Capilano University - 2009 Carbon Neutral Action Report

Executive Summary

At Capilano our mission is... to enable student success.

Capilano University is committed to environmental integrity and sustainable development. Sustainability on campus initiatives are directly linked to the mission, values and institutional goals (http://www.capilanou.ca/about/mission-values.html) that provide the strategic framework for the institution. Actions and activities in 2009 that contribute to Capilano University becoming carbon neutral by 2010 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.

Our energy consumption reduction:
Specific targets have been identified for each of the campuses and overall reductions in natural gas and electricity have been achieved in 2009. Natural gas reductions are directly related to equipment and operational changes. Electricity reductions can be attributed to a power management software implementation and an increased awareness of energy consumption and associated behaviour changes.

Natural Gas: (reduction over 2007 baseline)
- 6,578GJ - campuses combined

Electricity: (reduction over 2007 baseline)
- North Vancouver – 5%
- Squamish – 14%
- Sunshine Coast- 5%

Our people:
At Capilano University the students and employees continue to adopt more sustainable behaviours, with approximately 1000 employees and students signing the Capilano University Sustainability Pledge between September and December 2009.

Milestones for education and community engagement in 2009 include:
- Business Student led: 'Thank you for turning out the lights' campaigns,
- 1st Annual Green Race – hosted by the Campus Sustainability Network,
- "Ugly Sweater – turn down the heat contest",

- Eco-transportation: alternative transportation event,
- Over 700 people engaged in 'Project Change' a student led environmental, social and behaviour change project,
- Environmental stewardship has been integrated as core curriculum in all tourism management courses.

Our students' transportation:
- In January 2009 the first Translink U-Passes were issued. A total 13,953 passes were issued in 2009.

Our 'Print Smarter' campaign:

In 2008, as part of the institutional paper reduction goal a comprehensive print smarter campaign was planned and implemented, in 2009 IT services continued to work with internal users to achieve the goals established for printer removal. As of December 31st 40% of stand-a-lone and networked printers identified have been removed from service, and new server purchase provided the opportunity for the 45 existing multifunctional devices to be defaulted to double -sided printing.

- The last sheet of 100% virgin paper was purchased on February 2, 2009. The new standard is 30% pcw recycled.

Overviews

Actions Taken to Reduce Greenhouse Gas Emissions in 2009

North Vancouver Campus
- Installation of Faronics Power Save software (phase 2) on 796 employee computers is targeted to achieved an overall 21% reduction in energy consumption by computers.
- Installation of 14 individual electrical sub-meters for monitoring consumption, and identifying waste reduction trends within each of the buildings on the North Vancouver campus.
- A strategic energy management plan developed as part of the BC Hydro Power Smart Energy Manager program.

Squamish Campus:
- Engagement of campus community commencing with the turn out the lights campaign, adoption of zero waste classrooms and a comprehensive waste management systems has resulted in an overall reduction of 14% energy consumption on campus.

Sunshine Coast Campus
- HVAC and lighting upgrade commenced in 2009
- Cost to implement: $21,410 (PSECA funded)
- Estimated annual savings: $8,016 (36% of current usage)

Plans to Continue Reducing Greenhouse Gas Emissions 2010 – 2012

Focusing on becoming carbon neutral in 2010 has changed the way the Capilano University community looks at our energy consumption. No longer is a utility bill considered an unavoidable business expense. Wasted energy is now viewed as an opportunity to show leadership, reduce waste and the associated green house gases.

As Capilano considers the impact of its consumption on the environment; moving from energy use to energy management may result in:
- energy consumption reduction per square meter of building usage
- reduction in cost of Pacific Carbon Trust carbon offsets,
- a reduction in the quantity of greenhouse gases produced
- demonstration of community leadership by our institution

- students adopting more sustainable behaviours

Key initiatives we will be focussing on for 2010 and beyond include:

