



**Justice
Institute**

BRITISH COLUMBIA

LEARNING THAT TAKES YOU BEYOND

JIBC 2024 PSO Climate Change Accountability Report

May 31, 2025

We respectfully acknowledge that the Justice Institute of British Columbia serves people across the province situated on Traditional, unceded, and Treaty Territories and the many Nations who are represented by the urban Indigenous population in British Columbia.

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Declaration Statement

This Public Sector Organization (PSO) Climate Change Accountability Report covering the period from January 1, 2024, to December 31, 2024, outlines the Justice Institute of British Columbia's greenhouse gas (GHG) emissions profile, total offsets to reach net-zero emissions, projects completed in 2024 to reduce GHG emissions and plans to continue reducing emissions in 2025 and beyond.

By June 30, 2025, the 2024 Climate Change Accountability Report will be posted on JIBC's website at www.jibc.ca



Executive Summary

The Justice Institute of British Columbia (JIBC) recognizes the importance of reducing its environmental footprint and is committed to a carbon-neutral future. JIBC aims to reduce its carbon footprint and improve its sustainability performance by participating in energy management and sustainability programs.

Greenhouse Gas (GHG) Emissions Performance & Offsets

JIBC's total greenhouse gas (GHG) emissions for 2024 were 700 tonnes of carbon dioxide equivalent (tCO₂e), reflecting a slight increase of 0.4% from 2023 due to the first-time inclusion of fugitive refrigerant data. Despite this, emissions remained 1% below 2010 levels. Since 2010, the New Westminster and Maple Ridge campuses have collectively avoided approximately 1,705 tCO₂e in cumulative emissions, demonstrating the long-term impact of energy conservation efforts. For 2024, JIBC offset 694 tCO₂e and, as required by the Province of British Columbia, paid an offset retirement cost of \$25 per tonne for eligible emissions, totaling \$17,350.

JIBC reports on emissions from four sources: mobile sources such as vehicles; stationary sources, which include natural gas and electricity used to operate buildings; fugitive refrigerant emissions from space cooling and refrigeration equipment; and paper consumption. In 2024, stationary sources accounted for 79.73% of JIBC's total annual emissions, followed by mobile at 15.36%, refrigerant at 3.65% and paper sources at 1.27%.

2024 Key Actions

In 2024, JIBC continued to advance its energy efficiency and carbon reduction goals through the Strategic Energy Management Plan (SEMP), which targets a 44% reduction in energy use at the New Westminster and Maple Ridge campuses by 2029/30, compared to 2008/09 levels. Key initiatives under the SEMP include lighting upgrades and mechanical system replacements, with projects prioritized based on their emissions reduction potential and financial payback. The Institute also made progress in digitizing administrative processes to reduce paper use and actively participated in BC Hydro's Energy Wise Network, which helps reduce energy consumption and promote sustainability through behavioural change programs. Additionally, JIBC engaged in the Sustainability Tracking and Assessment Rating System (STARS) to benchmark and improve its overall sustainability performance.

Future Actions (2025 and Beyond)

Looking ahead, JIBC will continue energy optimization and decarbonization studies, explore solar photovoltaic installation, and replace equipment with energy-efficient solutions. The Institute will continue efforts to reduce paper consumption and participate in behavioural change programs to reduce or eliminate unnecessary or wasteful energy consumption. JIBC also plans to explore fuel-switching opportunities, such as transitioning from natural gas to electricity or propane in training and

mechanical systems, to reduce emissions further. Renewable energy options will also be evaluated, including on-site solar power and renewable natural gas. JIBC will continue participating in STARS to measure sustainability performance and develop future environmental strategy.

Climate Risk Management & Resilience

With increasing climate-related risks, JIBC is actively assessing indoor air quality, HVAC filtration performance, and infrastructure resilience to wildfire smoke and extreme temperatures. In 2025, JIBC will begin climate vulnerability assessments and explore incorporating adaptation strategies into capital planning.

