

2012 Carbon Neutral Action Report



Executive Summary

At Capilano University, our mission is student success. We are a teaching-focused university offering a wide range of programs and services that enable students to succeed in their current studies, in their ongoing education, in their chosen careers, in their lifelong pursuit of knowledge, and in their contribution as responsible citizens in a rapidly changing and diverse global community.

If you are just getting to know us, our main campus is in North Vancouver, located in a lush forested environment on the slopes of the North Shore with regional campuses in Squamish and Sechelt that serve the communities of Howe Sound and the Sunshine Coast.

Our [Sustainability Policy](#), issued in 2009, outlines the University's commitments to environmental stewardship and our community.

One of the key learning outcomes we strive to instil in our students is community/global consciousness and responsibility. Our students learn about sustainability in their courses and through their involvement in campus life. Examples include:

- EarthWorks – An ambitious initiative spearheaded by students, staff, and faculty from the University's Biology, English, Geography, Liberal Studies, Tourism and Outdoor Recreation programs and beyond. Through a series of lectures, films and activities, EarthWorks aims to educate and inspire students and members of the campus and local community to understand complex environmental issues from a multi-disciplinary perspective enabling all to take action for positive change.
- Campus waste audits – A hands-on project engaging students from a variety of faculties across campus to learn about our waste generation. Begun in 2011, students in Environmental Geography, Outdoor Recreation, and Archaeology sort through one day of campus waste as part of an ongoing research project aimed at improving our waste management strategies at Cap U.

Capilano University is very proud to have achieved carbon neutral status in 2012, for the third year in a row. In 2012, we reduced our total GHG emissions by 231 tonnes CO₂e from the previous year. That's a 10 per cent reduction, and equivalent to the carbon sequestered by 5,923 tree seedlings grown for 10 years.

We have achieved these reductions by addressing all aspects of our operations, such as:

- Upgrading of exterior lighting on the North Vancouver campus to LED (parking lots, wallpack fixtures and pathway luminaires) which will result in a combined savings of 315,010 kWh annually, which is equivalent to the annual electricity use of 33 homes.

- Upgrading of HVAC (heating, ventilating, and air conditioning) systems to direct digital control (DDC) which allows operators to monitor, control, and diagnose building equipment remotely and to schedule operations for maximum energy efficiency.

Through our community efforts, we have made significant strides to decrease our greenhouse gas emissions and promote sustainability. I invite you to read about our achievements to date and our future plans, and to take part in our journey.

Signed for and on behalf of
CAPILANO UNIVERSITY

Cindy Turner, Vice President, Finance and Administration



Dated: **MAY 13 2013**

2012 Greenhouse Gas Emissions

In 2012, Capilano University's total GHG emissions from all sources covered by the *Greenhouse Gas Reduction Targets Act* were 2,190 tonnes CO₂e. This is a 10 per cent reduction from the previous year.

Offsets Applied to Become Carbon Neutral in 2012

In order to become carbon neutral for 2012, Capilano University purchased offsets for 2,189 tonnes CO₂e. One tonne was exempt from offsets because it was composed of biomass-based fuels.

As required by section 5 of the Carbon Neutral Government Regulation, 1 tonne CO₂e of emissions resulting from the operation of Facilities fleet vehicles were reported as part of our greenhouse gas emissions profile in 2012. However, this amount was not offset as it was out-of-scope under section 4(2)(c) of the Carbon Neutral Government Regulation.

Changes to Greenhouse Gas Emissions and Offsets Reporting from Prior Years

Following the public release of Capilano University's 2010 and 2011 Carbon Neutral Action Reports, an adjustment of 3 tonnes CO₂e was determined. This adjustment has been added to the University's total offsets purchased for 2012.

Emissions Reduction and Sustainability Activities in 2012

Actions taken to reduce greenhouse gas emissions and improve sustainability in 2012 include:

Our leadership

Our Executive Management team champions carbon neutral initiatives on campus and is actively engaged in the support and adoption of sustainable behaviours within their areas of responsibility and throughout the university. President Kris Bulcroft continues to lead our community through tangible actions and a strong commitment to environmental stewardship for our institution. Her enthusiastic involvement in 2012 events included participating in Sustainability on Campus student engagement activities; awarding the Team Award for Service and Innovation to the Campus Sustainability Network for the EarthWorks initiative; participating in the annual 'You Weed, We Feed' invasive plant pull and community lunch; taking part in the energy management workshop; and opening the Kéxwusm-áyakn First Nations Student Centre, to name just a few.

