



DOUGLAS COLLEGE

2022

PSO Climate Change Accountability Report

Carbon Neutral

Executive Summary

One of Douglas College's core values is that we take the long view. We recognize that decisions we make today will have an impact for many decades to come, so we work hard to make ours count. As a significant public sector organization, the College has a responsibility to be environmentally responsible, and to *be seen* to be environmentally responsible, to educate by example, and to help mitigate the effects of global climate change. This report highlights our key actions in 2022 towards these goals.

In addition to the actions highlighted, Douglas College continues to investigate opportunities provided by organizations such as BC Hydro's Power Smart programs, FortisBC, the Public Sector Energy Conservation Agreement (PSECA), Energy Canada (Enercan), and the Ministry of Post-Secondary Education and Future Skills (PSFS). These relationships provide access to a variety of resources to assist us in the development of a college-wide environmentally sustainable energy management plan that focuses on achievable, sustainable and measurable results.

Through these and other relationships with experts and community partners, we are able to monitor our progress against our plan, and update our procedures based on experience gained. Environmental sustainability is an iterative process, and Douglas College continues to learn and improve every year.

Declaration statement: This 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 greenhouse gas emissions, and our plans to continue reducing emissions in 2023 and beyond.

By June 30, 2023, a link to Douglas College's final Climate Change Accountability Report will be posted to our website at www.douglascollege.ca.

Overview

Emission Reductions: Actions & Plans

Key initiatives taken between January 1, 2022 and December 31, 2022 to reduce greenhouse gas emissions include:

A. Stationary Sources (e.g. buildings, power generation)

New Westminster campus

- Replaced approximately 260 meters of aging water line that contained lead solder.
- Lighting upgrades:

- Upgraded lighting in S2600 field base to LED including motion detectors that dim lights or shut them off when room is unoccupied.
- Removal of some emergency light battery packs.

Coquitlam campus

- Replaced two commercial freezers and two fridges with newer energy-efficient models that use more environmentally-friendly refrigerants.
- LED lighting upgrades:
 - C/D building hallways.
 - Valence lights in the A/B building's interior stairwells.
 - Fluorescent lights in the Foundation office area.
 - Boiler Room lights.
- Building Envelope Renewal Project:

Incorporated Climate Resilience features into the building envelope design for buildings A/B, level 3 (Phase 1 of 3). Phase 2 is targeting completion June 2024 and Phase 3 will complete pending available funding. The project is targeted to exceed current building code requirements to reduce the energy needed to heat and cool the campus, while adapting the building skin to make it more resilient to expected temperature extremes due to climate change. By incorporating the following features, projected GHG reduction is 60,224 kg CO₂ per year for the total project when completed. In addition, there will be electrical savings for reduced summer cooling:

 - Installing larger, non-operable, double-glazed windows to increase both the insulation value and natural lighting of interior spaces.
 - Integrating solar shading into the façade.
 - Increasing the insulation value of the walls.
 - Adding vestibules to the atrium (reducing drafts and energy loss).
- Old furniture was sold and reused via BC Bid resulting in 500 classroom chairs and 14 metal filing cabinets being diverted from landfill.
- 124 Fabric window coverings were replaced with frosting film, reducing energy, water and detergents for laundering.

Both campuses

- DocuSign, a digital signing authority app was adopted by the Human Resources department resulting in savings of:
 - 5,566 lb of carbon emissions
 - 6,982 gal of water
 - 2,371 lb of wood
 - 385 lb of waste.
- Increased the purchase of locally produced food products in our food services area to 34.2%.
- Obsolete furniture was disassembled and sorted for recycling, resulting in 3,865 kg of metal recycling.
- Approximately 121 litres (weight unavailable) of batteries were removed from the College and recycled by ABC Recycling.
- Food waste was composted and tracked. Waste cooking oil was recycled.

- 1,553,835 Plastic water bottles were diverted from landfill using water bottle filling stations on campus.
- Approximately 60 laptops and 180 desktop computers were donated to charity.

