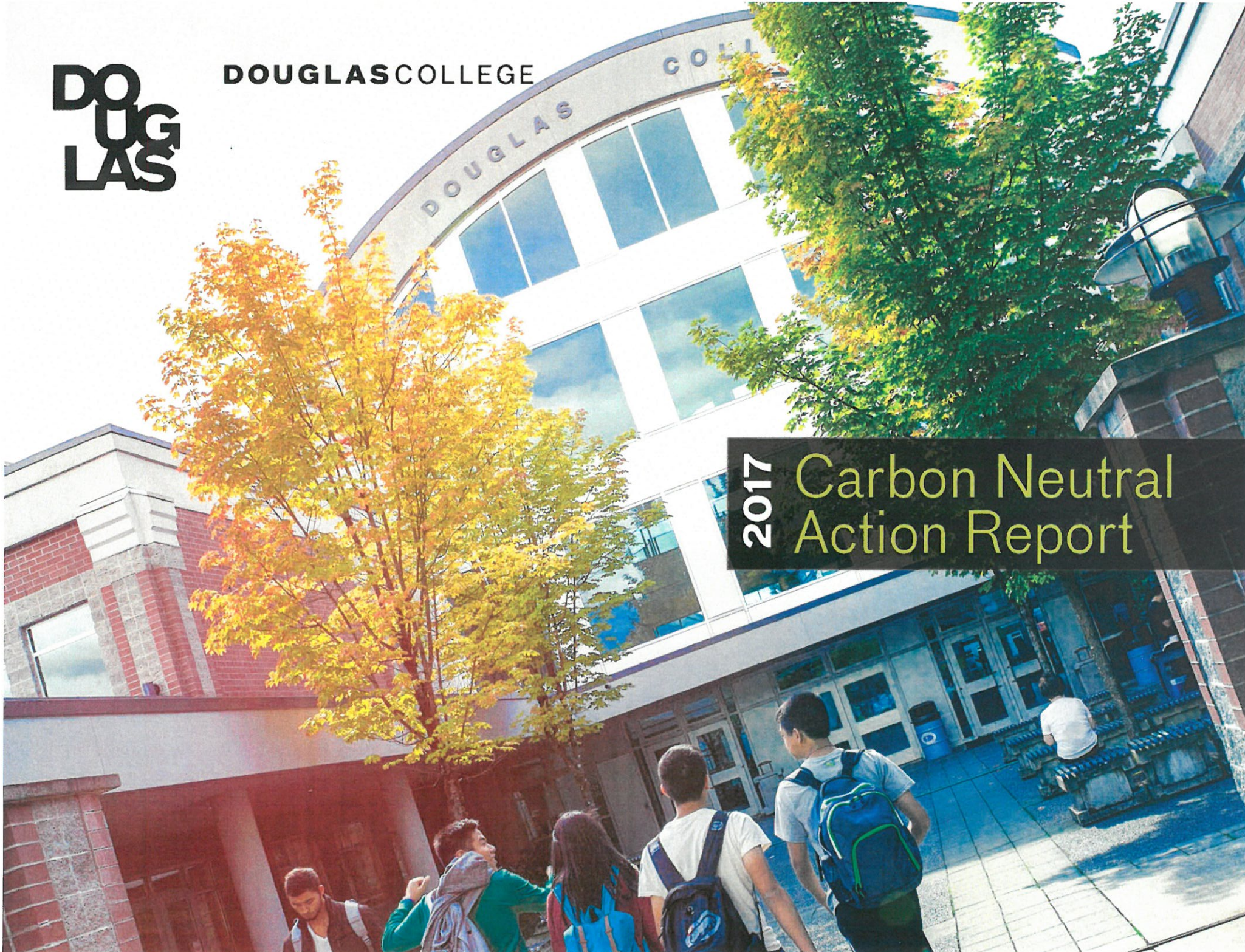




DOUGLAS COLLEGE

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2017 Carbon Neutral Action Report





Executive Summary

Douglas College continues to be concerned about the quality of the natural environment and building a sustainable society. As a significant public sector organization, the College has a responsibility to enable our community to become knowledgeable about the environment, and to become environmentally responsible. To educate by example, Douglas College demonstrates positive environmental citizenship by taking all reasonable efforts to make environmentally sound decisions.