Leadership in student engagement

Many of our students, faculty members and employees have been working collaboratively to bring sustainability to the forefront of student life. A few examples are:

- EarthWorks – An ambitious initiative spearheaded by students, staff, and faculty from the University's Biology, English, Geography, Liberal Studies, Tourism and Outdoor Recreation programs and beyond, and coordinated by the EarthWorks student intern. Through a series of lectures, films and activities, EarthWorks aims to educate and inspire students and members of the campus and local community to understand complex environmental issues from a multi-disciplinary perspective enabling all to take action for positive change. In 2012, a sampling of events included lectures with guest speakers on the ecological footprint concept, whales at risk, and the environmental and social effects of extractive industries on First Nations communities; a documentary film screening of *The Clean Bin Project* about waste-free living; a guided walk in Mt. Seymour's old growth forest; and a campus ivy pull.
- Campus waste audits – A hands-on project engaging students from a variety of faculties across campus to learn about our waste generation. Begun in 2011, students in Environmental Geography, Outdoor Recreation, and Archaeology sort through one day of campus waste as part of an ongoing research project aimed at improving our waste management strategies at Cap U and raising consciousness. As a result of these audits, we've significantly reduced the amount of waste sent to landfill. At the beginning of our research, the campus' landfill waste was composed of approximately 60 per cent organics. We reduced that to 44 per cent in 2012. And nearly 100 per cent of our paper towel waste on the North Vancouver campus is now diverted to composting. In addition, between the spring and fall 2012 waste audits, the number of refundable beverage containers recovered from the waste stream was reduced by 80 per cent.

Capilano University received the Recycling Council of BC (RCBC) Educators Award in 2012 for this innovative curriculum initiative.

- Individual courses – In the School of Business, instructor Kathryn Taft has been incorporating energy management into her BADM 466 Change Management courses. In the fall of 2012, the students applied their skills to monitor behaviour in five select computer labs and develop proposals to encourage lasting changes. In the spring of 2013, two different BADM 466 classes will implement the recommendations in 10 labs using behaviour-change techniques. The aim is to encourage users to turn off their monitors at the end of their session and shut down their computers at the end of the day. Throughout the project, the student teams will gather data on the effectiveness of their approach and make recommendations to IT Services and Facilities for broader future implementation.

Our community

Capilano students and employees continue to adopt more sustainable behaviours, thanks in large part to our partnership with BC Hydro and its Workplace Conservation Awareness (WCA) program. In the program's second year, a number of behavioural change initiatives were implemented to reduce electricity and energy consumption across the University, including:

- GET UR FLEECE ON campaign – In partnership with BC Hydro and FortisBC, interested employees were provided with a fleece blanket (made of 100 per cent recycled material) to encourage energy conservation by dressing warmly during winter months and using the blanket while working. As of December 31, a total of 245 blankets had been distributed.
- Interactive kiosk – a touch-screen kiosk was installed in the Birch cafeteria in September of 2012 to educate members of the community about energy conservation. It was equipped with an energy survey, conservation tips, and the sustainability pledge. From September to December, 335 individuals were engaged through the kiosk's energy survey.

Our built environment

We are continuously seeking ways to improve the energy efficiency of our infrastructure, which accounts for 95 per cent of our carbon emissions. A few of our 2012 projects include:

- Lighting systems – We completed PSECA lighting upgrades at the North Vancouver campus for Birch, Library, Studio Arts, Cedar, Fir, and Arbutus, and the exterior grounds. The upgrade of our parking lot lighting to LED will result in 204,634 kWh savings annually; the upgrade (in progress) of our exterior wallpack fixtures to LED will result in 73,146 kWh annual savings; and the upgrade of all exterior pathway luminaires to LED will result in 37,230 kWh savings annually.
- Mechanical and control systems – We completed the installation of on-demand hot water in the Sportsplex, Children's Centre and Maple building, which will result in 84,712 kWh savings annually. We also completed a comprehensive mechanical audit for North Vancouver, and began DDC upgrades at each of our three campuses.

Plans to Continue Reducing Greenhouse Gas Emissions and Improve Sustainability 2013-15

A few highlights from our upcoming plans include:

Our built environment

- We will promote the use of electric vehicles by installing two dual-head electric vehicle charging stations at the North Vancouver campus in 2013. Going forward, we will continue to assess the number of EV charging stations and increase as needed/able.

- In 2013 the DDC upgrades at Birch building on the North Vancouver, and the Squamish and Sunshine Coast campuses will be complete.
- We will continue to use Pulse Energy's real-time metering to identify and resolve issues of overly high consumption and to engage occupants around energy conservation.

Leadership in student engagement

- **EarthWorks** – This multi-disciplinary group of students, staff, and faculty will continue to plan and deliver events that educate and inspire. The program for the 2013 spring semester includes four lectures from guest speakers on the science of climate change, our changing climate's impact on Canada's bird populations, loss of biodiversity, and the human element of the equation. The program will also include a guided walk in the Squamish River estuary, an invasive plant pull, and many other activities.
- **PowerWorks** – Through funding provided by BC Hydro's Workplace Conservation Awareness program, a new PowerWorks student intern will begin work in spring 2013. The intern's goal will be to embed energy conservation into the curriculum in order to help students become energy conservation ambassadors at Capilano U and in their future careers.
- **FoodWorks** – Since April 2012, as part of a campus sustainable food systems movement, Capilano students have been building stakeholder support and identifying opportunities for food systems change. In 2013, a number of activities are planned to create an appetite for more local, sustainable food on campus. These include a vendor fair featuring Vancouver food trucks, increased signage of local food options in the dining hall, and community garden workshops that demonstrate how to eat fresh and seasonal.
- **Individual courses** – In the School of Business, instructor Carolyn Stern will bring energy conservation to the classroom in a fun and exciting way. Students in her spring 2013 BADM 218 "Leadership in Teams" class will lead building teams in a race to save energy. Using the competition feature of Pulse Energy's real-time electricity monitoring software, six buildings on campus will go head-to-head to see who can save the most energy during the two-week challenge. The students will identify energy saving opportunities and come up with creative ways to encourage conservation among students and other building users. This will be the first building challenge at Capilano in which students are directly involved in the implementation.

