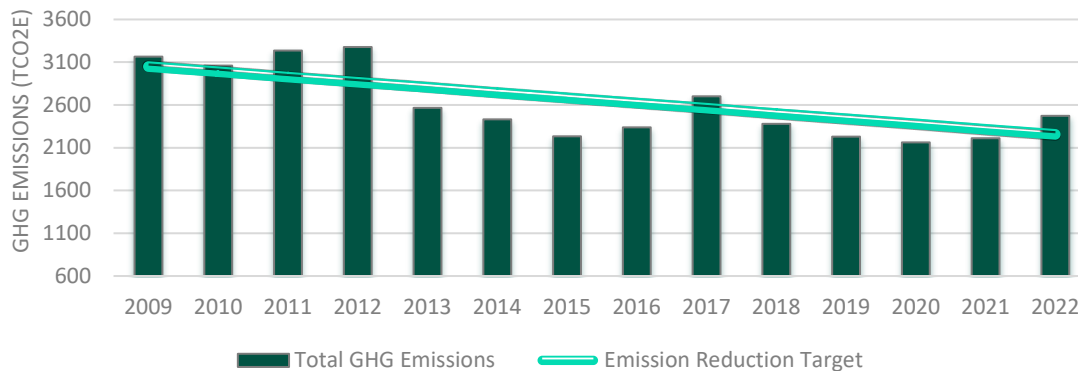
Declaration Statement

This PSO Climate Change Accountability Report for the period January 1, 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 energy consumption, and our plans to continue reducing emissions in 2023 and beyond.

Emission Reductions: Actions and Plans

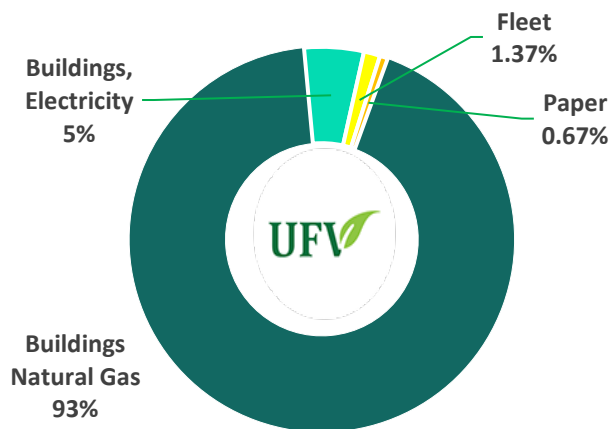
The carbon footprint for the University of the Fraser Valley registered at 2,473 tCO₂e in 2022. UFV has continued to reduce its carbon emissions, recording a 22% overall reduction in total carbon emission from 2009 to 2022.

UFV GHG Emissions (tCO₂e): 2009 to 2022



The 2022 GHG emissions distribution:

- Natural gas used in buildings: 93%
- Electricity used in buildings: 5%
- Fleet combustion: 1.37%
- Paper consumption: 0.67%



UFV has prioritized reducing energy consumption and costs and environmental impacts, response to climate change and avoiding service disruptions to protect the wellbeing of employees, students, and broader communities. In 2022, the University implemented projects that support and advance these priorities. This section provides an overview of the main campus-wide initiatives.

- **Energy Management and Climate Resilience Plan:** UFV is currently developing the Energy and Climate Resilience Plan, which is expected to be complete in 2023. This plan aims to establish 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.
- **Formation of the 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.
- **Energy Management Assessment (EMA):** The EMA was completed to help UFV evaluate the current state of its energy management program, identify opportunities for improvement, and establish the activities needed to reach a desired future state. UFV chose to focus on its carbon reduction goals. The EMA was accomplished through interactive discussion and self-rating around twelve management areas.
- **Utility Management Software:** Upgrading the utility management software to improve data collection capabilities and connect it to the BAS (Building Automation System) to enable the University staff to identify excessive and anomalous utility consumption; prioritize building recommissioning and retro-commissioning; and simplify reporting in alignment with the provincial and federal standards.

- **Collaboration and Partnerships:** In 2022, UFV 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.

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 planned for 2022 are as follows:

- **Solar Thermal Retrofit- Abbotsford, Building H:** As part of UFV's ongoing commitment to clean energy, a solar water preheating system has been installed on the roof of Lalem te Baker. This system harnesses solar power to preheat the building's domestic hot water (DHW), resulting in reduced natural gas usage, cost savings, improved energy efficiency, lowered environmental impact, and enhanced system performance.
- **Roof-top Unit Condition Assessment and Energy Study - Abbotsford:** The energy study included a condition assessment of all 27 RTUs at the Abbotsford campus and assessed the replacement of existing gas-fired RTUs with equivalent air-source heat pump (ASHP) type RTUs to reduce natural gas use and GHG emissions.
- **Energy Study and RTUs Condition Assessment- Chilliwack, TTC:** An energy study on hydronic air-handling units (AHUs) and gas boilers is underway to determine the best possible system to achieve energy savings and GHG savings.
- **Dedicated Heat Recovery Chillers (DHRC)- Abbotsford, Buildings A, B & D:** 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.
- **Gas Absorption Heat Pump (GAHP) - Chilliwack, TTC:** A feasibility study was conducted to estimate gas and GHG savings resulting from GAHPs providing domestic hot water,

space heating for the entire building as well as supplemental cooling for nearby classrooms at Trades and Technology Center.

