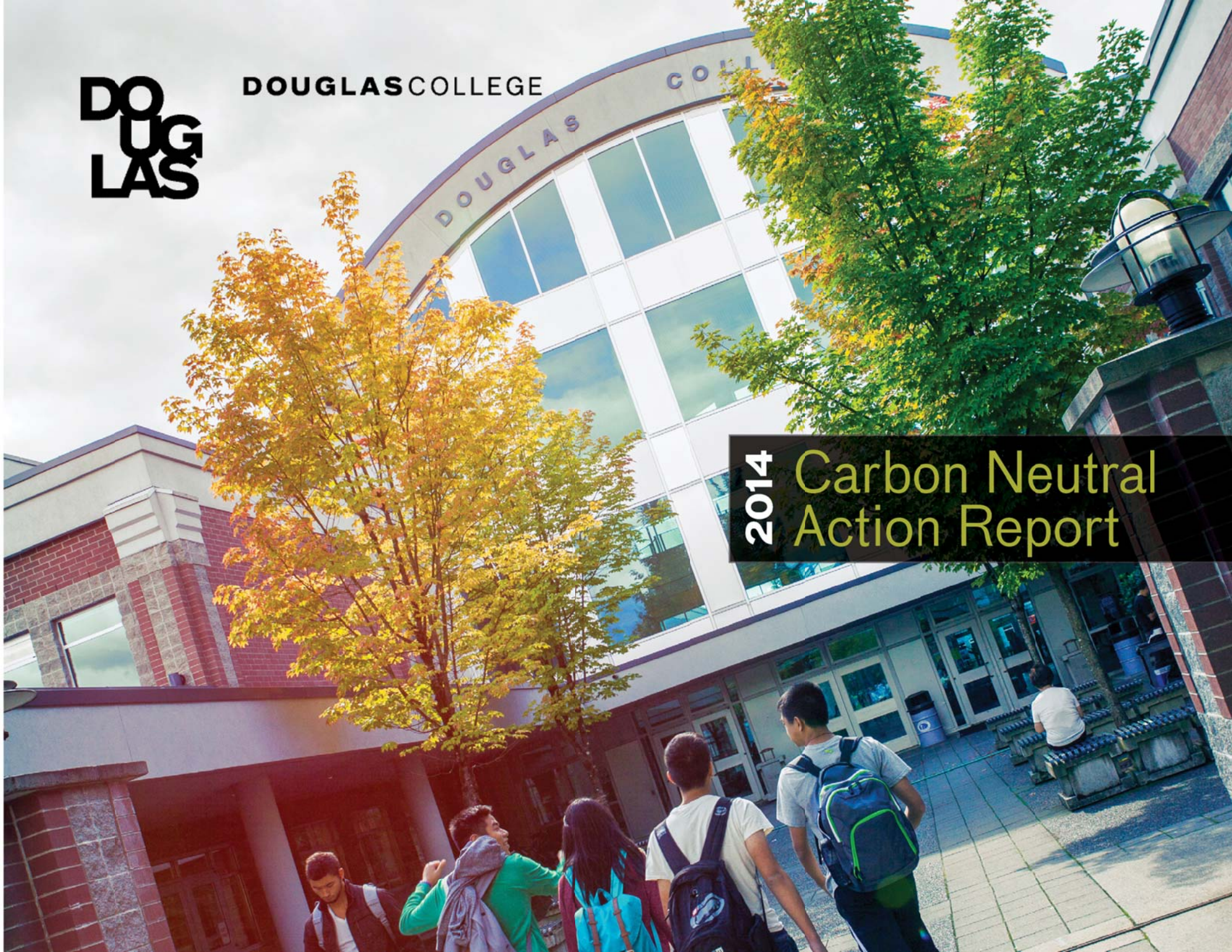




DOUGLAS COLLEGE

2014 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 inform 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. In this past year, Douglas College, via RETScreen, has established an energy usage baseline for measurement of Energy and Greenhouse Gas reduction targets. Through consultation with experts and community partners, we will monitor our progress against our plan, and update our procedures based on experience gained.

