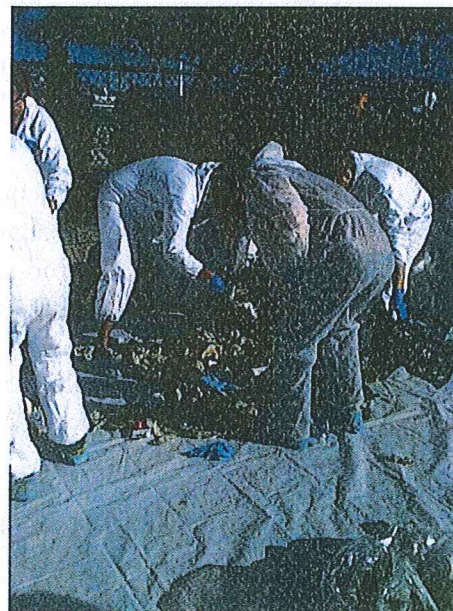




2013

Carbon Neutral Action Report

Okanagan College



2013 Carbon Neutral Action Report

Okanagan College

Executive Summary

Okanagan College continues to develop and enhance its focus on sustainability, from the perspective of an organization with a responsibility for education, training and community development, and from the perspective of an organization that is focused on achieving carbon neutrality.

Okanagan College Strategic Plan includes the following directives:



- Embed sustainability in the full range of educational programming.
- Increase sustainable practices in all operations.
- Educate students and employees to act sustainably.
- Promote leadership and collaboration with communities in developing sustainable practices.
- Ensure financial sustainability.

The College continues to participate in the STARs program – (**Sustainability Tracking and Assessment Rating System** administered by the Association for the Advancement of Sustainability in Higher Education). The process involves a rigorous examination of practices, policies, and achievements that contribute to sustainability. Okanagan College spent 2013 preparing for our bi-annual resubmission which will be completed in May 2014. We had received an original score of Silver and were the first College in B.C. to receive such a ranking. Conveniently, many of the activities which improve our STARs scoring are also directly aligned with our carbon reduction initiatives.

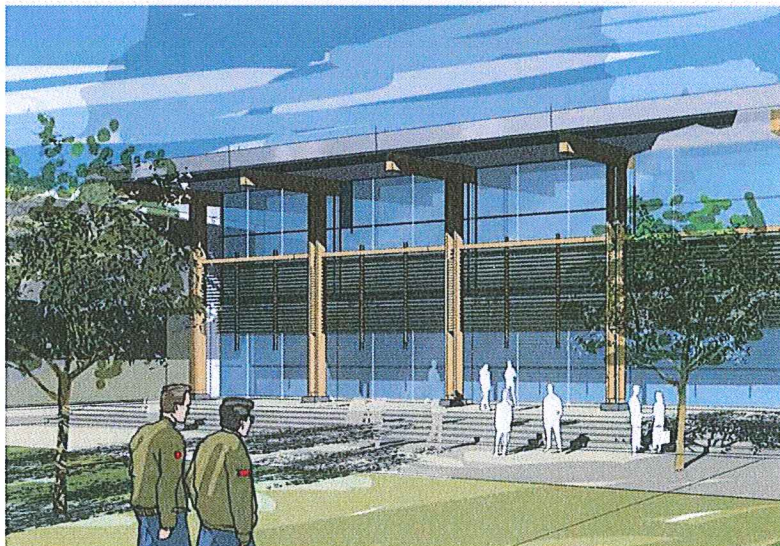
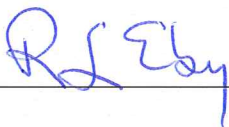
The quest for improvement is ongoing. The institution has established goals for itself for carbon emissions and energy use/production:

- Okanagan College is seeking to be energy net zero by 2025, producing as much energy as it consumes, and
- Reduce our net carbon emissions by 80 tons per year.

Part of Okanagan College's commitment to sustainability has involves giving greater voice and visibility to the topic. It starts with new staff orientation – sustainability is a featured topic in those sessions that introduce employees to the values and vision, policies and practices of the institution. A sustainability blog – okanagan.bc.ca/sustainabilityblog – builds the conversation and information-sharing channels.