- **Airtightness test- Abbotsford Building D:** The testing was to determine airtightness of the building after building enclosure renewal. The results of airtightness test confirmed a reduction of 38% in the air leakage of the building . The building now outperforms the requirements of the current airtightness targets for new construction in BC.
- **Replacing the Gas Boiler- Abbotsford Building D:** Two gas boilers with 80% operating efficiency have been replaced with boilers with 95% efficiency resulting in natural gas and GHG savings.
- **Construction of a New Student Housing (Design Phase) - Abbotsford:** The project will meet the requirements of Energy Step Code 4, which signifies a high level of energy efficiency and sustainability. A sustainability approach will be incorporated from the initial stages of the integrated design process (IDP) to promote energy efficiency and sustainable practices throughout the project construction and operation.

Mobile Sources

As part of UFV's commitment to transition to a low-carbon fuel, a 2022 Toro Workman GTX Electric Utility is added to our fleet for building maintenance purposes.

In 2022, UFV successfully installed three new Level 2 EV Charging Stations at the Abbotsford and Chilliwack Campuses. This undertaking was part of a broader effort, led by the UFV Office of Sustainability, to reduce GHG emissions and foster a culture of sustainability throughout the entire university community. Currently, there are a total of eight Level 2 EV charging stations and one DC Fast Charger (17 ports in total) accessible to students, employees, and the public across the university campus.

Electric Vehicle (EV) Ready Plan: UFV is in the process of developing an Electric Vehicle (EV) Ready Plan that provides a comprehensive framework for transitioning the university's fleet to electric over the next 7 years, as well as providing campus-wide charging for students, staff and faculty. In addition to the EV Ready Plan, UFV is developing 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 (0.67 %) of the total reported emissions. 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 of 100 percent post-consumer waste (PCW). In 2022, approximately 95% of the paper sourced for UFV consisted of 30-100% recycled content. By actively transitioning from paper-based to digital workflows, this downward trend in paper-related GHG emissions is expected to continue in the future.

2022 GHG Emissions and Offsets Summary Table

University of the Fraser Valley 2022 GHG Emissions and Offsets

GHG emissions for the period January 1 - December 31, 2022	
Total BioCO ₂	1.20
Total Emissions (tCO ₂ e)	2,473
Total Offsets (tCO ₂ e)	2,473
Adjustments to Offset Required GHG Emissions Reported in Prior Years	
Total Offsets Adjustment (tCO ₂ e)	0
Grand Total Offsets for the 2022 Reporting Year	
Grand Total Offsets (tCO ₂ e) to be Retired for 2022 Reporting Year	2,473
Offset Investment (\$25 per tCO ₂ e)	\$61,525
Offset Investment (\$25 per tCO ₂ e) including taxes (5% gst)	\$64,916.25

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 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.

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 and Energy and Climate Resilience 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.
- The OoS is developing Sustainable Design Standards, which will take into consideration current and future climate risks and contribute to making buildings more resilient to climate change.
- The OoS is exploring the development of a Sustainable Procurement Policy. 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.
- In 2022 UFV expanded its Office of Sustainability to expedite its actions to advance sustainability and 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. Hires included: Director of Energy and Sustainability, Energy Manager and 4 student intern positions over the year. UFV's Office of Sustainability has a Sustainability Coordinator position. UFV's Office of Sustainability working closely with

Other Sustainability Initiatives

UFV has implemented several Actions to support the advancement of Sustainability more Generally:

- Hosted March for Sustainability, a series of 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.
- Hosted educational programming including UFV Sweater Week to raise awareness about energy consumption and climate change, UFV reduced temperatures by 2°C campus-wide during the month of February.
- Hosted a Seeds for Tomorrow seed planting event to raise awareness about and combat food insecurity for UFV students while also teaching valuable, life-long skills through gardening.
- Facilitated a Campus-wide EcoChallenge to encourage students and staff to lessen their impact on though actions related to food, water, waste, nature, community, and more. Through combined efforts participant saved 162 pounds of CO2 saved, 4,000 gallons of water saved, 163 plastic bottles and 72 disposable cups kept out of landfills, 7,111 minutes spent outdoors, and 1,625 minutes spent learning about sustainable topics.
- Completed a sustainability survey to better understand the current sustainability knowledge, engagement, and awareness levels of UFV members, a survey of students and employees was conducted that combined questions related to both sustainability literacy and culture to inform future sustainable program design.
- Developed a Monthly newsletter, educating staff and students on sustainability initiatives.
- Implemented Plastic- Free July, to educate the university community on ways to reduce plastic consumption.
- Implemented a Sustainable Events Certification. To bring 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. The checklist includes resources and ideas to make changes for the materials, gifts, catering, and marketing used for events.
- Created a Construction and Demolition Waste Management Tool to help streamline planning, preparation, documentation, tracking, and reporting of materials and waste generated through building construction and renovations on campus.

Executive Sign-off:

Signature

Date

Name (please print)

Title