Overview

About JIBC

Justice Institute of British Columbia (JIBC) is a public, postsecondary educational institution founded in 1978. JIBC is Canada's leading public safety educator with a mission to develop dynamic justice and public safety professionals through its exceptional applied education, training, and research. In 2024, more than 46,000 students studied at JIBC campuses across British Columbia or through online distance education at locations in more than 130 sites in Canada and worldwide. JIBC campuses are located in New Westminster, Maple Ridge, Pitt Meadows, Chilliwack, Vancouver Island, and the Okanagan.

Commitment to Energy Management and Carbon Reduction

JIBC is committed to reducing its carbon footprint and improving sustainability through environmentally responsible practices and to meet the Province's targets for reducing GHG emissions by 40% below 2007 levels by 2030, 60% by 2040, and 80% by 2050. Since 2008, JIBC has continued implementing operational changes, significantly reducing energy consumption. Energy consumption is monitored to identify usage trends and ensure buildings operate at optimal conditions for the season. Tracking energy usage allows JIBC to gauge the effectiveness of energy-efficiency strategies to reduce greenhouse gas (GHG) emissions and achieve carbon neutrality.

JIBC maintains its Strategic Energy Management Plan (SEMP) to support its commitment to energy efficiency and conservation by providing a framework for reducing energy consumption and its associated environmental impact. As part of its SEMP, JIBC is committed to reducing its total electricity and fuel energy use at the New Westminster and Maple Ridge campuses by 44% by the 2029/2030 fiscal year, compared to the 2008/2009 baseline year. These energy consumption reductions will help to reduce GHG emissions from stationary sources, which are currently JIBC's largest source of emissions.

This report provides a comprehensive overview of JIBC's GHG emissions for the 2024 calendar year. JIBC's emissions are categorized into four areas: mobile sources, stationary sources (including natural gas and electricity), fugitive refrigerant emissions, and paper use. This report also summarizes the initiatives undertaken in 2024 to reduce emissions and manage climate risks, along with planned projects for 2025 and beyond.

Greenhouse Gas Emissions Overview

This section provides an overview of JIBC's GHG emissions for the 2024 calendar year.

Emissions Trends

Figure 1 illustrates JIBC's total annual GHG emissions trend from 2010 to 2024 compared to annual heating degree days (HDDs). The graph shows that energy consumption increased alongside HDDs from 2011 to 2016 and 2017. While HDDs remained higher in 2017, energy conservation measures in 2018 and 2019 helped to reduce total energy consumption and associated greenhouse gas emissions. In early 2020, the COVID-19 pandemic struck, reducing onsite activity and associated stationary, mobile, and paper GHG emissions. The annual GHG emissions from 2022 to 2024 represent a higher return than pre-pandemic levels. It has been several years since JIBC recommissioned their DDC system. During that time, building schedules and DDC control programs likely became outdated, leading to a decrease in energy efficiency and explaining the rise in emissions from 2022 to 2024. The 2024 reporting year is the first year to quantify and report on fugitive refrigerant emissions, which also explains the slight increase in total emissions in 2024 compared to 2023.

JIBC is completing continuous optimization and decarbonization feasibility studies at the Maple Ridge and New Westminster campuses to address the equipment recommissioning and optimization gap. Building energy and emissions improvement recommendations from these studies will be implemented in future years. Furthermore, JIBC is refining operating procedures for after-hours scheduling to help decrease energy waste by turning off unnecessary HVAC equipment while ensuring it operates when needed for scheduled after-hours events.