Plans to continue reducing emissions 2023 and beyond

- Replace induction lighting with LEDs in the Concourse and gymnasium at the New Westminster campus.
- Add carbon monoxide sensors to control the fans in the New Westminster campus parkade.
- Perform an energy audit for the A and B buildings at Coquitlam campus.
- Where necessary, convert control of building exhaust fans from interlocked control to scheduled control based on occupancy. Where required, add Direct Digital Control (DDC) monitoring to exhaust fans to allow for improved return fan airflow tracking.
- Incorporate Climate Resilience features into the building envelope project for the Daycare in Coquitlam.
- Incorporate Climate Resilience features into the building envelope design for future projects in New Westminster:
 - Upgrade the walls and roof for the Human Resources department renovation.
 - During re-roofing projects, increase roof insulation thickness where building architecture allows.
- Continue to convert the remaining 151 pneumatic VAV controls to DDC at the New Westminster campus.
- Continue implementing Energy Conservation Measures (ECMs) identified in the ASHRAE (American Society of Heating, Refrigerating and Air Conditioning Engineers) level 2 audit (e.g. lighting upgrades, occupancy sensors).
- Upgrade science labs, including fume hoods and exhaust.
- Upgrade main air handling systems to allow for higher capacity and increased efficiency.
- Continue to replace the hall lights to LED in various field bases in New Westminster and upgrade with motion detectors. Some of the lights will be tied to the emergency generators allowing for removal of the existing battery-powered emergency lights.
- Replace the older 4-tube fluorescent fixtures in the fitness and movement areas with energy efficient LED fixtures.
- Replace the induction lights in the atrium area (Coquitlam) with LED.
- Introduce fibre-based cutlery, increase use of reusable tableware in all food service outlets.
- Further increase plant-based meals including more made from fresh ingredients.
- Develop a solid waste plan for the College, as well as site plans, conceptual designs, and cost projections for primary waste areas at both campuses.

B. Mobile Sources (e.g. fleet vehicles, off-road/portable equipment)

- Car sharing options for students and employees for six cars using vehicles from car sharing organizations.
- The College's EV (Electric Vehicle) charging stations provided 103,055 of clean energy for EV drivers – equivalent to approximately 14,942 litres of gasoline.
- Additional EV charging stations were installed: 8 in New Westminster and 3 in Coquitlam for a total of 30.
- Continuation of a Work from Home policy, reducing trips to/from campus.

Plans to continue reducing emissions 2023 and beyond

- Replacement of the College van to an electric vehicle, when a suitable option becomes available.

C. Paper Consumption

- Promoted a College-wide reduction in paper usage.
- Text Book Recycling/Re-use:
 - 250 textbooks were bought back from students for re-use at Douglas College
 - 302 textbooks were bought back by wholesaler for distribution to other PSIs (post-secondary institutions)
 - 288 textbooks were donated to developing countries.

Plans to continue reducing emissions 2023 and beyond

- Continue to investigate options to reduce paper consumption.

D. Other – Policy & Leadership

- Continued membership of the Feed BC program.
- Achieved a Silver rating in AASHE (Advancement of Sustainability in Higher Education) STARS (Sustainability Tracking, Assessment & Rating System) Program.

Plans to continue reducing emissions 2023 and beyond

- Update the College Policy on Environmental Sustainability.
- Progress to a Gold rating in the AASHE STARS Program.
- Design and implement a climate action strategy that commits to reducing carbon emissions, energy usage and waste, and enhances the College's capacity to adapt to a changing climate.
- Encourage the development of curriculum that is responsive to environmental needs.

Douglas College is committed to researching and initiating, where feasible, short and long-term initiatives to promote environmental sustainability while meeting provincially mandated legislation for the reduction of Greenhouse Gas emissions.

The College will continue to pursue sustainability initiatives and encourage employees to think creatively and to act on reducing consumption in the workplace and take on the challenge of modeling new personal behaviour around sustainability.

Emissions and Offset Summary Table

Douglas College's GHG Emissions and Offset for 2022 (tCO ₂ e)*	
GHG Emissions created in Calendar Year 2022:	
Total Emissions (tCO ₂ e)	1,817
Total BioCO ₂	0
Total Offsets (tCO ₂ e)	1,817
Adjustments to GHG Emissions Reported in Prior Years:	
Total Offsets (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	1,817
Offset Investment (\$25 per tCO ₂ e)	\$45,425

Retirement of Offsets

In accordance with the requirements of the *Climate Change Accountability Act* and Carbon Neutral Government Regulation, Douglas College 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. 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.

Executive Approval


 Kayoko Takeuchi, VP Administrative Services and CFO

May 26, 2023

Date