



University of British Columbia – Vancouver Campus

2009 Carbon Neutral Action Report – Executive Summary

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1. Key actions in preparation for carbon neutrality in 2010

UBC began focusing on climate action in 1997, and was a pioneer in identifying climate change as a priority issue that required innovative solutions. The University is also a leader in establishing groundbreaking initiatives with long-term impacts. One such program, ECOTrek, was launched in 2001 and was the largest energy and water retrofit on a Canadian campus at the time. As a result of ECOTrek, UBC reduced greenhouse gas emissions in 277 core academic buildings at the Vancouver Campus by 6 per cent in 2007, compared to 1990 levels. These buildings accounted for over 80% of UBC’s institutional energy consumption. During this period, core building floor space increased by 35 per cent and student enrolment increased by 48 per cent.

UBC’s commitment to climate action was formalized in 2008, when UBC partnered with five other BC universities to write and sign the *University and College Presidents’ Climate Statement of Action for Canada*¹.

The Statement of Action commits UBC to:

- Exercise leadership by reducing emissions of greenhouse gases;
- Develop measurable targets for emissions reduction;
- Develop achievable and practical plans to achieve reduction targets;
- Establish rigorous assessment and measurement procedures; and,
- Fully disclose and be accountable for its actions.

In 2009, the University of British Columbia prepared the UBC Vancouver Climate Action Plan. The University Executive approved priority actions identified by the campus community during the preparation of the forthcoming plan. This move signals the University’s commitment to continue the aggressive reduction of its greenhouse gas emissions, and to demonstrate the ‘next generation’ of leadership focused on climate solutions. Further, the Executive endorsed a vision and four commitments also developed by the campus community.

¹ http://www.sustain.ubc.ca/pdfs/climate_action_statement.pdf

The vision is: *Confronting the challenges of climate change, the University of British Columbia will advance solutions on campus that eliminate emissions, will accelerate efforts to respond to the impacts of climate change, and will partner locally and globally to demonstrate leadership and accountability to future generations.*

The commitments are:

- Become a net positive energy producer by 2050,
- Partner for change,
- Use the campus as a living laboratory, and
- Account for the full costs of our decisions.

UBC's Climate Action Plan sets aggressive targets to reduce Vancouver campus-wide GHG emissions to levels that exceed provincial requirements. The targets and strategies for achieving these targets were developed in collaboration with staff and faculty. In March 2010 President Stephen Toope also announced the university's aim to:

- Reduce GHG emissions by an additional 33 per cent from 2007 levels by 2015
- Reduce GHG emissions to 67 per cent below 2007 levels by 2020
- Reduce 100 per cent of GHG emissions by 2050

2. Actions to reduce Greenhouse Gas Emissions: past and future

2.1 Key initiatives in 2009

As mentioned above in 2009 the University of British Columbia prepared the UBC Vancouver Climate Action Plan by leading campus-wide consultations and working groups to develop targets and strategies for emission reductions. The full plan became available in the spring of 2010. Together with a management system to guide implementation, the Plan sets out actions to reduce UBC's greenhouse gas footprint, identifies strategies to manage risk associated with climate change, enhance our sustainability achievements, create applied learning and research opportunities on campus, and inspire other organizations to take similar action. Key priorities resulting from these consultations will be carried out between 2010 and 2012.

2.2 Key initiatives planned from 2010 to 2012

2.2.1 Immediate Climate Action Activities

The UBC Executive has endorsed five quick-start climate action activities:

- Set green building energy performance standards;
- Conduct energy management in core and ancillary buildings;
- Prepare business cases for the re-commissioning of core and ancillary buildings;
- Undertake behaviour change initiatives; and
- Move aggressively on right-sized, right-fuelled fleets.

UBC will participate in BC Hydro's Continuous Optimization Program to improve the energy efficiency in academic buildings across the campus. The five-stage process involves: an energy audit; implementation of identified energy-

saving measures; connection of existing electricity and steam meters with software to analyze energy use; training of building operators; and continued coaching. The energy management software will be provided by Vancouver-based Pulse Energy. Additional educational and behaviour change programs for the campus community will help bolster the results of the re-commissioning program. These energy demand side management measures target a 10 per cent reduction in GHG emissions.