North Vancouver campus
- Design and build Film Center – LEEDS GOLD
- Purchase of Pulse Energy Software to monitor the electricity consumption on campus, to identify areas of opportunity and to assist us in using energy wisely.
- Optimization of the DDC system and equipment controls
- Add energy equipment parameters into room booking software to schedule activity with energy conservation considerations
- Implement CurriuNET software
- Continue to develop strategies to reduce paper consumption.
- Implement Live Meetings
- Report internally (using Frontlines – intranet) to our community.
- Report externally at www.capilanou.ca/services/sustainability-on-campus.html

Squamish campus
- HVAC and lighting upgrade to be completed by June 2010
- Cost to implement: $20,450
- Estimated annual savings: $ 7,346 (33% of current usage)
- Monitor and verify savings from HVAC and lighting controls upgrade
- Engage with the Campus Sustainability Network for community awareness activities

Sunshine Coast campus
- Monitor and verify savings from HVAC and lighting upgrade completed in 2009
- Work with the Environmental committee to increase campus awareness for water conservation.
- Develop, plan and implement water conservation for landscaping and building use (toilets & taps) 2010 and beyond

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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 (as of 12/31/09)	Performance to Date (as of 12/31/09)		Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Mobile Fuel Combustion (Fleet and other mobile equipment)							
Vehicle fuel efficiency							
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	0	% of vehicles are fuel- efficient models	On-hold - currently the DNV does not allow operation of low speed electric vehicles on DNV streets. As this vehicle would be traveling between the North Vancouver campus and the transfer station (which involves DNV streets) the purchase is on hold pending legislation change.	2010 - contingent on budget & DNV legislation allowing low speed electric vehicles being adopted, purchase electric dump truck for landscaping use.	2008	2010
Behaviour change program							
Provide fleet driver training to reduce fuel use	In Development			In 2009 Capilano U identified the opportunity to reduce fuel use through driver training.	2010 - Develop implementation plan including (trainees, supplier, location, timeline, cost, budget allocation and approval)	2010	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Ongoing/In Progress			In September these was a 24% increase in designated carpool parking spaces, for a total of 26 spaces available.	2010 - Eco-transport event; 'Alternative Transportation - getting around during the Olympics' Community engagement activity; 2010 - 'Bike to Work' safety awareness workshop 2010 - 1st Annual - 'Alternative Transportation' Campus community engagement event; 2011 - 2nd Annual Alternative Transportation event	2007	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							
Planning/management							
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	100	% of buildings have a real time metering system installed	Installation of 14 pulse meters, 1 per building on the North Vancouver campus.	2010 - Installation of 14 Pulse Energy software licenses, 1 per building for the North Vancouver campus.	2008	2010
Owned buildings							
Establish energy performance baseline for owned buildings	Ongoing/In Progress	12	% of owned buildings have an established energy performance baseline	Purchase of sub-metering equipment for the North Vancouver campus.	2010 - Establish baseline energy consumption for North Vancouver campus buildings	2008	2011
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	In Development	0		Pre-design of Film Building	2010 - Design and build Film Building, North Vancouver campus	1990	2011
Incorporate integrated design process into new construction or during renovations of owned buildings	In Development			Establish integrated design team for the Film Building, a process that will duplicated in all future building construction	2010 - Design and build Film Building, North Vancouver campus	2009	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	6	% of retrofits (captured above) had heating, cooling, and ventilation systems upgrades	Sunshine Coast Campus - HVAC upgrade completed	2010 - Squamish Campus - HVAC upgrade to be completed	2007	2010
Upgrade lighting systems during retrofits	Ongoing/In Progress	6	% of retrofits (captured above) had lighting systems upgrades	Sunshine Coast Campus - Lighting upgrade completed	2010 - Squamish Campus - HVAC upgrade to be completed	2007	2010