Our community

- In 2013 we plan to establish departmental (or area) energy coordinators to improve broader participation in the energy conservation program and develop associated training and program materials.
- We also plan to improve communication of the energy conservation initiative to the broader organization and utilize available energy usage data in a meaningful format to

raise energy awareness in general. We will incent participation in the energy conservation initiative by providing opportunities for senior management to recognize and reward actions from individuals or teams that contribute toward energy efficiency and/or meet established targets.

- A new blog will be launched by the University in 2013 called '[Your Daily Cap](#)' which will have a dedicated section for sustainability. All members of the campus community will be able to post stories and comments, with new stories added every day.
- In April of 2013, Capilano University will open its first ever community garden. What began as one student's idea in the spring of 2008 will become a reality. Located at the north end of NV campus, the garden will provide a site for shared experience among students from different programs and a place for everyone in our community to connect. Features will include a traditional First Nations garden, dye garden for students of the Textile Arts program, a 'learning garden' for the youngsters in the Children's Centre, a produce stand to share our harvest, and communal areas for teaching and play.

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Actions Towards Carbon Neutrality

The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the Greenhouse Gas Reduction Targets Act.

Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Mobile Fuel Combustion (Fleet and other)					
Behaviour change program					
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	<ul style="list-style-type: none"> - Continued to deliver NRCAN FleetSmart SmartDriver Training Program to drivers of our fleet. - All affected departments (Facilities, Security, Shipping & Receiving, and Film) have a minimum of one Fleet Smart Driver who has successfully completed the training and passed the test. - Facilities reached 100% of its drivers certified in 2012. 	Expand SmartDriver training and testing to all fleet drivers and include in orientation of new drivers; offer training program to the campus community at large.	2010	No End Date (Continuous)
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Ongoing/In Progress	New fleet drivers were made aware that no idling is permitted. Signage has been in place since 2004 to reinforce awareness.	Ongoing anti-idling awareness for fleet drivers.	2008	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Ongoing/In Progress	Bike Share program at Sunshine Coast campus continued into its 3rd year. In place of a fleet vehicle, staff and faculty have access to a bicycle for personal or work related use during working hours.	Continue messaging of the available Bike Share program at Sunshine Coast campus. Review opportunities to introduce Bike Share program at Squamish and North Vancouver campuses as an alternative to fleet vehicle travel.	2010	No End Date (Continuous)
Vehicle fuel efficiency					
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	<ul style="list-style-type: none"> - Continued to include fuel efficiency as key criteria for procurement analysis and assessment of vehicle purchases. - Following a review of the Facilities fleet, funding was approved to replace 2 light duty pick-up trucks with smaller, more fuel-efficient vehicles. Research was conducted on replacing a full-sized pick-up truck which had reached end of life with a diesel gator. - Funding was also approved for a more fuel-efficient van for Shipping & Receiving. 	<ul style="list-style-type: none"> - 2013: Purchase fuel-efficient replacements for the 2 light-duty pick-up trucks and full-sized pick-up for Facilities. - 2013: Purchase fuel-efficient replacement for Shipping & Receiving van; this will allow inefficient Film van to be decommissioned. - 2013 and beyond: Further investigation of electric and hybrid options with additional manufacturers. 	2008	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	Facilities department developed comprehensive fleet strategy for its vehicles that incorporates right-sizing principles.	Continue to right-size larger vehicles with smaller models as appropriate.	2010	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	Refined maintenance program to involve weekly inspections and maintenance of fleet vehicles, including checks for tire pressure and fluids, and greater accountability from drivers.	Ongoing evaluation and implementation of fleet maintenance program.	2010	No End Date (Continuous)
Stationary Fuel Combustion, Electricity					
Behaviour change program					
Help staff reduce personal energy use through "workstation tune-ups"	Ongoing/In Progress	<ul style="list-style-type: none"> - Posted online links to BC Hydro's "Green Your Office" and "Workstation Tune-Up" for all employees on internal website Frontlines. - Updated Sustainability on Campus website (www.capilanou.ca/sustainability/) to include tips on energy efficiency. 	Continue to include as part of ongoing communications and engagement with employees.	2010	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress	<ul style="list-style-type: none"> - Posts to Capilano U Frontlines (internal website) for employees and faculty, especially prior to extended campus closures and Earth Hour. - Updated Sustainability on Campus website to include message. - Included message in energy survey deployed on interactive kiosk and on website. 	Continue to include as part of ongoing communications and engagement with employees.	2008	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress	<ul style="list-style-type: none"> - Posts to Capilano U Frontlines (internal website) for employees and faculty. - Updated Sustainability on Campus website to include message. 	Continue to include as part of ongoing communications and engagement with employees.	2008	No End Date (Continuous)