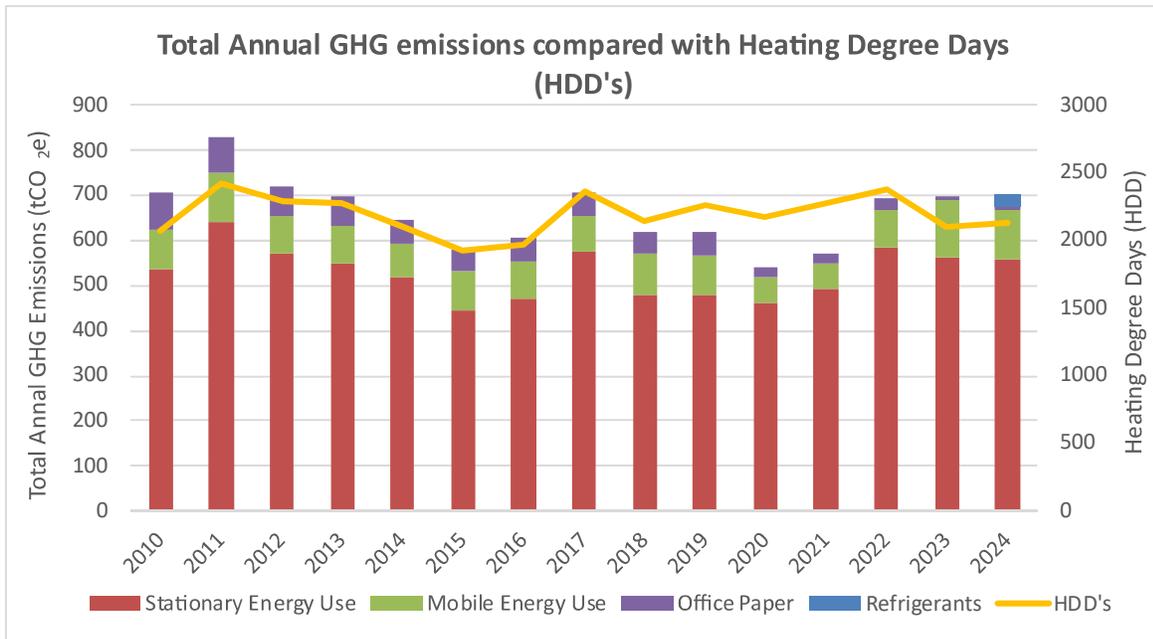


Figure 1. JIBC's Total Annual GHG Emissions Compared with Heating Degree Days from 2010-2024

Figure 2 illustrates this story from the perspective of annual carbon offsets. While offsets fluctuate between increasing and decreasing each year, the overall trend line continues to decrease.

