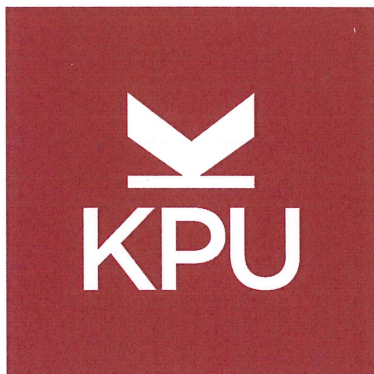
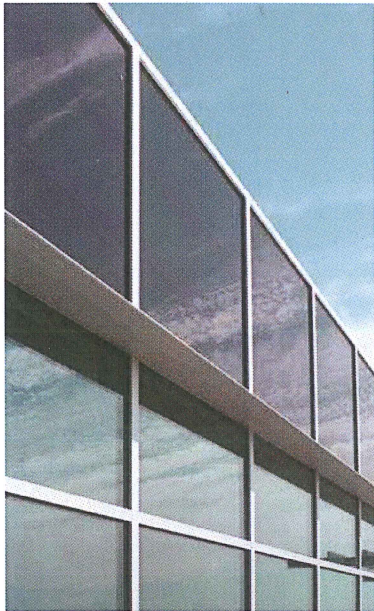
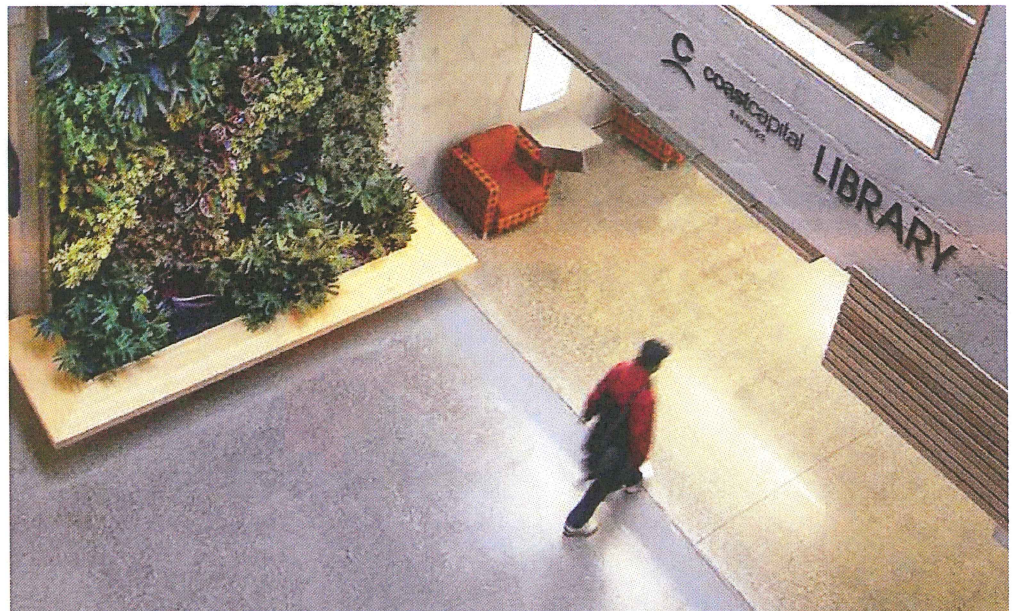




Carbon Neutral Action Report 2013

Prepared by Facilities Services



Kwantlen Polytechnic University – 2013 Carbon Neutral Action Report

Executive Summary

Kwantlen Polytechnic University (KPU) is the only polytechnic university in Canada, “we provide a unique array of programs and services that link students to their careers, their communities, and to their lives beyond the classroom”... “serving primarily students in the Metro Vancouver regions south of the Fraser River...” Our Strategic Plan “Vision 2018” defines our mission “KPU offers all learners opportunities to achieve success in a diverse range of programs that blend theory and practice, critical understanding, and social and ethical awareness necessary for good citizenship and rewarding careers.”

To achieve this KPU will embed learning outcomes within the University’s academic plan that prepare students for global citizenship and rewarding careers, enhance internationalization at KPU to allow learners and educators to develop a better understanding of the global challenges facing society, and integrate sustainability into the core curriculum across disciplines.

During the course of 2013 KPU continued to expand on its fundamental commitment to model responsible behavior in sustainability. In continuing to fulfill our commitment we are developing new credentialed programs which integrate sustainability as a keystone philosophy. Thereby spreading our commitment of creating positive change, through the broad scope of programs we offer to serve the needs of our community. The Strategic Energy Management Plan (S.E.M.P.) remains to be a key element for fulfilling our commitment to energy conservation and reduction of CO² emissions, and we will continue to pursue sustainable actions via the 2014 S.E.M.P.

2013 Greenhouse Gas Emissions

KPU’s 2013 total emissions from all sources as reported by SMARTTool are 2545.81 tCO²e, resulting in a reduction of 120.25 tCO²e, or a 4.5% drop from 2012 emission levels. Energy efficiency improvement projects reduced overall energy consumption regardless of comparatively colder average seasonal temperatures from those in 2012. Improvements to building systems resulted in an increase in facility efficiency at our Surrey campus, as illustrated by an 8.8% reduction from 693 tons of carbon emissions produced by heating systems to 632 tons of carbon emissions in 2013. Continuing to enhance environmental sustainability efforts on campus is a keystone of our organization’s vision.