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Encourage use of stairs instead of elevators	Ongoing/In Progress	<ul style="list-style-type: none"> - Included message in energy survey deployed on interactive kiosk and on website. - Capilano Stairway Summit Club (CSSC) tracks the number of storeys (25 stairs = 1 storey) participants complete to reach the top of various mountains. For example, Mount Everest = 1176 storeys, Whistler = 286 storeys. Many members completed multiple mountain-top treks. - In addition, students in REC 252 ran a challenge where they promoted the use of stairs over the elevator in the Library and measured their results using Pulse Energy's real-time electricity monitoring software. 	2013 and beyond: Continue to encourage use of stairs instead of elevators as part of ongoing health and wellness and energy conservation campaigns.	2008	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress	<ul style="list-style-type: none"> - Posts to Capilano U Frontlines (internal website) for employees and faculty. - Updated Sustainability on Campus website to include message. - Incorporated messaging about turning off lights into energy survey deployed on interactive kiosk in Birch cafeteria and on website. 	Continue to include as part of ongoing communications and engagement.	2008	No End Date (Continuous)
Promote hot water conservation	Not Yet Evaluated				No End Date (Continuous)
IT power management					
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	Discontinued use of Faronics Power Save software due to dysfunction and negative impacts to our computing environment. Developed plans to replace with a built-in operating system tool as assets are renewed.	<ul style="list-style-type: none"> - 2013: IT Services to test and roll out blanket shutdown at 11:30 pm of machines in all student computer labs (Fir and Library to be added after July 31 due to C-Op restrictions). - 2013: Begin to phase in built-in operating system tool that will automatically shut down computers outside of regular business hours. - 2014: All computer assets at all campuses will be part of a stable operating environment in which power management can be easily controlled. 	2008	No End Date (Continuous)
Implement server virtualization	Ongoing/In Progress	Progress on the server virtualization project, which began in 2006, continued.	Continue to move additional servers to the virtual environment as appropriate and to consolidate virtual servers.	2008	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress	Computer monitors in the student labs are set to go to sleep after 10 min of inactivity. Developed plans to introduce an operating system image with a built-in tool that will enable auto-sleep for all computer monitors and CPUs.	<ul style="list-style-type: none"> - 2013: Begin to phase in built-in operating system tool that will automatically apply sleep settings on computer monitors and CPUs. - 2014: All computer assets at all campuses will be part of a stable operating environment in which power management can be easily controlled. 	2012	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices as part of a print management strategy	Ongoing/In Progress	<ul style="list-style-type: none"> - Entered into new MFD lease contract with Ricoh which provides ability to track energy consumption and GHG/carbon impacts. - Replaced 52 MFDs with energy efficient models and updated technology. - Removed 83 stand-alone fax machines. 	2013: Remove approximately 250 stand-alone printers and remaining 31 stand-alone fax machines that are no longer required due to MFD fleet.	2008	No End Date (Continuous)
Apply auto-sleep settings on printers, fax machines, and/or multi-function devices	Ongoing/In Progress	The new Ricoh MFD fleet features built-in auto-sleep settings.	2013: Complete switch of approximately 800 employee telephones to Cisco VOIP. These phones consume less energy than our previous models and have an auto-sleep function for outside office hours.	2012	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	All computers purchased in 2012 were Energy Star rated, with a few exceptions.	<ul style="list-style-type: none"> - 2013: IT Services to begin planning and review of virtual desktops to save energy and space, with piloting to begin end of 2013. - 2014: Virtual desktop interface to be live for some faculty members. 	2008	No End Date (Continuous)