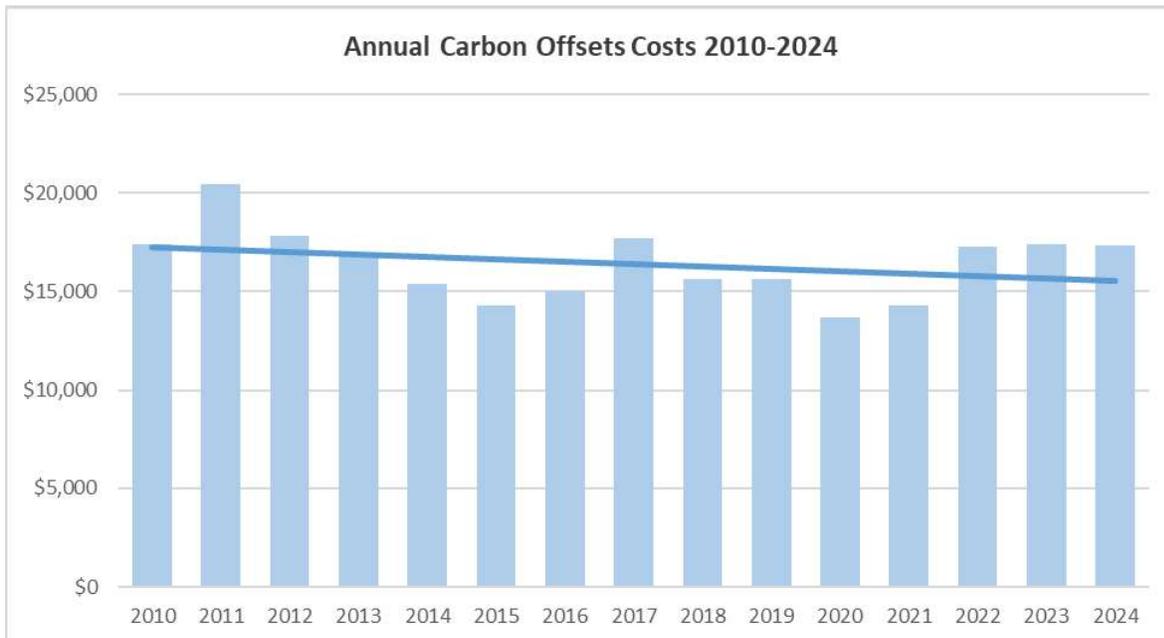


Figure 2. JIBC's Annual Offsets Trend from 2010-2024

JIBC’s most recent Strategic Energy Management Plan (SEMP) from March 2025 focuses on the New Westminster and Maple Ridge campuses. Updated for 2024, Figure 3 shows cumulative GHG emissions avoidance for stationary sources at the New Westminster and Maple Ridge campuses since 2010, when provincial carbon reporting began. This analysis verifies savings by assessing actual building performance using existing utility data and calculating weather-adjusted energy savings. It cumulatively tracks total energy savings relative to the 2010 baseline year. As seen in Figure 3 below, at the end of 2024, the cumulative GHG emissions avoidance since the base period is positive, representing an overall decrease in emissions compared to 2010. This is due to reductions in natural gas usage due to past energy conservation measures.

By the end of 2024, the cumulative GHG emission avoidance totals 1,705 tonnes of carbon dioxide equivalent (tCO₂e). Over the past three years (2022–2024), JIBC has shown minimal savings compared to 2010, which explains the plateau in total savings projections observed below in Figure 3.