2.2.2 On-Site Renewable Energy Project

A biomass gasification system will be installed at UBC's Vancouver campus, which will operate in co-generation mode for steam and electric power production, and in thermal mode to produce steam only. The UBC Bioenergy Research and Demonstration Project is a partnership with Vancouver-based Nexterra Systems Corp. and GE Water & Power. This project will generate up to 6 per cent of the campus's electricity requirements, reduce the university's natural gas consumption by 12 per cent and eliminate up to 4,500 tonnes of greenhouse gas emissions per year. It will be the first North American demonstration of the technology.

The project will provide research and learning opportunities for faculty and students, yield valuable new knowledge in the clean energy sector and inform new global standards for bioenergy system performance. The project's UBC research collaborators include the Institute for Resources, Environment and Sustainability, the Clean Energy Research Centre, the Centre for Interactive Research on Sustainability, the Faculty of Applied Science and the Sauder School of Business.

2.2.3 Converting district heating system to a hot water system

Further reductions will be achieved by converting the current district heating system from steam to hot water, estimated to yield a 20 per cent reduction in GHG emissions.

3. UBC's broader sustainability goals

UBC is committed to exploring and exemplifying all aspects of economic, environmental, and social sustainability. Plans in Vancouver and the Okanagan will be informed by UBC's new strategic plan, *Place and Promise: The UBC Plan*, which articulates the vision and values: 'The University of British Columbia, aspiring to be one of the world's best universities, will prepare students to become exceptional global citizens, promote the values of a civil and sustainable society, and conduct outstanding research to serve the people of British Columbia, Canada, and the world.' UBC's 2009 annual report summarizes selected achievements in social, economic and environmental sustainability:

<http://www.publicaffairs.ubc.ca/annualreports/2009/tbl.php>.

This past year, UBC developed the Sustainability Academic Strategy (SAS), a key report presented to UBC's executive team in October 2009. Among the report's findings was a strong recommendation that UBC move to integrate sustainability teaching, research and operations. The SAS Working Group included staff, faculty and students from UBC's Vancouver and Okanagan campuses, as well as external community representatives. The report's findings and recommendations were based on information gathered at two public Town Hall meetings, and from research and teaching inventories, roundtable discussions with key stakeholders, and community engagement.

In January 2010, UBC President Stephen Toope announced the creation of the University Sustainability Initiative (USI). The USI will promote and coordinate sustainability efforts in teaching and learning, research and campus operations. A key goal of the USI is to bring diverse groups of researchers, teachers and campus leaders in contact with each other,

and to provide a central hub on the Vancouver campus for sustainability work. The new Centre for Interactive Research in Sustainability (CIRS), currently under construction and scheduled to open in spring 2011, will be the home of the USI. Designed to be among North America's greenest buildings, CIRS will be a focal point for sustainability research, teaching and operational activities and partnerships.

UBC is an acknowledged leader in campus sustainability and is increasingly recognized as a hub for discussion and research on many wider aspects of sustainability, including resource conservation, habitat preservation, climate change, social equity and economic resiliency. The USI will coordinate and integrate UBC's numerous sustainability initiatives across university activity.

4. Links to relevant reports

UBC's Strategic Plan 'Place and Promise':

<http://strategicplan.ubc.ca/>

Sustainability Academic Strategy:

<http://www.sas.ubc.ca/>

Campus Sustainability site:

<http://www.sustain.ubc.ca/campus-sustainability>

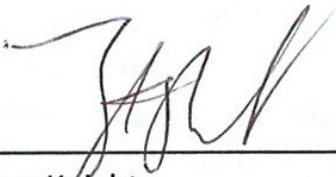
Sustainability Research site:

<http://www.sustain.ubc.ca/research>

Sustainability Teaching and Learning site:

<http://www.sustain.ubc.ca/teaching-learning>

Executive Approval



Nancy Knight

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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 <i>Greenhouse Gas Reduction Targets Act</i> .							
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	15	% of vehicles are fuel- efficient models	Acquired 8 electric utility vehicles in 2009.	14 of 33 planned replacement vehicles will be fuel efficient or electric vehicles.	2009	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress			Six 4-cylinder vans were purchased to replace six 8-cylinder vans.	Install telemetrics to track vehicle usage, enabling informed decisions about fleet.	2009	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	62	% of vehicles are subject to regular maintenance for fuel efficiency	Building Operations fleet are brought to on-site maintenance garage every 6 months.	Continued maintenance of Building Operations fleet. Standardize fleet maintenance practices across fleet, including departments not currently captured by management plan.	2009	No End Date (Continuous)
Replace small maintenance vehicles with more fuel-efficient models	Ongoing/In Progress	100	% of small maintenance vehicles are fuel-efficient	All small maintenance vehicles are diesel or electric. Acquired 8 electric utility vehicles in 2009.	Continue to acquire fuel efficient or electric small maintenance vehicles only.	2009	No End Date (Continuous)
Behaviour change program							
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	90	% of current drivers are trained	Building Operations drivers participated in fuel-smart driving course in 2008.	Refresher course will be taken by all drivers of Building Operations vehicles.	2009	No End Date (Continuous)
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Complete			Continued enforcement of 2007 anti-idling policy.		2007	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress			Tradespeople travel to building work sites in shared vehicles, instead of single-occupancy vehicles. In addition, 8 ride share vehicles for commuting to work are also used during the work day.	Continued practice of carpooling on site as number of fleet vehicles is reduced.	2009	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Ongoing/In Progress			Staff bike-share program implemented with 5 bikes (+ helmets) available free of charge for 3 hours - ideal for travelling around campus. Program has been promoted to staff in Building Operations group.	Ongoing bike share program for staff.	2009	No End Date (Continuous)
Other Mobile Fuel Combustion Actions							
Use alternative fuels.	Ongoing/In Progress	100	% of diesel vehicles in campus fleet use B10 biodiesel	Developed business plan to reduce fleet GHG emissions, which includes this action.	Over next 5 years, replace 12% of fleet with natural gas vehicles.	2006	No End Date (Continuous)
Use electric vehicles.	Ongoing/In Progress	3	% of vehicles are electric	Acquired 8 electric utility vehicles in 2009. Developed business plan to reduce fleet GHG emissions, which includes this action.	Over next 5 years, replace at least 22% of fleet with electric vehicles.	2009	No End Date (Continuous)
Downsize fleet.	In Development			Developed business plan to reduce fleet GHG emissions, which includes this action.	Over next 5 years, remove 8% of gas/diesel vehicles from fleet, and promote more efficient use of remaining low-emission vehicles.	2009	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							
Planning/management							
Enroll in a building energy benchmarking program (e.g., GREEN UP)	In Development			Gather information on programs.	Evaluate ENERGY STAR for Buildings in 2010.	2010	2010
Reduce office space (square meters) per employee	Ongoing/In Progress			Evaluated status against target and determined that 5% intensification target (with respect to 2000 levels) had been exceeded in 2008.	Ongoing allocation as space is requested, new buildings are programmed and renovations are planned. Allocation will remain at or below the BCUSS allocation (based on total FTEs).	2005	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	10	% of buildings have a real time metering system installed	Installed Pulse software in 9 buildings.	Will install Pulse software in 70 more buildings, bringing total metered area to 66% of building area.	2008	2012
Owned buildings							
Establish energy performance baseline for owned buildings	In Development			Energy performance baseline was established in 1998 and is updated every year for all core buildings. Pulse software was installed in 9 buildings which will allow energy baselines to be developed for individual buildings.	Will be completed in 2010-2011 fiscal year.	2009	2011
Register for performance labeling/certification for operations and maintenance of owned buildings (e.g., LEED EB:O&M)	Ongoing/In Progress	2	% of owned buildings have operations and maintenance labelling/certification	Two complexes (6 buildings) were certified as BOMA BEst Level 1.	Conduct a review of the pilot and determine whether it would be advantageous to pursue certification on more buildings.	2009	2011