2013 Mobile emissions totaling 16.77 tCO²e, which were generated by KPU’s seventeen assorted vehicles and a variety of outdoor-power equipment, were reported in our total emissions as fleet emissions and revealed a 16.44% decrease from 2012 levels. A significant portion of this decrease in emissions is reasonably attributable to variances resulting from changes in operational activities. As in past years this source remains well below 1% of our total emissions. In addition it can be inferred that there is an additional reduction in carbon emission resulting from reduced travel by students and staff because of course realignments, eliminating the need to commute between Richmond and Langley campuses.

Annual Fugitive Emissions generated by refrigeration equipment remain well below 1% of our total emissions and were not reported in 2013, as permitted under regulatory guidelines. A reporting template to submit the data to the SMARTTool reporting system is in development, to further enhance emissions tracking and reporting precision.

Offsets Applied to be Carbon Neutral in 2013

KPU has completed our Carbon Offset Purchase Order Form from Pacific Carbon Trust and purchased carbon offsets for the total 2545 tons of carbon emissions requiring offsets, as identified in SMARTTool for the total emissions calculated for 2013.

Emission Reductions Activities

Actions Taken to Reduce Greenhouse Gas Emissions in 2013:

- The University established the Environmental Sustainability Committee co-chaired by the Dean of Science & Horticulture and the Executive Director Facilities Services, which produced a report "Sustainability at KPU: Where are we now?"
- Development of departmental green teams started with the Horticulture green team being the first to be formed, implementing monthly 'Green Team' meetings to seek reduction in fuel use at Horticulture Field Labs.
- The Langley Institute of Sustainable Horticulture laboratory was awarded LEED Gold status.
- We've continued providing interactive presentations on energy conservation and sustainability issues, at information sessions at the start of semesters and at new employee events.
- Our Energy & Sustainability Website provides information and green tips to raise awareness on energy conservation and sustainability. <http://kwantlen.ca/sustainability.html>
- The installation of accurate sub metering enabled us to install an interactive touch screen display in the Langley Horticulture building, which allows access to energy use data for the Greenhouse operations and permits students and employees to view how much electricity and natural gas are being used for greenhouse processes.
- We updated records from previous years to monitor our energy performance baseline.
- Facilities Services- energy conservation lighting technology upgrade projects, reduced annual lighting expenses by an estimated \$13,486.00 per year in electrical and maintenance costs.
- Completed Surrey boiler loop bridge removals, and the system was adjusted to reflect changes to fluid flows, which results in better efficiency of the condensing boilers in the system. This reduces natural gas energy consumption, resulting in decreased greenhouse gas production.
- We've continued the practice of ensuring that all computers purchased are "80 plus" certified and monitors are "Energy Star" certified.
- More use of video- conferencing for inter-campus meetings to reduce travel (FSH Curriculum Committee meetings).
- The specific realignment of courses between Environmental Protection Technology and Agriculture courses to eliminate the need for students to commute between the Richmond and Langley campuses.

Plans to Continue Reducing Greenhouse Gas Emissions 2014– 2018:

- Investigating use of LED's to replace existing HPS/SON-T lamps in Horticulture greenhouses to reduce electricity consumption.
- School of Horticulture exploring options to install green / living walls in West Wing lobby, Health Science lobby and student seating areas.
- Horticulture is planting trees and other vegetation on Langley campus as part of Plant Identification courses, with added benefit to long-term sequestration of carbon emissions.
- Sustainability outreach initiative by Environmental Protection Technology students during sustainability week.
- The School of Horticulture is exploring the opportunities for installation of a rain water collection system for collecting from building roofs at field labs, to conserve water and reduce consumption from external supply.
- Commitment to KPU-wide green-waste and post-consumer food waste composting.
- Yearly solid waste audit performed by students; research vermin-composting facilities to generate data with eventual aim to compost Kwantlen green and cafeteria waste.
- 'Branching Out 2014' Student conference with theme: "Careers that work towards building resilient cities with limited (water) resources".
- KPU continues to develop new credentialed programs, advocating the philosophy of sustainable practices, and will integrate sustainability into the core curriculum across disciplines.
- The Richmond \$36 Million Chip and Shannon Wilson School of Design building, scheduled to open in 2015, is being designed and constructed to achieve a minimum of LEED Gold.
- Any new construction or major renovations will include LEED equivalent. All renovation and construction projects will use integrated design process.
- The Strategic Energy Management Plan is updated annually to identify further energy conservation projects.

Emissions and Offsets Summary:

Organization X GHG Emissions and Offsets for 2013 (TCO²E)	
GHG Emissions created in calendar year 2013 (from SMARTTool Homepage)	
Total Emissions	2546
Total Emissions for Offsets	2545
Adjustments to GHG Emissions Reported in Previous Years (from SMARTTool Homepage)	
Total Emissions	0
Total Emissions for Offsets	0
Credit owing from PCT at end of 2012 reporting year (if applicable – from May 15 Invoice):	
Credit Owing	2651
Total Emissions for Offsets for the 2013 Reporting Year (from Offset Invoice):	106

KPU is committed to providing enriched learning experiences that help prepare students for global citizenship and success in life through fundamental academic skills, inquiry-based curriculum, reflective scholarship and student-faculty interaction, and the critical role of a supportive academic community.

Further information about KPU's plans and current initiatives in energy and environmental management, are available at the URL's below:

Facilities Services

<http://www.kpu.ca/sustainability>

Supply and Business Services

Green Index: <http://www.kpu.ca/supply/green>

Signature



Gordon R. Lee

**Deputy Vice Chancellor and
Vice President Finance and Administration**

Date

June 2, 2014