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Owned buildings					
Establish energy performance baseline for owned buildings	Ongoing/In Progress	<ul style="list-style-type: none"> - Electrical energy performance baselines established for all buildings on North Vancouver campus. - Occupation of BOSA Centre began in January 2012, and energy performance baselines have been built for first year of operation. - We have been participating in BC Hydro's Continuous Optimization (C-Op) program with our 4 largest pre-existing buildings (Birch, Cedar, Fir, and Library) on a phased schedule. Birch and Cedar completed phase 1 (investigation and baselines) Dec. 31, 2012; Fir and Library began phase 1 July 31, 2012. 	<ul style="list-style-type: none"> - July 31, 2013: Complete phase 1 of C-Op program for Fir and Library. - Add real-time metering for natural gas on 4-5 of the largest consuming buildings at the North Vancouver campus (pending budget). - 2014: Apply for BOSA Centre to be added to C-Op portfolio program. 	2008	No End Date (Continuous)
Register for performance labelling/certification for operations and maintenance of owned buildings (e.g., LEED EB:O&M)	In Development	Researched best practices of other higher education institutions.	Select appropriate performance labelling/certification program and begin registration process.	2012	No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress	Nat and Flora Bosa Centre for Film and Animation, designed to LEED Gold, began occupation in January, 2012. Continued to review building systems to meet LEED Gold criteria during commissioning phase.	2013: Confirmation of LEED Gold certification for BOSA Centre.	2008	2013
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	<ul style="list-style-type: none"> - Completed PSECA HVAC scheduling on DDC. - Completed PSECA lighting and controls upgrades for Birch, Library, Studio Arts, Cedar, Fir, and Arbutus, and exterior grounds. 	<ul style="list-style-type: none"> - Jan. 1-Dec. 31, 2013: Phase 2 (implementation/retrofits) of C-Op program for Birch and Cedar - Aug. 1, 2013-July 31, 2014: Phase 2 of C-Op program for Fir and Library - Jan. 1-Dec. 31, 2014: Phase 3 of C-Op program (measurement and verification) for Birch and Cedar - Aug. 1, 2014-July 31, 2015: Phase 3 of C-Op program for Fir and Library - 2013 and beyond: Continue to identify energy conservation opportunities at each of the 3 campuses. 	2008	No End Date (Continuous)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	In Development	Evaluated appliances with refrigerant gases and feasibility of installing submetering within the Food Services department.	Creation of a formal process to incorporate refrigerant management into regular building maintenance/management.	2012	No End Date (Continuous)
Planning/management					
Reduce office space (square meters) per employee	Ongoing/In Progress	<ul style="list-style-type: none"> - Employee Space Policy (E.309) was approved, which states that office sizes in renovated or newly constructed areas will be based on BC Government standards. - Continued to review and analyze space use across campuses for optimization and reallocation opportunities. - Received approval to establish a permanent staff person responsible for space planning. 	2013: Hire a Space Planner whose role will include reviewing and analyzing space use across campuses.	2010	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	<ul style="list-style-type: none"> - Pulse Energy's real-time metering system in place which measures the electrical consumption at each building on the North Vancouver campus. - Newest building (BOSA Centre) added to inventory in 2012 and baseline energy consumption data was gathered over the course of the year. - Continued use of Pulse's software to identify and resolve/repair issues using the extraordinary energy usage/exception reporting feature. 	<ul style="list-style-type: none"> - 2013: Complete scope and installation of real-time metering at Squamish and Sunshine Coast campuses. - Add real-time metering for natural gas on 4-5 of the largest consuming buildings at the North Vancouver campus (pending budget). - Install submetering to identify consumption of water, natural gas and electricity within the Food Services department. 	2008	No End Date (Continuous)
Retrofit details for owned buildings					

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The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the Greenhouse Gas Reduction Targets Act.					
Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	<ul style="list-style-type: none"> - Completed North Vancouver campus PSECA-funded HVAC DDC scheduling and programming aspects. - Completed comprehensive NV campus mechanical audit by FortisBC (Environ) with energy conservation measures and recommendations. - Completed installation of on-demand hot water in the Sportsplex, Children's Centre and Maple building, which will result in 84,712 ekWh savings annually. 	Continue to review and audit for additional opportunities; develop and implement a strategic plan and business cases to support upgrades.	2008	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	<ul style="list-style-type: none"> - Completed PSECA lighting upgrades for Birch, Library, Studio Arts, Cedar, Fir, and Arbutus, and exterior grounds. - Completed upgrade of all parking lot lighting to LED which will result in 204,634 kWh savings annually. - Completed substantial upgrade of exterior wallpack fixtures to LED. When complete, this will result in 73,146 kWh savings annually. - Completed upgrade of all exterior pathway luminaires to LED which will result in 37,230 kWh savings annually. 	<ul style="list-style-type: none"> - 2013: Complete upgrade of exterior wallpack fixtures to LED which will result in 73,146 kWh savings annually. - Continue to review and audit for additional opportunities; develop and implement a strategic plan and business cases to support upgrades. 	2008	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	Completed North Vancouver campus PSECA funded HVAC DDC scheduling and programming aspects. Began DDC upgrades of all campuses.	<ul style="list-style-type: none"> - 2013: Complete DDC upgrades for Birch Building (NV campus), Squamish and Sunshine Coast campuses. - 2013 and beyond: Continue to review and audit for additional opportunities; develop and implement a strategic plan and business cases to support upgrades. 	2008	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	As part of the door access project for North Vancouver campus, exterior doors with poor insulating capabilities were identified.	<ul style="list-style-type: none"> - 2013: Replace doors identified as inefficient as part of door access project for North Vancouver campus. - 2013 and beyond: As part of ongoing scope for retrofits and facilities maintenance, opportunities to improve building insulation are continuously reviewed. 	2008	No End Date (Continuous)
Supplies (Paper)					
Behaviour change program					
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development	IT Services staff trained in SharePoint.	2013-14: Training in SharePoint will be provided as the software is made available to the campus community.	2012	2014
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress	<ul style="list-style-type: none"> - IT Services management meetings are strictly paperless. - IT Services reviewed tools such as interactive white boards to make paperless meetings or presentations easier for staff. 	<ul style="list-style-type: none"> - By the end of 2013, 10-20 classrooms at NV campus will be equipped with interactive whiteboards. - The introduction of SharePoint should also help to reduce paper at meetings. 	2008	No End Date (Continuous)
Electronic media in place of paper					
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development	Began piloting of SharePoint software for collaborative editing and file sharing in IT Services.	2013-14: SharePoint to be made available to the wider campus community in a phased roll-out program.	2012	2014
Use electronic document library for filing common documents	Ongoing/In Progress	Began piloting within IT Services of SharePoint software, which also acts as an electronic library for filing common documents and tracking version history.	2013-14: SharePoint to be made available to the wider campus community in a phased roll-out program.	2012	2014
Switch to an electronic payroll notification system in place of paper pay stubs	Ongoing/In Progress	Paperless payroll notification and T4s for Faculty group on hold (other groups completed).	2013: Implement final phase of electronic administration of payroll notification and T4s (Faculty group).	2008	2013
Other Paper Supplies Actions					
Software which tracks and charges individuals for printing	Ongoing/In Progress	Paper Cut software had been used for student printing since 2011, and was rolled out to employees in late 2012. This enables greater	Track individual usage through Paper Cut and measure effectiveness of program.	2011	No End Date (Continuous)