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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
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress	5	% of owned buildings are certified LEED NC Gold or LEED NC Platinum	As of 2009 all new construction and major renovations will achieve a minimum of LEED Gold.	In 2010-2012 several construction and renovation projects will be LEED Gold certified. In addition, guidelines will be developed to specify which optional LEED points are required by UBC.	2004	No End Date (Continuous)
Incorporate integrated design process into new construction or during renovations of owned buildings	Ongoing/In Progress	100	% of buildings built or renovated since start year indicated used the integrated design process	IDP is employed on all major construction and renovation projects (5 and 95 projects, respectively, in 2009).	Continue to use IDP on all major projects.	2001	No End Date (Continuous)
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress	57	% of owned buildings have undergone energy retrofits since start year indicated	EcoTREK program in 2003-2007 retrofitted all Core campus buildings. In 2009 new mechanical and lighting retrofits were conducted as detailed below.	A total of 70 buildings representing 55% of the campus building area will be retrofitted as part of the BC Hydro Continuous Optimization program.	2003	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	100	% of retrofits (captured above) had heating, cooling, and ventilation systems upgrades	Two buildings and two parkades had HVAC upgrades.	A total of 70 buildings representing 55% of the campus building area will be retrofitted as part of the BC Hydro Continuous Optimization program.	2003	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	54	% of retrofits (captured above) had lighting systems upgrades	Three buildings were relamped from 32W T8 to 25W T8 bulbs.	The progressive relamping schedule will continue in several buildings every year. Continue to switch from 32W to 25W T8 lamps. In some buildings, LED fixtures will replace fluorescent lights.	2003	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	90	% of retrofits (captured above) had control system upgrades or adjustments	Audits for the Continuous Optimization Pilot program were conducted on two building complexes in 2009; selected measures will be implemented in 2010.	A total of 70 buildings representing 55% of the campus building area will be retrofitted as part of the BC Hydro Continuous Optimization program.	2003	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	67	% of retrofits (captured above) had insulation improvements	Audits for the Continuous Optimization Pilot program were conducted on two building complexes in 2009; selected measures will be implemented in 2010. The UBC ReNew project improved insulation and replaced single-pane windows with double-pane windows in the Biosciences building complex.	A total of 70 buildings representing 55% of the campus building area will be retrofitted as part of the BC Hydro Continuous Optimization program.	2003	No End Date (Continuous)
Install an on-site renewable energy demonstration project	In Development			A biomass gasification project is planned for the campus. In 2009, committees were formed to move the project through the approval process and to secure funding grants.	Continued project development in 2010-2011. Start up is scheduled for fall of 2011. The system will generate 9600 lb/hr of steam and 2 MW of electricity.	2008	No End Date (Continuous)
IT power management							
Implement server virtualization	Ongoing/In Progress			Through voluntary program, 600 virtual servers were provisioned.	Over the next few years, server virtualization will target nearly 100% of servers (excepting those with high performance computing requirements)	2009	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	In Development			RFP and negotiations which resulted in contract awarded to Xerox Document Management Strategy.	Xerox Document Management Strategy will right-size systems across campus.	2009	2012
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	In Development			RFP and negotiations which resulted in contract awarded to Xerox Document Management Strategy.	Part of the Xerox Document Management Strategy and will involve sustainability coordinators.	2009	2012
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress			Standard when ordered through Supply Management	Ongoing	2009	No End Date (Continuous)
Appliances and electronic devices							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress			Standard when ordered through Supply Management	Ongoing	2009	No End Date (Continuous)
Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress			Standard when ordered through Supply Management	Ongoing	2009	No End Date (Continuous)
Behaviour change program							
Help staff reduce personal energy use through "workstation tune-ups"	In Development				Developing enhanced energy conservation training for office environments; plans to offer work station tune ups	2010	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress			Developed toolkit for staff on phantom load (unplugging electronic devices and office appliances/power bars)	Continued promotion of toolkit; development of a baseline tool to assess number of people taking this action	2009	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	In Development				Plans to develop a toolkit on reducing heat loss through closing blinds	2010	No End Date (Continuous)