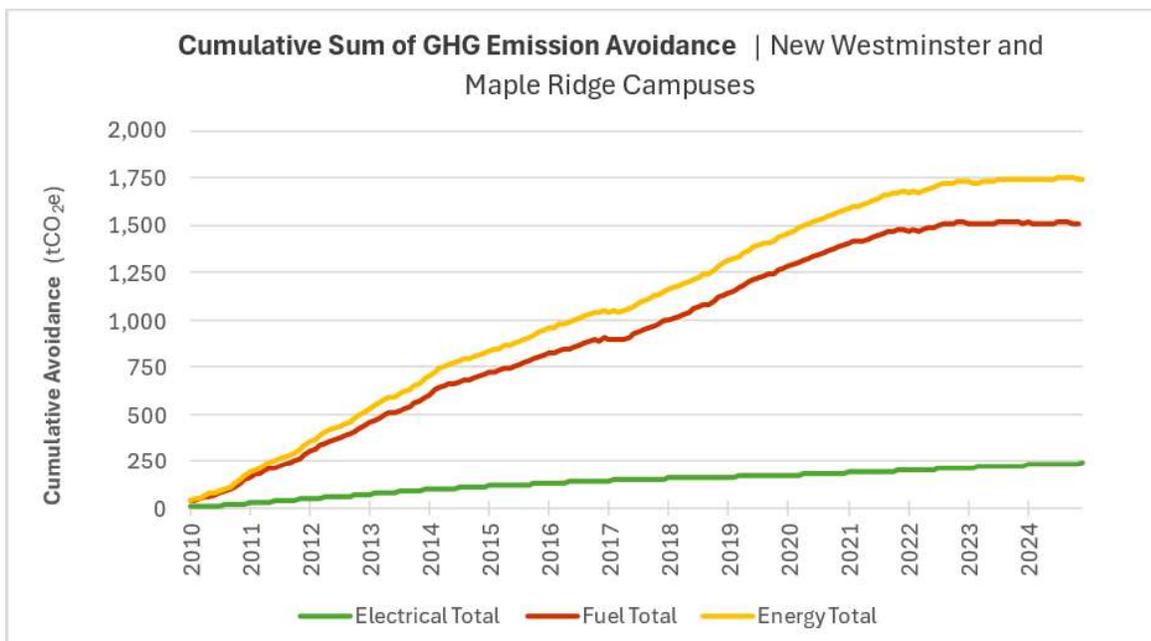


Figure 3. Cumulative Sum of GHG Emissions Avoidance for Stationary Sources at New Westminster and Maple Ridge Campuses

2024 Emissions

As Figure 1 depicts, JIBC’s 2024 total GHG emissions decreased by 1% compared to 2010 levels and increased by 0.4% compared to 2023 levels due to the quantification of fugitive refrigerant emissions in 2024. Figure 3 illustrates that these numbers are lower than they would have been without the benefit of previously implemented energy conservation measures. JIBC will need to continue implementing energy conservation measures to meet provincial targets of reducing emissions by 40% below 2007 levels by 2030.

GHG Emissions by Source

Stationary



Stationary sources accounted for 558 tCO₂e, or approximately 79.73 % of JIBC's total 700 tCO₂e in 2024. This represents the biggest source of GHG emissions for JIBC. Emissions are related to using natural gas for building and domestic hot water heating, ventilation, kitchen appliances and electricity for building cooling, fans, lighting, elevators, plugs, and server loads.

Mobile



Vehicles were the second greatest source of emissions, accounting for 107 tCO₂e, or approximately 15.36 %, of JIBC's total emissions in 2024. JIBC currently has a 100 % gasoline and diesel-powered fleet for instructional purposes and support roles.

Refrigerants



Fugitive refrigerant consumption accounted for 25.5 tCO₂e, or approximately 3.65 % of JIBC's total emissions in 2024. Refrigerants are used in the Institute's HVAC equipment and smaller appliances, such as refrigerators and freezers.

Paper



Paper consumption accounted for 8.9 tCO₂e, approximately 1.27 % of JIBC's total emissions in 2024. This represents the smallest source of JIBC's total emissions. JIBC's Administrative Services Group monitors large-volume paper users.