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
		accountability for printing, and it is hoped that by seeing the charges associated with each print job, employees will reduce the amount they print. A discount of 10% is given for double-sided printing.			
Paper Type					
Purchase 30% post-consumer recycled paper	Completed (in Previous Year)				No End Date (Continuous)
Purchase 40% post-consumer recycled paper	Not Yet Evaluated				No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Not Yet Evaluated				No End Date (Continuous)
Printer/document settings					
Switch networked printers and photocopiers to automatic double-sided	Completed (in Reporting Year)	Automatic double-siding is standard for most networked printers and photocopiers, however in 2012 some printers in the Library were switched back to single-siding because some faculty members required student work to be submitted single-sided. The double-siding default was causing multiple print jobs. These printers are clearly labelled for users.		2010	2012

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Actions to Reduce Provincial Emissions and Improve Sustainability

The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the Greenhouse Gas Reduction Targets Act. Public sector

Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Business Travel					
Behaviour change program					
Train staff in web-conferencing	Ongoing/In Progress	Continued to conduct employee training in web-conferencing.	2013: Training will be provided to employees in conjunction with MS Lync roll-out.	2010	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress	Staff were encouraged to virtually attend and present at events whenever possible.	Review strategies to incorporate into Capilano U community engagement and training initiatives; include as part of MS Lync roll-out.	2010	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress	Continued use of electronic carpool calendar to facilitate Capilano University North Vancouver staff organizing opportunities to ride share when attending face-to-face meetings at Squamish campus.	2013 and beyond: Continue to encourage carpooling to meetings through communication channels. Review process and upgrade as required.	2010	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Not Yet Evaluated				No End Date (Continuous)
Policy and budgeting					
Create a low-carbon travel policy or travel reduction goal	Not Yet Evaluated				No End Date (Continuous)
Virtual meeting technology					
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Ongoing/In Progress	IT Services is moving towards every meeting room on all campuses being equipped with web-conferencing capabilities. By the end of 2012, project was half-way complete.	- 2013: IT Services to introduce MS Lync on all employee workstations, which will enable users to connect with others remotely through video, chat, desktop sharing. - 2013-14: The interactive whiteboards which will begin to be installed in 2013 will have the capability to link to remote lecturers.	2009	No End Date (Continuous)
Make desktop web-cameras available to staff	Ongoing/In Progress	Continued assessment and review of need for individual cameras (new assets came equipped).	Continue assessment and review of need for individual cameras (new assets to come equipped).	2009	No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Ongoing/In Progress	IT Services is moving towards every meeting room on all campuses being equipped with web/video-conferencing capabilities. By the end of 2012, project was half-way complete.	- 2013-14: Continue to equip meeting rooms with video-conferencing units. - 2013-14: The interactive whiteboards which will begin to be installed in 2013 will have the capability to link to remote lecturers.	2010	No End Date (Continuous)
Education, Awareness, and Engagement					
Awards/Recognition					
Establish a sustainability/green awards or recognition program	Ongoing/In Progress	- Capilano University has an annual employee recognition awards program (begun in 1999) for Exceptional Service, Capilano Spirit Award and Team Award for Service and Innovation. - In 2012, the Campus Sustainability Network received the Team Award for Service and Innovation. - Employees and students were also recognized through the Workplace Conservation Awareness (WCA) program.	Continue to recognize campus members for their contributions to sustainability through awards and recognition.	2008	No End Date (Continuous)
Staff Professional Development					
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress	- Capilano U Faculty and EarthWorks Coordinator attended the Sustainability Education Across the Province (SEAP) Transformative Education Workshop "Changing the World from the Classroom." - Capilano U co-sponsored and hosted Built Green Builder Training, held for the first time on the Sunshine Coast.	Continue to support green professional development.	2010	No End Date (Continuous)
Include green options in employee performance measurement system	Not Yet Evaluated				No End Date (Continuous)
Staff awareness/education					

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Actions to Reduce Provincial Emissions and Improve Sustainability