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

Douglas College is committed to demonstrating quality environmental stewardship, and internal and external resources are being developed. Through consultation with experts and community partners, we will monitor our progress against our plan, and update our procedures based on experience gained.

Declaration statement: This Carbon Neutral Action Report for the period January 1st, 2017 to December 31st, 2017 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2017 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2018 and beyond.

By June 30, 2018 Douglas College's final *Carbon Neutral Action Report* will be posted to our website at www.douglascollege.ca.



Emission Reduction Activities in 2017

Key initiatives taken between January 1, 2017 and December 31, 2017 to reduce greenhouse gas emissions include:

New Westminster campus:

- Upgraded ten pneumatic VAV boxes to electronic.
- Removed five 347:120V ceiling transformers that were continuously energized, eliminating their electricity consumption.
- Hosted a Recycling Forum involving post-secondary, municipal and private companies to share best practices.

Coquitlam campus:

- Upgraded the Chiller Plant which included the replacement of chillers with higher efficiency chillers and variable speed pump control.

Both campuses:

- Conducted an evaluation to provide electronic charging stations at both campuses.
- Developed and implemented a new procurement policy to include that the College will give preference to environmentally friendly products.
- AHUs mixing air areas - installation of timers (4 position: 15, 30, 60 & 120min) to avoid lights being left on, resulting in less electricity consumption.
- Amended continuously the equipment work schedule to accommodate seasons, special events, and program changes resulting in less electricity consumption.
- Added a fifth stream (soft plastics) to our recycling program that was implemented in 2016. Continue to promote recycling across the College community using various channels such as the intranet, Douglas College website and social media, as well as have recycling volunteers at major events.



Plans to Continue Reducing Greenhouse Gas Emissions 2018 and Beyond:

- Replace windows at New Westminster campus to double pane, low-e, argon filled windows.
- For the New Westminster parkade, replace 395 100 watt HPS light fixtures to 33 watt LED with occupancy diming capabilities.
- Further expand car sharing options for employees and students.
- Installation of four EV charging stations at the New Westminster and Coquitlam campuses.
- Replacement of the Laura Muir Theatre production lights to LED technology.
- Where necessary, convert control of building exhaust fans from interlocked control to scheduled control based on occupancy. Where required, add DDC monitoring to exhaust fans to allow for improved return fan air flow tracking
- Continue to convert pneumatic VAV controls to DDC.
- At Coquitlam campus convert surface parking lot pole lights from 250 watt HPS to LED, sidewalk pole lights from 100 watt HID to LED, and 630 pot lights to LED.
- Upgrade Carnarvon parkade stairwell lighting (pot & exit lights).
- For the New Westminster underground parking lot, add Carbon-Monoxide sensors to control exhaust fans. They presently run continuously based on occupancy
- Implement some of the ECM's identified in the ASHRAE level 2 audit (i.e., lighting upgrades, occupancy sensors, etc.)
- For the Coquitlam parking lot, add occupancy sensors to parking lot to turn off non-emergency lights when the lot has low occupancy
- Add occupancy sensors to classrooms



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 has launched an ongoing awareness campaign to encourage our 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:

<i>Douglas College's GHG Emissions and Offset for 2017 (tCO₂e)</i>	
GHG Emissions created in Calendar Year 2017:	
Total Emissions (tCO ₂ e)	1,665
Total Offsets (tCO ₂ e)	1,664
Adjustments to GHG Emissions Reported in Prior Years:	
Total Emissions (tCO ₂ e)	-3
Total Offsets (tCO ₂ e)	-3
Grand Total Offsets for the 2017 Reporting Year:	
Grand Total Offsets (tCO ₂ e)	1,661

**Retirement of Offsets:**

In accordance with the requirements of the Greenhouse Gas Reduction Targets Act and Carbon Neutral Government Regulation, *Douglas College* is responsible for arranging for the retirement of the offsets obligation reported above for the 2017 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 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