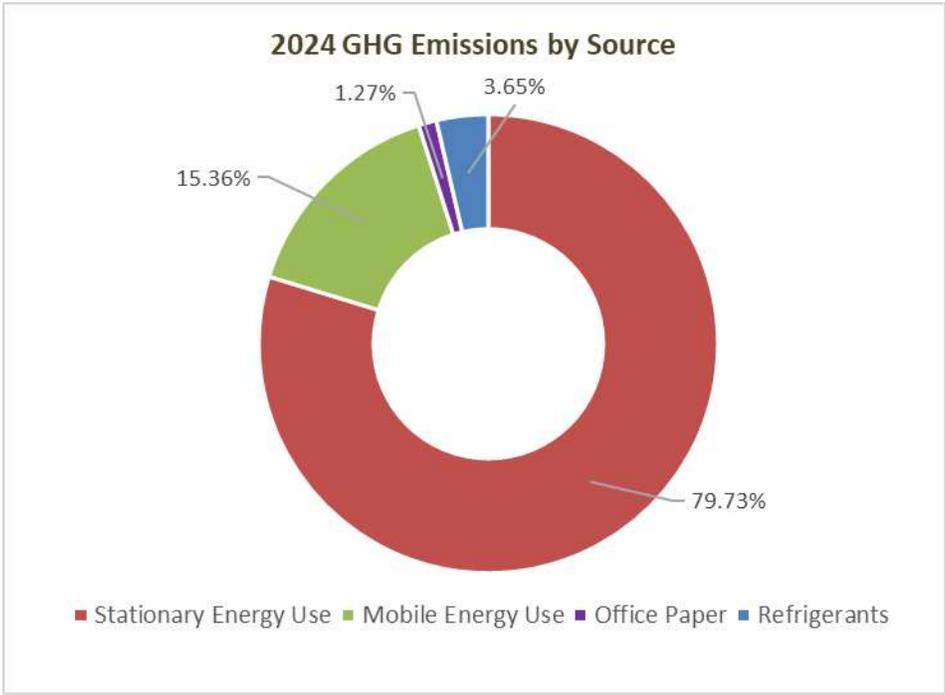


Figure 4. Breakdown of JIBC's 2024 GHG Emissions by Source

Summary of 2024 Greenhouse Gas Emission Reduction Actions

As part of JIBC’s commitment to reduce its energy consumption and associated emissions, projects are prioritized and selected based on payback and emissions reduction potential. As a result, most projects in 2024 focused on reducing stationary energy use, JIBC’s largest contributing source of GHG emissions, followed by projects in the paper use category. These projects are described in the tables below.

 Stationary Sources	
Electrical	
New Westminster Campus	<ul style="list-style-type: none"> Ongoing replacement of fluorescent light fixtures with LED type
Computers and Equipment	
New Westminster Campus	<ul style="list-style-type: none"> Continued ongoing IT upgrades, including the replacement of: <ul style="list-style-type: none"> Physical servers with virtual servers Network switches with more energy-efficient types Computers with more energy-efficient models
Mechanical	
Maple Ridge Campus	<ul style="list-style-type: none"> Upgrading the Water Treatment Plant A System to replace a 150HP electric motor-driven pump with a 30HP pump package system with variable speed drive control Replaced existing air handling units serving various buildings
New Westminster Campus	<ul style="list-style-type: none"> Replacing and upgrading cooling units in server rooms
Strategic Energy Management	
All Campuses	<ul style="list-style-type: none"> Participate in BC Hydro's Energy Wise Network Program, which supports organizational behaviour change Continued to update the Strategic Energy Management Plan annually

 Paper Consumption	
Reduction	
All Campuses	<ul style="list-style-type: none"> Implementing digitalization of administrative processes to reduce unnecessary paper-based filing and forms

Summary of Future Greenhouse Gas Emission Reduction Actions

Projects planned for 2025 and beyond will examine all four sources and build on the work, learning, and success of projects to date. In addition to energy savings potential and impact on emissions, the initiatives undertaken will also be selected based on benefits, including occupant comfort, equipment reliability, maintenance costs, and operational improvements. These projects are described in the tables below.

 Stationary Sources	
Electrical	
New Westminster Campus	<ul style="list-style-type: none"> Complete feasibility study on the installation of photovoltaic (PV) solar panels
Computers and Equipment	
	<ul style="list-style-type: none"> Ongoing replacement of <ul style="list-style-type: none"> Physical servers with virtual servers Network switches with more energy-efficient types Computers with more energy-efficient models
Mechanical	
Maple Ridge Campus	<ul style="list-style-type: none"> Conduct a second round of continuous optimization Conduct a decarbonization study Continuing the upgrade of the Water Treatment Plant A System Replace existing air handling units serving various buildings
New Westminster Campus	<ul style="list-style-type: none"> Conduct a second round of continuous optimization Conduct a decarbonization study Install variable speed drives on chilled water pumps
Strategic Energy Management	
All Campuses	<ul style="list-style-type: none"> Continue to update the Strategic Energy Management Plan annually Continue participating in BC Hydro's Energy Wise Network Program, which supports organizational behaviour change

 Mobile Sources	
EVs & Infrastructure	
New Westminster Campus	<ul style="list-style-type: none"> Install EV charging stations

 **Paper Consumption**

Reduction

All Campuses	<ul style="list-style-type: none">• Continue digitalization of administrative processes to reduce unnecessary paper-based filing and forms
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 **Refrigerant Consumption**

Equipment

All Campuses	<ul style="list-style-type: none">• Replace equipment that utilizes R-22 refrigerant
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2024 GHG Emissions and Offset Summary Table

Under the Carbon Neutral Government Regulation, JIBC recorded activities generating direct and indirect greenhouse gas emissions. In 2024, JIBC realized direct and indirect greenhouse gas emissions measured in tonnes per carbon dioxide equivalent (tCO₂e) in stationary fuel combustion, mobile fuel combustion, fugitive refrigerant emissions and paper.