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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 tips to staff on saving energy in the office while working outside of regular business hours	Ongoing/In Progress			Lights-out and computer energy conservation toolkits ask staff who are last to leave the work place to make sure all lights are turned off, non-essential equipment unplugged and computers turned off. This is done a yearly basis.	Development of a baseline tool to assess number of people taking this action	2003	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			Lights-out stickers, lights-out posters, computer-off stickers, unplug stickers and energy conservation posters available through the Campus Sustainability Office. This is continuous.	Development of a baseline tool to assess number of departments with stickers and posters	2003	No End Date (Continuous)
Other Stationary Fuel Combustion and Electricity Actions							
Replace computer kiosks with virtual desktops	In Development			Setting up the program	Roughly 500 computer kiosks (i.e. constantly running computers) will be replaced by virtual desktops in 2010.	2010	No End Date (Continuous)
Installation of WinFlp to allow older processors (computers) to have a longer life-cycle by turning them into "Thin Clients"	In Development			Setting up the program	Approximately 200 computers will have their life-cycle extended by reconfiguring them with a "light" version of Windows XP and using them as "Thin Clients" to connect to virtual desktops in 2010	2010	No End Date (Continuous)
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	76	% of total paper purchased contains 30% recycled content	Worked directly with vendor to standardize all orders to 30% recycled: vendor substitutes 30% recycled when any UBC staff order virgin copy paper. Also: There is a toolkit for the Sustainability Coordinators to promote purchase of paper with a minimum of 30% post-consumer waste content which is yearly distributed to the Sustainability Coordinators.	Continuation of vendor substitution of 30% recycled for virgin paper; expect 100% of paper purchases to be recycled. Development of a baseline tool to assess number of departments purchasing copy paper with a minimum of 30% post-consumer waste content.	2003	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Complete	10	% of total paper purchased contains 100% recycled content	Certain business units procure paper with 100% post-consumer content. A study determined that transitioning all business units would be cost-prohibitive and the equivalent funds would be better spent on paper reduction strategies.		2007	2009
Printer/document settings							
Switch networked printers and photocopiers to automatic double-sided	In Development			Toolkit and posters promoting double sided printing in UBC departments are already available.	Xerox Document Management Strategy will address features that aid paper reduction, campus-wide.	2009	2012
Apply "print and hold" settings to networked printers to eliminate unclaimed print jobs	In Development				Xerox Document Management Strategy will address features that aid paper reduction, campus-wide.	2009	2012
Reduce default margin size in standard document templates (e.g., letters, briefing notes, forms, etc.)	Ongoing/In Progress			Toolkit promoting reduction of default margin size is available online/through sustainability coordinators; asks UBC staff to reduce margins from 1.25 inches to 1 inch	Development of a baseline tool to assess number of staff in UBC Departments with reduced margin settings	1999	No End Date (Continuous)
Electronic media in place of paper							
Switch to an electronic payroll notification system in place of paper pay stubs	Complete			The switch happened in 2006. Continued use of electronic payroll system. All new staff uses electronic payroll notification system.		2006	No End Date (Continuous)
Behaviour change program							
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress			Update of the UBC sustainable purchasing guide which promotes paperless meetings/events and offers strategies to do so (http://www.supplymanagement.ubc.ca/Sustainability/ubc_sustainable_purchasing_guide.pdf); an example of an office that went paperless is provided in the guide.	Official launch of the sustainable purchasing guide. Development of a baseline tool to assess number of departments that hold paperless meetings/events	2009	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress			Yearly distribution of toolkit online and through sustainability coordinators.	Development of a baseline tool to assess number of departments which have a system in place to collect previously used paper for future printing and/or paper use	1999	No End Date (Continuous)
Other Paper Supplies Actions							
Toolkit to promote paper reduction through the use of email filing rather than printing emails	Ongoing/In Progress			Yearly distribution of toolkit online and through sustainability coordinators.	Development of baseline tool to assess number of staff that file emails electronically rather than printing	2003	No End Date (Continuous)