A significant achievement in 2013 was the completion of the first phase of our **“Trades Training Complex”** on our KLO campus. The project is seeking a minimum of LEED Platinum standard as well as meeting the much more rigorous Living Building Challenge. It will be “Energy Net Zero” and include approx. 450 KW of PV Solar Panels. Construction of the 4 year project began in fall 2012 with the initial steps of renovating and retrofitting of 4,385 square meters of existing shop, classroom and administration space. The project will conclude with the construction of 6,264 square meters of new space, which will accommodate more than 750 trade and apprenticeship students, many of whom currently train offsite in leased space. All mechanical and energy systems will be improved to reduce the building's carbon footprint significantly.

The College will continue to leverage the technology, passion and creativity inherent in the building to be an agent of change for the larger community, drawing on the interests and expertise of staff and students to advance the efforts to be sustainable and to reduce our collective carbon footprint.

Robert L Eby

Vice President Finance, Okanagan College

Greenhouse Gas Emissions

Total Greenhouse Gas Emissions Reported for 2013 = **1531 tonnes of CO₂e**

This number represents a slight increase over last year, however we also added some space and our emissions per square meter was still lightly lower.

It should also be noted that we had a cooler winter than the previous year which required more heating.

Offsets Applied to Become Carbon Neutral in 2013

- Total Emissions for 2013: **1,531**
- Total Emissions for Offsets: **1,527** (4.0 tonnes of CO₂e do not require offsets due to the ethanol content in fuel for vehicles)
- Adjustments to prior years emissions: -22
- Total Emissions that require offset purchases for 2013: **1,505**

Historical Performance

Reporting Year	Building Area	Students	GHG Emissions Tonnes CO ₂ e			
			Tonnes	Tonnes / Student	Tonnes / M ²	Heating Degree Days
	M ²	Count				
2007	57810	5258	1,977	0.38	0.0342	3983
2008	57810	5455	2,000	0.37	0.0346	4250
2009	61568	5906	1,902	0.32	0.0309	3540
2010	65664	6331	1,632	0.26	0.0249	3841
2011	72419	6457	1,599	0.25	0.0221	3804
2012	72793	6314	1,487	0.24	0.0204	3625
2013	75481	6245	1,531	0.25	0.0203	3871

Emissions Reductions Activities in 2013

Purchasing / Consumption

- Trash Audits were performed on the Vernon and Salmon Arm campus to help us identify opportunities for carbon reduction in our purchasing practices.
- Pay for printing was introduced to all staff and students to help people “connect the dots” between use and cost
- Bulk Purchasing of cleaning products was expanded further to reduce packaging waste and transportation emissions

Transportation

- Continued Expansion of our “Ride to work Week” and “ICBC Commuter Challenge” Programs
- Parking rates were increased in an effort to motivate people to consider alternative forms of transportation.

Energy

- We are now implementing some of the energy saving opportunities identified through our Building Optimization Program (BOP) on the KLO campus. Fortis BC has provided funding for utility sub-metering and an operational review which will hopefully identify opportunities for energy savings which we can take advantage of and likely duplicate at our other sites.
- Lighting retrofits continue on all sites whenever possible and include replacement of fixtures, addition of motion sensors and daylight harvesting. This year also saw the addition of LED parking lot lighting on all 4 campuses.
- Sub-metering of our electrical consumption is now in place in our Student Residence.
- Gas Metering was also connected at Salmon Arm, Vernon and Penticton Campuses through the Fortis BC EnerTracker program. This will yield valuable consumption information which we can use to develop additional reduction strategies.

Policy & Planning

- New Campus Master Plan under development which will tie directly into our Transportation, Energy and Sustainability Policies.
- Heavy Duty Mechanic Building Expansion – Completed - including new outdoor “canopy” with 200 kW Solar PV array.
- College Wide official sustainability policy is under development and expected to be completed in 2014.
- STARS Planning: OC updates our STARS program rating bi-annually and continues to use the program as a foundation for our Carbon reduction activities. We will resubmit again in Spring 2014.

Education and Engagement

- We installed electrical sub-metering for our student residence building. This system comes complete with dashboard interface for further engagement.
- In a partnership with the Fresh Outlook Foundation, the College again hosted films as part of REEL Change Sustainability Film Festival
- Staff Training Staff – Our ILT group (Institute of Learning and Teaching), hosted a number of sustainability related talks over the course of the year including “How to Reduce your Home energy bills” and the “Basics of Electric Cars”.