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)		Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Upgrade/adjust control systems during retrofits	Ongoing/In Progress			Sunshine Coast campus control system upgraded	2010 - Squamish Campus - control system upgrade	2007	2010
IT power management							
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	59	% of computers shut down automatically outside of regular business hours	Phase 2 of 'Faronics Power Save' software installation. Total of 792 software licenses installed Target: 21% saving over current annual consumption	2010 - Installation of Faronics Power Save software onto student lab machines. 2010 - Complete Phase 2 installation on employee workstations. 2010 - Integrate Faronics software into annual computer roll-down program.	2008	No End Date (Continuous)
Implement server virtualization	Ongoing/In Progress	30	% of servers have been virtualized since start year indicated	Continued to move more servers to the virtual environment using VMWare.	2010 - 2012 - continue to add virtual servers where appropriate	2006	2012
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress	40	% reduction in printers, copiers, and/or fax machines since start year indicated	Continuing on with the 2008 removal strategy in 2009 an additional 15 printers were removed, for a total of 26 printers removed as part of the Print Smarter campaign.	2010 and ongoing - Re-evaluate the 'Print Smarter' campaign, and refresh the strategies for printer removal 2010 - evaluation of fax machines to develop process for removal	2007	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress			100% of computer purchased in 2009 were Energy Star rated laptops (36 units - GOLD 5.0); MacBooks (48 units - GOLD 5.0); PCs (138 - GOLD 5.0) and monitors (158 - SILVER 4.1)	2010 - simplify the tracking process of energy star rated computers. 2010 and ongoing - ensure 100% of all computers purchased are energy star rated;	2008	No End Date (Continuous)
Appliances and electronic devices							
Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress			Adhered to the established Energy Star rated purchasing practices: all new appliances must be Energy Star rated if available	No change	2008	No End Date (Continuous)
Behaviour change program							
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress			Included 'tip of the week', posted to 'Frontlines' intranet	2010 and beyond - Continue to include as part of ongoing awareness campaigns	2008	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress			included in 'tip of the week' and 'Ugly Sweater - turn down the heat' contest, posted to 'Frontlines' intranet	2010 and beyond - Continue to include as part of ongoing awareness campaigns	2008	No End Date (Continuous)
Encourage use of stairs instead of elevators	In Development			Included in Heath and Wellness employee engagement activities	2010 and beyond - Continue to include as part of ongoing health and safety awareness campaigns	1990	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Complete			Thank you for turning out the Lights!' stickers posted on approximately 500 light switches - North Vancouver campus; Turn out the lights posters mounted in washroom advertising frames - North Vancouver campus Turn out the lights notices (including information on power consumption) were posted above the classroom lights switches at the Squamish campus	2010 - Continue to update and refresh 'turn out the lights' prompts and informational literature	2008	2010
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Complete	100	% of total paper purchased contains 30% recycled content	Final purchase of 100% virgin paper was made on February 2, 2009.		2007	2009

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)		Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Printer/document settings							
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	0	% of network printers or photocopiers are set to automatic double-sided	In August, all networked multi-functional printers were defaulted to double-sized printing; All new printers purchased have the capability and are set to default to double-sided printing;	2010 - new printers for student labs will be set to default double-sided printing; 2010 and beyond - All new printers purchased will have the ability to duplex print.	2007	No End Date (Continuous)
Electronic media in place of paper							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development			Planning for the implementation of CurriUNET, which will convert the paper-based program and course approval process in to a centralized web-based application.	The implementation of CurriUNET is scheduled for May 2010, with the new processes in effect for the Fall 2010 term.	2008	2010
Switch to an electronic payroll notification system in place of paper pay stubs	Ongoing/In Progress			In February 2009, the 2008 T4s for all staff were delivered electronically.	Currently 100% of staff and administration receive their payroll stubs and T4's on-line ; Next steps are to expand paperless payroll and T4s for Faculty - timeline for implementation has not been finalized.	2008	2012
Behaviour change program							
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress			Informal requests and encouragement of employees to hold paperless meetings	2010 - add tips on how to hold paperless meeting to the 'Tip of the Week' 2011 - Analysis of paperless meetings to determine the barriers and benefits within each of the campuses; 2012 - Develop a strategy for a formal plan for paperless meetings	2008	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress			As part of the zero-waste initiative at the Squamish Campus, each classroom has been provided with a 'good one side' paper recycling box. Students, faculty and staff are encouraged to provide and to use the scrap paper. Capilano 'College' letterhead etc was remade into small memo pads by the University printshop.	2010 - Sunshine Coast campus - zero waste classrooms. 2011 & 2012 - Continue to develop strategies to reduce paper consumption, thereby reducing the available 'scrap' paper	2008	No End Date (Continuous)
Other Paper Supplies Actions							
Paper-based campus phone books review	Ongoing/In Progress			Set a target of 75% reduction in paper based phone books (printed in house). Achieved 50% paper reduction.	Continue to work to reduce the number of paper-based phone books.	2007	No End Date (Continuous)
Internal Mail Outs Review	Ongoing/In Progress			In 2009, as part of the Capilano U's 'Print Smarter' Campaign a review of paper-based communications to the University community through internal mail. We put a 'green' filter on our process and achieved a reduction of 529 copies per mail out - a annual savings of approximately 32,000 sheets of copy paper.	2010 - estimated savings - 45,000 sheets of 8.5x11 copy paper; 2010 and beyond - continually seek alternatives to paper based communications.	2008	No End Date (Continuous)
Contest to reduce paper consumption	Complete			As part of the 'Print Smarter' campaign Capilano held a contest to win a $100 gift certificate to the Campus bookstore - your personal commitment to double-sided printing was your entry to win.		2008	2009
Print Smarter' campaign to reduce paper consumption	Ongoing/In Progress			2008/09 reduction target of 10% is surpassed. A total of 1.8 million sheets were reduced; 2009/10 reduction target of 1.1 million sheets was established	2010 - align target with annual SMARTtools reporting, continue to measure and report on paper consumption.	2007	No End Date (Continuous)
Annual Employee Fund-raising campaign for the Capilano University Foundation	Complete			In the Fall of 2009 the Capilano University Foundation switched to electronic communications for its annual (paper-based) employee appeal		2009	2009