JIBC 2024 GHG Emissions and Offsets	
GHG Emissions created in Calendar Year 2024	
Total BioCO ₂	5.80
Total Emissions (tCO ₂ e)	700
Total Offsets (tCO ₂ e)	694
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	694
Offset Investment (\$25 per tCO ₂ e)	\$17,350

Retirement of Offsets

In accordance with the Climate Change Accountability Act and the Carbon Neutral Government Regulation requirements, JIBC 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). JIBC hereby agrees that, in exchange for the Ministry of Energy and Climate Solutions (the Ministry) ensuring that these offsets are retired on JIBC's behalf, JIBC 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.

Climate Risk Management

JIBC is aware of and has felt the impact of climate events such as flooding, wildfires, and extreme temperatures. Wildfires and associated smoke have particularly affected campus staff, faculty, and students.

In 2024, JIBC initiated the feasibility phase for projects related to Climate Risk Management, which is ongoing.

- Conducting indoor air quality assessments of all campuses during routine periods and wildfire smoke events to determine HVAC filtration effectiveness and identify mitigation actions and system upgrades.

In 2025, JIBC plans to continue mitigating wildfire and smoke event risks. The Institute is developing the following foundations for Climate Risk Management:

- Conduct climate change vulnerability risk assessments at all campuses and incorporate the findings into building renewal as part of end-of-life upgrades.
- Along with completing climate resilience assessments, identify internal stakeholders and build an internal team that includes risk management, sustainability, capital upgrade/ asset planning, and operations representatives.
- Regularly review assets up for renewal (e.g., mechanical equipment) and consider assessing their capacity for future climate impacts (up to 2050 or asset life).
- Consider whether to develop an adaptation plan or incorporate adaptation into existing policies.

Other Sustainability Initiatives

In 2024, JIBC continued its recycling collection and pickup programs at all campuses.

JIBC's participation in the Sustainability Tracking and Assessment Rating System (the STARS program), administered by the Association for the Advancement of Sustainability in Higher Education (AASHE), continued in 2024. Data collection to support JIBC's participation in the STARS program was underway in 2024, along with producing a gap analysis to inform the development of an environmental strategy for the Institute. This initiative is projected to be completed in 2025.

JIBC's path to net zero will involve various projects in the following three categories:

Energy Efficiency and Behavioural

Most of JIBC's net-zero projects completed to date fall into the "Energy Efficiency and Behavioural" category. JIBC has successfully reduced energy and emissions through optimization programs and behavioural campaigns. JIBC will continue to pursue energy efficiency opportunities across all campuses.

Fuel Switching

Fuel-switching projects at JIBC primarily contribute to reducing emissions. However, they can also lead to energy reduction, such as switching from gas-fired systems to electric heat pumps, where the efficiency of the electric system is higher than that of the gas-fired system. JIBC is conducting a business impact and feasibility study on transitioning to propane-fueled fires for training in the Burn Building at the Maple Ridge campus, a change that could lead to reduced emissions.

Renewable Energy

Renewable energy sources can be either on-site or provided by a utility. At JIBC, there is an opportunity to install photovoltaic (PV) solar panels on the roof of the main building at the New Westminster campus to generate on-site electricity. A feasibility analysis for this initiative is currently underway. Additionally, JIBC will explore switching to renewable natural gas, a low-carbon fuel source.

Executive Sign-off

Mike
Proud

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by Mike Proud
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May 30, 2025

Signature

Date

Mike Proud

Vice President, Finance & Operations

Name (please print)

Title