Tracey Szirth, VP Administrative Services and CFO

May 30, 2018

Date

Part 1: CNAR Survey

1. General Information

Name: Chris Gardner

Contact Email: gardnerc@douglascollege.ca

Organization Name: Douglas College

Sector: Post Secondary

2. Stationary Sources (eg. Buildings, Power Generators): Fuel Combustion, Electricity use, Fugitive Emissions.

During 2017, did your organization take any of the following actions to support emissions reductions from buildings? (please select all that apply)

Performed energy retrofits of the organization's building(s)

If you selected "*Performed energy retrofits of the organization's building(s)*":

How many buildings were retrofitted?: 2

If you selected "*Built, or are building new LEED Gold or other "Green" buildings*":

How many new "Green" buildings?:

Did your Organization perform any retrofits during 2017? Please describe briefly:

- Completed a major Chiller Plant upgrade at the Coquitlam campus.
- Replacement of 270 pot lights to LED technology at the Coquitlam campus.
- Replacement of the parking elevator from a hydraulic lift system to a more efficient traction lift system at the New Westminster campus.

2a. Stationary Sources (eg. Buildings, Power Generators): Fuel Combustion, Electricity use, Fugitive Emissions.

Please briefly describe your organization's plans to continue reducing emissions from its stationary sources:

a) Over the next 1-5 years

- Continued focus on upgrading lighting to LED technology including occupancy and daylight sensing controls.
- Replacement of windows to double pane, low-e argon filled windows at the New West campus.
- Installation of EV charging stations at both campuses to promote electric vehicle use.
- Upgrades in the New West theatre production and house lighting to LED.
- Replacement in New West of the domestic hot water boiler to a higher efficiency.
- Upgrade on the main boiler plant in New West.

b) Over the following 6-10 years

- further projects identified in the ASHRAE Level 2 Energy Audit completed in October 2015.

3. Mobile Sources (Vehicles, Off-road/portable Equipment): Fuel Combustion:

During 2017, did your organization take any of the following actions to support emission reductions from its mobile sources? (please select all that apply)

Took steps to drive less than previous years

3) Mobile Sources - Other? Please specify:: Car sharing continues to be encouraged for employees and students. Our New West campus has 8 car share cars available (private companies) and the Coquitlam campus has 2 car share cars nearby. Staff are encouraged to take skytrain between our campuses.

If you selected "*Replaced existing vehicles with more fuel efficient vehicles (gas/diesel)*":

How many vehicles?:

If you selected "*Replaced existing vehicles with hybrid or electric vehicles*":

How many vehicles?:

3a. Mobile Sources (Vehicles, Off-road/portable Equipment): Fuel Combustion:

Please briefly describe your organization's plans to continue reducing emissions from its mobile sources:

a) Over the next 1-5 years

- Expansion of EV charging stations at both campuses.
- Continued encouragement for staff and students to car share or take transit options.

b) Over the following 6-10 years

- Replacement of one small van to electric (when available on the market).

4. Supplies (Paper): Indicate which actions your PSO took in 2017:

During 2017, did your organization take any of the following actions to support emissions reductions from paper supplies? (please select all the apply)

None of the above

If you selected "*Had a policy requiring the purchase of recycled content paper*":

State the required recycled content here (30%, 50%, 100%):

If you selected "*Had a policy requiring the purchase of alternate source paper (bamboo, hemp, wheat, etc)*", which type of alternate source paper did you use?

Please briefly describe your organization's plans to continue reducing emissions associated with its office paper use in future years.

5. Other Sustainability Actions

a) Business Travel

During 2017, did your organization take any of the following actions to support emissions reductions from business travel? (please select all that apply)

Encouraged alternative travel for business (e.g. bicycles, public transit, walking)

5) Other Sustainability Actions - Other? Please specify:: For meetings that involve staff from both campuses attending, video conferencing is available and used.

b) Education/Awareness

During 2017, did your organization have any of the following programs or initiatives to support sustainability education and awareness? (please select all that apply)

Support for professional development on sustainability (e.g. workshops, conferences, training)

c) Other Sustainability Actions

During 2017, did your organization have any of the following programs or initiatives to support sustainability? (please select all that apply)

An operations policy or program to facilitate the reduction and diversion of building occupant waste (e.g., composting, collection of plastics, batteries) from landfills or incineration facilities