Executive Approval

Tracey Szirth

Vice President, Finance and Administration

May 22, 2015

Date

2014 Carbon Neutral Action Report

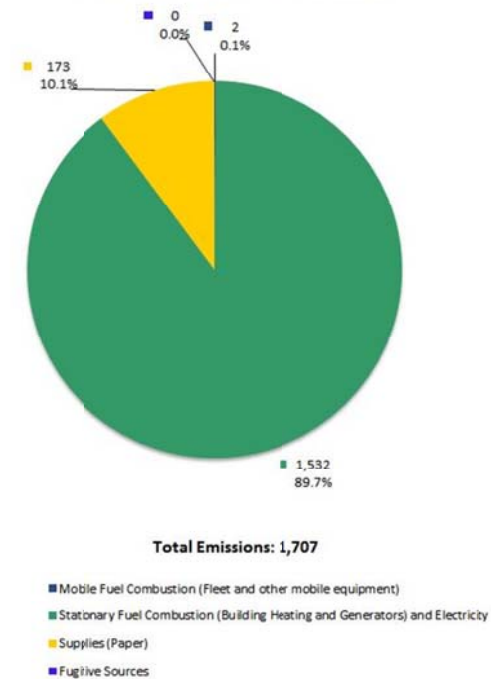
2014 Greenhouse Gas Emissions

In 2014, the total greenhouse gas emissions, from all sources covered by the Greenhouse Gas Reduction Targets Act, was 1707 tCO₂e.

Offsets Applied to become Carbon Neutral in 2014

Douglas College recognizes that we are responsible for 100% of the carbon emissions generated by the College. Achieving carbon neutrality involved measuring GHG emissions, reducing emissions where possible, and offsetting the remainder through the purchase of carbon offsets. To become carbon neutral, Douglas College purchased offsets equivalent to 1706 tonnes of CO₂, through the Carbon Investment Branch of the Climate Action Secretariat.

Greenhouse Gas Emissions by Source for the 2014 Calendar Year (tCO₂e*)



Offsets Applied to Become Carbon Neutral in 2014 (Generated April 21, 2015 2:01 PM)

Total offsets required: 1,706. Total offset investment: \$42,650. Emissions which do not require offsets: 0 **

*Tonnes of carbon dioxide equivalent (tCO₂e) is a standard unit of measure in which all types of greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.

** Under the Carbon Neutral Government Regulation of the Greenhouse Gas Reduction Targets Act, all emissions from the sources listed above must be reported. As outlined in the regulation, some emissions do not require offsets.



2014 Carbon Neutral Action Report

Emission Reduction Activities in 2013

Key initiatives taken between January 1, 2014 and December 31, 2014 reduce greenhouse gas emissions include:

At the New Westminster campus;

- Through a jointly funded BC Hydro and Fortis BC, completed an ASHRAE level one audit
- Enlisted Stantec Consulting to complete a ventilation review, comparing the existing ventilation rates with reference standard ASHRAE 62.1. A key finding was that the systems are over ventilating the building. We will be investigating energy control measures to reduce ventilation rates to match recommended levels
- Upgraded six pneumatically controlled to DDC controlled VAV boxes
- Replaced three standard duty motors with high efficiency motors (two 50hp and one 30hp)
- Completed miscellaneous lighting upgrades including; update the concourse lighting schedules, replace approx. 200 magnetic ballasts with electronic, replaced pot lights on the 4th floor canopy with CFL's and connected them to a photocell
- Hosted two forums focused on the environment: *Bugs with Benefits* in March, 2014 and the *Renewable Energy* forum in April, 2014

Emission Reduction Activities – continued



2014 Carbon Neutral Action Report

At the Coquitlam campus;

- Completed miscellaneous lighting upgrades including; updating lighting schedules to reduce energy, remove fixtures in some over-lamped areas, changing some emergency lights from “On” 24hrs per day, to “On” during evenings or when switched and installed occupancy sensors in fifteen photocopier room/mail rooms and fourteen washrooms
- Parking exhaust fan control sequences were revised to reduce operating hours and energy use
- Initiated a six month pilot project to collect mixed plastics for recycling

At the both campus;

- Installed variable speed drives onto six heating pumps at the Coquitlam and onto two cooling pumps at New Westminster. Phase 2 of this project will occur in 2015 with the installation of sensors and detailed control strategies
- Reviewed and updated; HVAC system operating schedules to match building occupancy, pump run-times to reduce operating times, reset schedules for AHU supply air temperature and where necessary, decommissioned redundant equipment
- Achieved 100% compliance with instituting procurement procedures where reportable paper will contain 30% recycled content



2014 Carbon Neutral Action Report

Plans to Continue Reducing Greenhouse Gas Emissions 2015 – 2016

Douglas College will continue to initiate feasible, short and long term actions to meet provincially mandated legislation for the reduction of Greenhouse Gas Emissions.

As part of the college's 2015 to 2020 Strategic Plan development process, sustainability and emission reductions have been identified as opportunities to improve employee and student engagement, and overall cost management.

Douglas College will continue to research and promote short and long term initiatives to promote environmental sustainability.

The College will look at how we can model a commitment to the highest values in environmental stewardship and sustainability at Douglas College.