Plans to Continue Reducing Greenhouse Gas Emissions 2014 and beyond

- The Trades Training Complex – is underway with Phase One completed in 2013, Phase 2 to be completed in 2014. Anticipated to be energy net zero – currently, it consumes over 20% of the college total energy footprint.
- Replace existing gas powered fleet vehicles with Electric Fleet Vehicles
- Explore Opportunities for Biomass
- Develop Paper Printing Reporting structure to help engage users change printing habits.
- Have Projects planned and budgeted so we can take advantage of the Carbon Neutral Capital Program

2013 Carbon Neutral Action Report (CNAR) - Part 2 ACTIONS

Created Monday, February 17, 2014

Updated Thursday, May 15, 2014

<https://fluidsurveys.com/surveys/cas-z/2013-cnar-form-bps-actions/415155989d4bb47aff7dfe5eb1f5f8f4/>

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Please complete the following sections of the 2013 Carbon Neutral Action Report form. Save your work frequently to prevent it from being lost. You can also save a copy for your own use as either a WORD or PDF file using the buttons at the bottom of each page.

This is Part 2 of the Carbon Neutral Action Report form. This section reports on actions taken to reduce emissions during the 2013 calendar year. This information will be included in your final Carbon Neutral Action Report posted on the Ministry of Environment website.

When the form is complete press the submit button on the last page to automatically submit the information to the Climate Action Secretariat (CAS). Do not press submit before you are ready – this may result in a loss of work.

In addition to completing this survey (Part 1 2), you are required to submit your completed Overview (Executive Summary) and Self-Certification Checklist. The 2013 Overview template was included in the email sent and can also be found on the LiveSmart leaders Community.

Please ensure you meet the following reporting deadlines:

A DRAFT 2013 CNAR is due to CAS by March 31, 2014. The draft is comprised of the Overview ONLY (no executive sign-off required).

The FINAL 2013 CNAR is due to CAS by May 30, 2014. The final 2013 CNAR includes Part 1 Part 2 survey form and Overview.

The Self-Certification Checklist is due to CAS by May 15, 2014.

For more information about the Carbon Neutral Government process, please refer to *Becoming Carbon Neutral 2013*, or should you have any questions please contact climateactionsecretariat@gov.bc.ca.

Organization Name

Okanagan College

Actions Taken to Reduce Emissions

1) Stationary Fuel Combustion, Electricity (Buildings):

Indicate which actions were taken in 2013:

Performed energy retrofits on existing buildings

Yes

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

Yes

Undertook an evaluation of overall building energy use.

Yes

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

Underwent Detailed Energy Audit of our Kelowna Campus.

Added LED lighting to parking lots on all 4 campuses.

Began Construction and Upgrade of Trades Training Complex on Kelowna Campus

2) Mobile Fleet Combustion (Fleet and other vehicles):

Indicate which actions were taken in 2013:

Do you have a fleet?

Yes

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

No

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:

We are developing a long term fleet plan which includes replacing older vehicles with Hybrid or EV's. We are also expanding our technology and training so more staff can take advantage of video-conferencing opportunities

3) Supplies (Paper):

Indicate which actions were taken in 2013:

Used less paper than previous year

Yes

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:

We instituted a "Pay For Print" Policy for staff and Students this year. The student side of our Pay Per Print initiative was launched on May 6th, 2013. At that time the staff side of the initiative had already been in operation for a number of months. Since launching Pay Per Print we have seen total student printing drop by over 72%. Overall, our total paper usage (students and staff) is down by 29% over last year.

Actions Taken to Reduce Emissions - continued

Explain how you plan to continue minimizing emissions in 2014 and future years:

Our Trades Training Complex (Kelowna) is currently heated using mostly Natural Gas - about 20% of our total College Consumption. The current upgrade and expansion will convert most of this from Nat Gas to our central heating plant which is largely powered by an electrically powered thermal heat-pump system.

We are also starting to implement a public dashboard interface so staff and students can monitor their energy consumption directly. This will hopefully drive engagement to much higher level.

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

Yes

Actions to Promote Sustainability and Conservation - Optional

The following are actions that fall outside the scope of the *Carbon Neutral Government Regulation*, but which many organizations still undertake and may wish to report on. This section is optional for reporting.

Business Travel

Created a low-carbon travel policy or travel reduction goal (Low-carbon: Lowest emission of greenhouse gases per kilometre per passenger)

No

Virtual Meeting Technology

Installed web-conferencing software (e.g., Live Meeting, Elluminate, etc.)