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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 <i>Greenhouse Gas Reduction Targets Act</i> . Public sector organizations can optionally use this section to report on actions						
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						
Policy and budgeting						
Create a low-carbon travel policy or travel reduction goal	In Development		In 2009 UBC developed a Climate Action Plan which sets emission reduction targets through measures that include avoiding business travel, and offsetting emissions from business flights.	Update UBC Policy 83 (Travel and Related Expenses) to articulate UBC's commitment to reducing emissions associated with operational business travel. Convene a Task Team to refine and implement a user-friendly measurement and reporting system to support flight reduction by all UBC departments. Anticipating a future need to offset emissions associated with research travel, begin a dialogue between the Office of the VP of Research and the research granting agencies on the capacity to absorb the costs of carbon offsets for travel into research grants and use the offset fees to contribute to a reduction fund on campus.	2009	No End Date (Continuous)
Behaviour change program						
Train staff in web-conferencing	In Development		Update of the UBC sustainable purchasing guide to include web-conferencing.	Development of enhanced training series for staff in reduction of business travel. Encourage web-conferencing in the 2nd edition of the sustainable purchasing guide to be launched in April 2010.	2010	No End Date (Continuous)
Train staff in video-conferencing or provide technical support for video-conferencing set-up	In Development		In 2009 UBC developed a Climate Action Plan which sets targets to reduce its emissions through various measures, including video-conferencing.	Development of enhanced training series for staff in reduction of business travel. Section to encourage video-conferencing in the 2nd edition of the sustainable purchasing guide to be launched in April 2010. Fund and promote use of video conferencing facilities. Using Classroom Services as a model, investigate the potential of having a centralized booking system for video-conferencing facilities.	2010	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	In Development			Encouraging virtual attendance of events is included in the 2nd edition of the sustainable purchasing guide	2010	2010
Encourage carpooling to meetings	Ongoing/In Progress		VGH-UBC Shuttle operates daily on a half hour schedule taking people back and forth between the two hospitals. Feasibility study on increasing shuttle service or expanding to other locations.	Carpool campaign being developed by TREK Office for September 2010.	1997	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress		Public Bicycle System feasibility study undertaken by TREK Office. Majority of trips made on campus are by foot. Bike sharing program with around 100 bicycles available to campus community http://www.trek.ubc.ca/programs/cycling/bikeshare.html	In development.	1997	No End Date (Continuous)
Education, Awareness, and Engagement						
Team-building						
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	Ongoing/In Progress		Maintain enrollment of 150 Sustainability Coordinators who use 2-4 hours per month of paid staff time approved by the Board of Governors in 1999. The Residential Sustainability Coordinator Program was started in 2003 to reduce waste, water and energy consumption in residences and to build a culture of sustainability through student action. Two networking events for Residential Coordinators (25 participants at each event) were held in 2009.	Sustainability Coordinator Program: Develop a recruitment strategy to broaden the reach of the sustainability coordinator program. In addition, form Climate Action working groups to implement the measures in the UBC Climate Action Plan from 2010 to 2015. The measures and teams have executive endorsement. Residential Sustainability Coordinator Program: launch of a water and energy conservation competition in one of the student residences.	2003	No End Date (Continuous)