The College will continue to enhance sustainability initiatives and continue an awareness campaign to encourage our employees to creatively think and act on reducing consumption and take on the challenge of modeling new personal behaviour around sustainability.

2014 Carbon Neutral Action Report (CNAR)

- Part 2 ACTIONS

Organization Name

Douglas College

Actions Taken to Reduce Emissions

1) Stationary Fuel Combustion, Electricity (Buildings):Indicate which actions were taken in 2014:

Performed energy retrofits on existing buildings

Yes

Built or are building new LEED Gold or other "Green" buildings.

No

Undertook an evaluation of overall building energy use.

Yes

Please list any other actions taken to reduce emissions from Buildings:

Completed a number of small retrofits projects.

2) Mobile Fleet Combustion (Fleet and other vehicles):Indicate which actions were taken in 2014:

Do you have a fleet?

No

Replaced existing vehicles with more fuel efficient vehicles (gas/diesel)

Yes

Replaced existing vehicles with hybrid or electric vehicles

No

Reduced the overall number of fleet vehicles

No

Took steps to drive less than last year

No

Please list any other actions taken to reduce emission from fleet:

Replaced full size van with a micro-van.

3) Supplies (Paper):Indicate which actions were taken in 2014:

Used less paper than previous year

No

Used only 100% recycled paper

No

Used some recycled paper

Yes

Used alternate source paper (Bamboo, hemp, etc.)

No

Please list any other actions taken to reduce emissions from paper use:

Achieved milestone where all reported paper contains a minimum of 30% recycled content.

Replaced our fleet of photocopiers with MFD devices in September 2014. With the rollout, we enabled auto duplex printing.

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Actions Taken to Reduce Emissions - continued

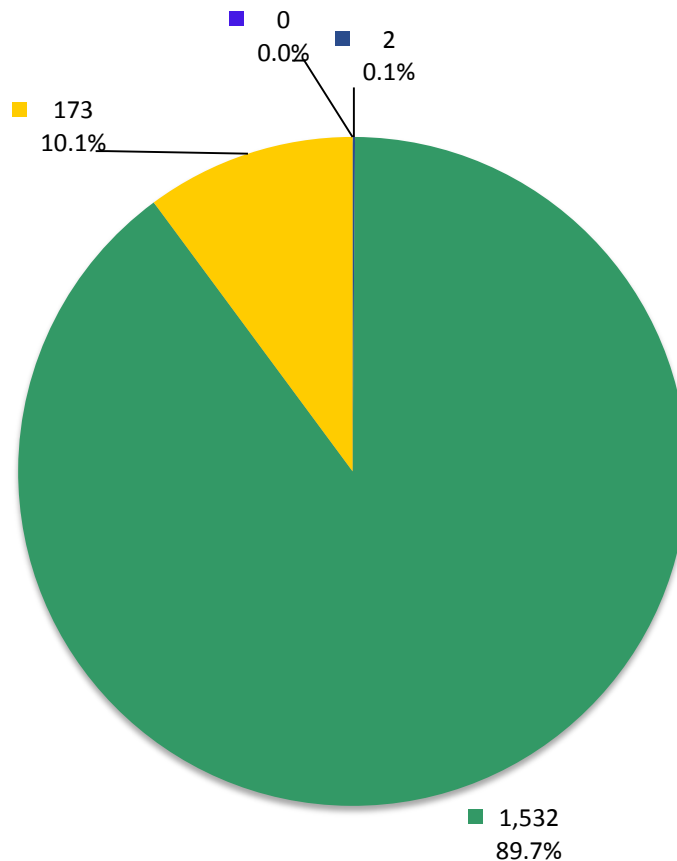
Explain how you plan to continue minimizing emissions in 2015 and future years:

The College will continue to minimize emissions in 2015 by reviewing HVAC operations to mitigate energy waste due to improper equipment operation & scheduling. In addition, the College will pursue initiatives as funding is available through different capital funding programs (CNCP, Routine Capital, Powersmart, etc.). Specific projects under consideration include completing an ASHRAE Level 2 audit in 2015, to prioritize future projects.

If you wish to list any other "sustainability actions" outside of buildings, fleet, paper and travel check "yes". This reporting is optional.

No

Douglas College Greenhouse Gas Emissions by Source for the 2014 Calendar Year (tCO₂e*)



Total Emissions: 1,707

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion (Building Heating and Generators) and Electricity
- Supplies (Paper)
- Fugitive Sources

Offsets Applied to Become Carbon Neutral in 2014 (Generated June 23, 2015 4:10 PM)

Total offsets required: **1,706**. Total offset investment: **\$42,650**. Emissions which do not require offsets: **0** **

*Tonnes of carbon dioxide equivalent (tCO₂e) is a standard unit of measure in which all types of greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.

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