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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 organizations can optionally use this section to report on actions that will help British Columbia meet its provincial greenhouse gas reduction targets, engage the public, and improve environmental sustainability across all aspects of their organization.

Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)	Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Business Travel						
Virtual meeting technology						
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	In Development			2010 - Installation of Live Meeting software and 3 point video conferencing set up for North Vancouver, Squamish and Sunshine Coast campuses. 2011 - Review for customer satisfaction and potentially upgrade the equipment to allow for larger meetings	2009	2011
Make desktop web-cameras available to staff	In Development			2011 - Assessment of need for individual cameras	2009	2011
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	In Development			2010 - Equipment evaluation and initial installation of video conferencing equipment. 2011 - Review for customer satisfaction and potentially upgrade the equipment to allow for larger meetings	2010	2011
Behaviour change program						
Train staff in web-conferencing	In Development			2010 - Design and implement employee training program	2010	No End Date (Continuous)
Train staff in video-conferencing or provide technical support for video-conferencing set-up	In Development			2010 - Design and implement employee training and technical support program	2010	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	In Development			2010 - Incorporate into community engagement and training initiatives	2010	No End Date (Continuous)
Education, Awareness, and Engagement						
Team-building						
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	Complete		Campus Sustainability Network developed and implemented the 1st Annual Green Week at Capilano U, held in October.		2008	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress		In the Fall, Capilano hired our first Campus Coordinator, a student from the goBEYOND project to work with the Energy Manager to increase awareness on campus.	Contingent on budget funds, a campus coordinator will be rehired each Fall semester.	2009	No End Date (Continuous)
Awards/Recognition						
Establish a sustainability/green awards or recognition program	In Development		Planning for a Capilano U 'green' recognition program began	2010 - Design, develop and implement a 'green' recognition program	2009	No End Date (Continuous)
Staff awareness/education						
Provide green tips on staff website or in newsletters	Ongoing/In Progress		Green tips posted to 'Frontlines' employee intranet	2010 - continue to share information with employees	2007	No End Date (Continuous)
Client/public awareness/education						