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Provide education to staff about the science of climate change	Ongoing/In Progress	EarthWorks lecture series included Dr. Bill Rees on the ecological footprint concept, among others.	Continue to educate staff about the science of climate change through the EarthWorks series and other avenues.	2011	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress	Continued regular engagement with all employees through online communications, workshops and presentations.	Continue to educate employees through online communications, workshops and presentations.	2009	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress	Continued to post green tips, comments and sustainability activities and events to employee intranet and in monthly newsletters.	- Continue to provide green tips to staff through multiple channels. - Capilano U to launch Your Daily Cap blog (yourdailycap.ca) in 2013 which will have a dedicated section for sustainability.	2008	No End Date (Continuous)
Provide sustainability education during new staff orientation	Ongoing/In Progress	Sustainability and conservation messaging was included in new staff orientation and website locations for associated policies and information were provided.	Continue to include sustainability education as a component of new staff orientation and update as appropriate.	2010	No End Date (Continuous)
Team-building					
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	Ongoing/In Progress	- The Campus Sustainability Network (CSN) is an informal affiliation of staff, faculty, administrator and student volunteers who gather regularly to organize and implement special events, dialogue and network with interested and motivated members of the community. - Specialized groups within the CSN active in 2012 were EarthWorks (lecture and event series), GardenWorks (community garden planning group), and FoodWorks (promoting sustainable campus food system). - In addition, the Capilano Students' Union Environmental Issues Committee is a student-led group that works to engage students to live sustainably.	- 2013: Initiate PowerWorks, a new CSN subset which will focus on energy conservation initiatives. - 2013: Review and refine CSN organizational format; expand program to enable greater campus participation.	2008	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress	- Two full-time staff positions to support sustainability and energy management continued in 2012: Energy Manager (Year 5), sponsored by BC Hydro, and Energy Specialist (Year 3), sponsored by FortisBC. - In addition, Capilano U provided internal funding for the EarthWorks Coordinator, a part-time student position to increase sustainability awareness on campus.	- 2013: Energy Manager (Year 6) to be sponsored by BC Hydro at a reduced rate; Capilano U to partially fund position. - 2013: Discontinue FortisBC Energy Specialist role; replace with BC Hydro-funded Sustainability Assistant (full-time for 10 months, with possibility of renewal contingent on funding). - 2013 and beyond: Renew EarthWorks Coordinator position, contingent on funding. - 2013: Initiate PowerWorks Coordinator student position, with initial funding from BC Hydro.	2009	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	In Development	- Continued to engage members of the campus community using behaviour change techniques. - Students in BADM 466, "Managing Change" learned about creating change and applied their learning in a project that influenced behaviour change to save energy in computer labs.	2013: Green teams to be developed and trained in community-based social marketing.	2012	No End Date (Continuous)
Other Sustainability Actions					
Adaptation to Climate Change					
Assessed whether extreme weather events and/or long term changes in climate will affect the organization's business areas	Not Yet Evaluated				No End Date (Continuous)
Integrated considerations of extreme weather events and/or long term changes in climate into the organization's decision making.	Not Yet Evaluated				No End Date (Continuous)
Building construction, renovation					
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	In Development	Projects tender process and practice include specifications that all construction and demolition debris and waste materials must be	- Continue to identify and incorporate reuse of materials wherever possible and include specifications that all construction and	2011	No End Date (Continuous)

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
		handled in a sustainable and environmentally conscious manner.	demolition debris and waste materials be handled in a sustainable and environmentally conscious manner in projects tender process and practice. - Investigate the creation of a policy.		
Incorporate lifecycle costing into new construction or renovations	Not Yet Evaluated				No End Date (Continuous)
Commuting to and from home					
Introduce telework/work from home policy	Not Yet Evaluated				No End Date (Continuous)
Offer staff a compressed work week	Ongoing/In Progress	Compressed work week offering put on hold.	Continue to review feasibility of compressed work week for some staff.	2008	No End Date (Continuous)
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress	- Continued to support the TransLink U-Pass and Employer Pass programs which offer students and staff reduced fares on public transit. A total of 46,406 U-Passes and 27 Employer Passes were issued in 2012. - Sustainable commuting options encouraged on the Capilano University website. - Continued to offer free parking for carpool groups in designated spots. - Further encouraged sustainable commuting by participating in the VACC Bike to Work Week and the BEST Commuter Challenge.	Continue to encourage sustainable forms of commuting through discount fare programs, campus communications, and commuter challenges.	2010	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Ongoing/In Progress	Facilities, Studio Arts, Sportsplex, and Fitness Centre have shower facilities for foot and bicycle commuters. No new shower facilities were added in 2012.	2013 and beyond: Continue to examine availability of shower and locker facilities and expand as appropriate.	2008	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In Progress	Finalized plans and specifications for secure bicycle storage at North Vancouver campus.	Construction of new covered, secure bicycle cage which will accommodate approximately 30 bikes planned for fiscal 2014/15 pending funding approval.	2010	2013
Other Sustainability Actions					
Promote the use of electric vehicles through the installation of charging stations and other forms of promotion	Ongoing/In Progress	- Conducted research and acquired funding for the installation of electric vehicle charging stations on the North Vancouver campus. - Supported initiatives to encourage provincial incentives toward the purchase of electric vehicles and EV infrastructure.	- 2013: Installation of two dual-head electric vehicle charging stations at the North Vancouver campus. - Going forward, we will continue to assess the number of EV charging stations and increase as needed/able. We will also continue to look for opportunities to expand the number of electric/hybrid vehicles in our fleet.	2012	No End Date (Continuous)
Procurement (non-paper supplies)					
Incorporate minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.)	Ongoing/In Progress	New office supplies provider features pop-ups flagging green/sustainable/energy-efficient options for purchase with online ordering system.	- 2013 and beyond: Additional green options for office supplies added on an ongoing basis. - 2013 and beyond: Continue to work with EDCO, Education Cooperative Purchasing Group, a consortium of purchasing professionals that seeks to achieve best value through inter-institutional co-operation and joint supply agreements.	2011	No End Date (Continuous)
Establish green standards for goods that are replaced infrequently and/or may require capital funds to purchase (e.g., office furniture, carpeting, etc.)	Ongoing/In Progress	Green standards continued to be key criteria for selection of office furniture systems and flooring.	Continue to review and include green standards for goods such as office furniture and flooring.	2011	No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress	Green standards continued to be key criteria for selection of cleaning products and disposable paper products. All cleaning supplies	- 2013 and beyond: Continue to review and include green standards for janitorial goods.	2011	No End Date (Continuous)