Yes

Made desktop web-cameras available to staff

Yes

Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)

Yes

Encourage carpooling to meetings

Yes

Education and Awareness

Have created Green, Sustainability, Energy Conservation, or Climate Action Teams.

Yes

Provided resources and/or dedicated staff to support these teams

No

Provided behaviour change education/training for these teams (e.g., community-based social marketing)

No

Established a sustainability/green awards or recognition program

No

Support green professional development (e.g., workshops, conferences, training)

No

Planning for Climate Change

Have assessed whether extreme weather events and/or long term changes in climate will affect our organization's business areas

No

Long term changes in climate have been incorporated into our organization's decision making.

No

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Actions to Promote Sustainability and Conservation - Optional (continued)

Staff Awareness and Education

Provided education to staff about the science of climate change

No

Provided education to staff about the conservation of water, energy, and raw materials

Yes

Provided green tips on staff website or in newsletters

Yes

Alternate Work/Commuting Options

Allow for telework/working from home

No

Staff have the option of a compressed work week

No

Commuting by foot, bicycle, carpool or public transit is encouraged

Yes

Shower or locker facilities are provided for staff/students who commute by foot or by bicycle

Yes

Secure bicycle storage is provided

Yes

Other Sustainability Actions

Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models

Yes

Put in place a potable water management strategy to reduce potable water demand of building-level uses such as cooling tower equipment, toilet fixtures, etc. and landscape features

No

Have put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities

Yes

Have implemented a hazardous waste reduction and disposal strategy (Hazardous Waste: E.g., electronics including computer parts and monitors, batteries, paints, fluorescent bulbs)

Yes

Have incorporated minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.)

No

Established green standards for goods that are replaced infrequently and/or may require capital funds to purchase (e.g., office furniture, carpeting, etc.)

Yes

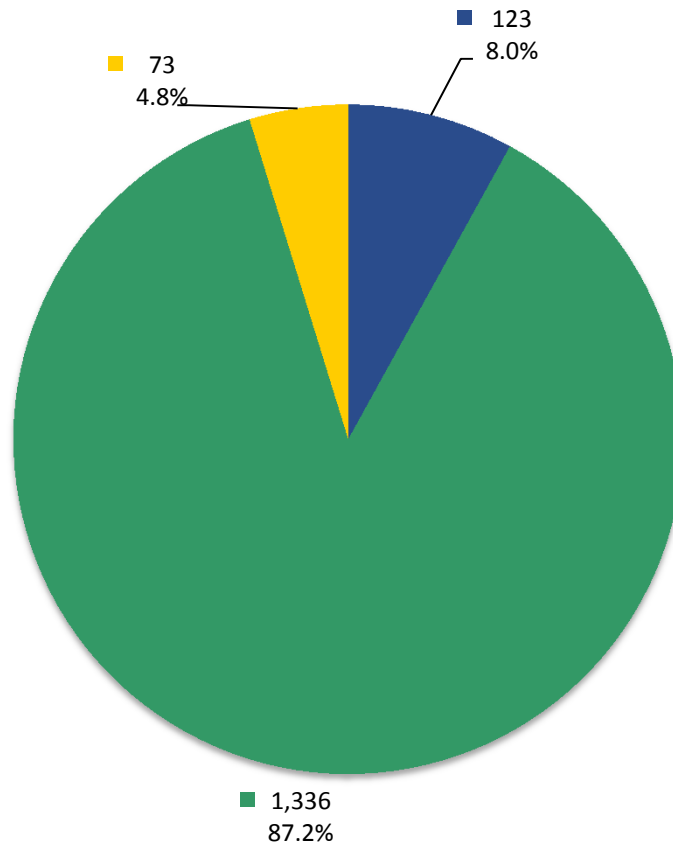
Incorporated lifecycle costing into new construction or renovations

Yes

Please list and other sustainability actions you wish to report not included in the previous list.

(No response)

Okanagan College Greenhouse Gas Emissions by Source for the 2013 Calendar Year (tCO₂e*)



Total Emissions: 1,531

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

Offsets Applied to Become Carbon Neutral in 2013 (Generated May 21, 2014 2:45 PM)

Total offsets required: **1,527**. Total offset investment: **\$38,175**. Emissions which do not require offsets: **4** **

*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.