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)		Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Provide education to clients/public about the science of climate change	Ongoing/In Progress			Dr. Joe Kelly, specialist is Climate Change and Tourism, joined the faculty of Tourism. Dr. Kelly has developed one of the first specific tourism and climate change degree courses in Canada as part of Capilano's Bachelor of Tourism Management. Environmental Stewardship has been integrated as core curriculum in all tourism management programs.	Spring 2011 - Capilano plans to offer " Tourism and Climate Change" as part of its Bachelor's degree in Tourism Management.	2008	No End Date (Continuous)
Provide education to clients/public about the conservation of water, energy, and raw materials	Ongoing/In Progress			IN October the 1st Annual Green Race at Capilano University featured a 'green' race. At each of 5 activity stations the participants answered questions or completed challenges based on water conservation, waste management (recycling and composting), transportation (vehicle emissions), and energy conservation (natural gas and electricity).	2010 - 2nd Annual Green Race to be held; 2011 - 3rd Annual Green Race to be held; 2012 - 4th Annual Green Race to be held	2009	No End Date (Continuous)
Provide green tips on client/public website or in newsletters	Ongoing/In Progress			Continue to share green tips through community engagement (Ugly Sweater - turn down the heat contest), postings to Capilano University website.	2010 and beyond - continue to share green tips through community engagement and postings to Capilano University website	2008	No End Date (Continuous)
Other Education, Awareness, and Engagement Actions							
Student Projects: Project Change	Ongoing/In Progress			Project Change was launched in fall 2009 by 2nd year Outdoor Recreation students at Capilano University. Twenty-tree students created 11 projects including; car pooling programs, vegetarian pledges, clothing and food drives, 3R's initiatives and educational and awareness campaigns. with over 700 people taking part in their projects, the students succeeded in causing genuine environmental, social and behavioural change that will leave lasting legacies in their community. Most importantly, students emerged as leaders and powerful change agents in the world.	2010 and beyond - Share Project Change with others; departments, schools and universities.	2009	No End Date (Continuous)
Other Sustainability Actions							
Water conservation							
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	In Development			Planning began for 'golden' landscaping at the Sunshine Coast campus.	Design, develop and implement a 'golden' campus at the Sunshine Coast Campus. 2010 - incorporating water management strategies into new film centre building.	2009	No End Date (Continuous)
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			Continued to improved the waste diversion programs established at Capilano University. In September the Squamish campus committed to a 'zero waste' classrooms strategy and increased their recycling program from mixed paper to include: refundables, cardboard, glass and metal containers, plastics, and composting.	Continue to refine the waste diversion practices of the University looking for opportunities to decrease the amount of waste currently sent to landfill; Investigate and analyze composting on-site, and if feasible develop a plan to incorporate on-site composting as part of the campus waste management strategy.	1990	No End Date (Continuous)
Procurement (non-paper supplies)							
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress			Continue to purchase green janitorial products, and look for ways to expand to carpet cleaning	2010 - 2012 Re-evaluate the existing 'green' products being used. Establish a formal 'green' janitorial cleaning program to replace the existing informal program.	2008	No End Date (Continuous)
Commuting to and from home							

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)		Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Encourage commuting by foot, bicycle, carpool or public transit	In Development			Recruitment of employees for participation in the Translink Employer Pass program.	2010 - Enrollment in the Translink Employer Pass program; Develop and implement a 8 week community awareness engagement program to be held in June and July. This project is student led and intended to become an annual event.	2002	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Ongoing/In Progress			The operating hours of the Fitness Centre have been changed to accommodate early morning showers. There are lockers, and laundry service available to staff and students;	2010 and beyond - improve on the quality of the Fitness Centre facility	2008	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In Progress				2010 and beyond - contingent on funding availability, installation of bike cage or lockers on North Vancouver campus.	2010	No End Date (Continuous)
Modify parking fees or parking availability for staff/students	Ongoing/In Progress			Parking fees at the North Vancouver campus were increased in the Fall of 2009, as part of a strategy to encourage use of alternative forms of transportation	2010 - Increase in parking fees	2009	No End Date (Continuous)
Other Sustainability Actions							
Transit U-Pass Program implementation	Complete			The CSU , Capilano University and Translink announced the implementation of the Universal Transit Pass (U-Pass). In January 2009 the first passes were issued to Capilano students. A total of 13,953 passes were issued in 2009.	2010 and beyond - continue to support the U-Pass program	2002	No End Date (Continuous)