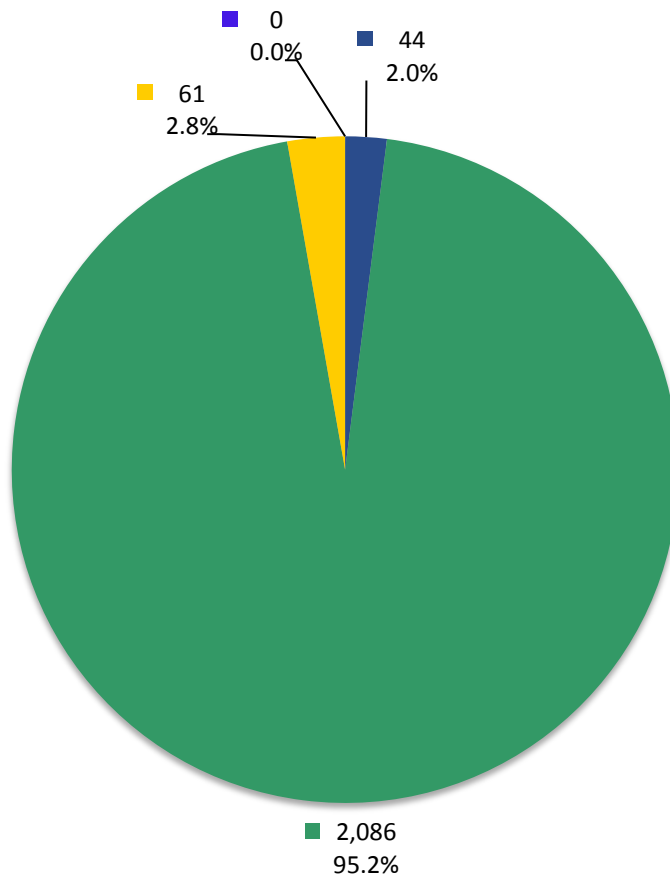
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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
		purchased were eco-friendly.	- 2013 and beyond: Continue to work with EDCO, Education Cooperative Purchasing Group, a consortium of purchasing professionals that seeks to achieve best value through inter-institutional co-operation and joint supply agreements.		
Waste reduction/diversion					
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	Ongoing/In Progress	<ul style="list-style-type: none"> - No operational policies in place, but have been working to steadily improve our reduction and diversion of waste since 1995. - In 2012, for the second year, students from diverse disciplines worked together with faculty, staff, employees and businesses (Encorp Pacific Canada, Smithrite, and Best Service Pros) in a series of waste audits to help improve recycling habits and improve campus operations. - After analyzing one day's worth of campus waste in the spring and fall of 2012, students found an 80% reduction in the number of refundable beverage containers recovered from the waste stream. Capilano U now separates and manages 15 different resource streams, and all paper towels are diverted to composting along with campus food waste. - In 2012 Capilano U received the Recycling Council of BC (RCBC) Educators Award for its waste audit curriculum initiative. 	Continue to improve efforts to reduce and divert building occupant waste from landfills or incineration facilities and engage the campus community.	2008	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress	Continued to follow established District of North Vancouver protocols for hazardous waste by participating in Product Care's collection system and responsible management of electronics, batteries, paints, chemicals, and lighting.	Continue to follow established protocols for hazardous waste reduction and disposal.	2010	No End Date (Continuous)
Water conservation					
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Ongoing/In Progress	<ul style="list-style-type: none"> - Continued to replace water faucets with touchless or automatic-off models, and to replace toilets with low flow, auto-flush models. - Completed installation of on-demand hot water in the Sportsplex, Children's Centre and Maple building, which will conserve water and energy. 	Complete installation of touchless or automatic-off faucets, low flow shower heads, and low flow toilets at all 3 campuses.	2009	No End Date (Continuous)
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	Not Yet Evaluated				No End Date (Continuous)
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	Not Yet Evaluated				No End Date (Continuous)

Capilano University Greenhouse Gas Emissions by Source for the 2012 Calendar Year (tCO₂e*)



Total Emissions: 2,191

- 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 2012 (Generated May 27, 2013 11:24 AM)

Total offsets required: **2,189**. Total offset investment: **\$54,725**. Emissions which do not require offsets: **1** **

*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.