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Provide resources and/or dedicated staff to support teams	Complete		Annual program activities. See program website http://www.sustain.ubc.ca/campus-sustainability/getting-involved/sustainability-coordinators		2003	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress		Program background: Sustainability Coordinator program launched in 1999 for UBC staff. Residence Sustainability Coordinator program launched in 2001 to students. Both programs follow community based social marketing methodology. 9 events held in 2009 on waste reduction, sustainable purchasing, energy conservation in the work place and at home, battery recycling, greenhouse gas emissions reduction, transportation alternatives.	Develop enhanced training series to offer to UBC Sustainability Coordinators and Residence Sustainability Coordinators.	2003	No End Date (Continuous)
Awards/Recognition						
Establish a sustainability/green awards or recognition program	Ongoing/In Progress		1. Xerox sustainability fund developed and launched as part of the sustainability coordinator program. 2. Two awards were given out to labs which submitted proposals to green their lab practices. One of the most important criteria was to pick proposals that could potentially have a far reach and could be expanded to other labs. The awards were funded by Fisher Scientific.	Recognition and awards strategy to be developed and implemented.	2008	No End Date (Continuous)
Staff Professional Development						
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress		9 educational events offered through the sustainability coordinator program and residence sustainability coordinator program.	Enhanced training series and experiential education events to be developed in 2010	2003	No End Date (Continuous)
Staff awareness/education						
Provide education to staff about the science of climate change	Ongoing/In Progress		Various academic departments including the Institute of Resources, Environment and Sustainability offer public lecture series on various sustainability related subjects including lectures on climate change. Ongoing tuition fee waiver available for staff can be used to enroll in undergraduate courses some of which include climate change science.	Continued lectures and course offerings on climate change science	1990	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress		9 events held in 2009 on waste reduction, sustainable purchasing, energy conservation in the work place and at home, battery recycling, green house gas emissions reductions, transportation alternatives.	Enhanced training series and experiential education events to be developed between 2010-2012	2003	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress		Monthly e-newsletter with sustainability tips, events, updates	Development of an enhanced e-newsletter which can track number of subscribers	2003	No End Date (Continuous)
Provide sustainability education during new staff orientation	Ongoing/In Progress		Booth with sustainability materials and resources offered at quarterly new staff and faculty orientation	Continued presence of Campus Sustainability Office at staff/faculty orientation	2005	No End Date (Continuous)
Client/public awareness/education						
Provide education to clients/public about the science of climate change	Ongoing/In Progress		Institute of Resources, Environment and Sustainability puts on public lecture series on various sustainability related subjects including lectures on climate change.	Continued lectures on climate change science	2008	No End Date (Continuous)
Provide education to clients/public about the conservation of water, energy, and raw materials	Ongoing/In Progress		Public release of toolkits on website: http://www.sustain.ubc.ca/campus-sustainability/getting-involved/sustainability-coordinators/sctoolkit Continue monthly e-newsletter with sustainability tips, events, updates through the Sustainability Coordinator Program (goes to staff, students, faculty members and the general public)	Continued updating and dissemination of toolkits and newsletter.	2003	No End Date (Continuous)

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Provide green tips on client/public website or in newsletters	Ongoing/In Progress			Public release of toolkits on website: http://www.sustain.ubc.ca/campus-sustainability/getting-involved/sustainability-coordinators/sctoolkit Continue monthly e-newsletter with sustainability tips, events, updates through the Sustainability Coordinator Program (goes to staff, students, faculty members and the general public)	Continued updating and dissemination of toolkits and newsletter.	2003	No End Date (Continuous)
Other Education, Awareness, and Engagement Actions							
Supplier code of conduct	Complete			Weighted criterion in the supplier bid process favours sustainable actions.		2008	2009
Strategic alliances with vendors that advance sustainability	Ongoing/In Progress			1. UBC has entered a six-year partnership with Xerox that will improve efficiency in office services and the document lifecycle and will reduce the university's energy consumption and carbon footprint. 2. Funded by Fisher Scientific, the Green Labs Initiative will improve sustainability in labs and educate staff, faculty and students working in labs. http://www.sustain.ubc.ca/campus-sustainability/greening-the-campus/green-research-program	Continue strategic alliance with vendors.	2001	No End Date (Continuous)
Staff education in sustainability	Ongoing/In Progress			Courses and/or lectures offered through: Continuing Studies; Liu Institute; School of Community and Regional Planning (SCARP); Forestry; Green College	continued	1990	No End Date (Continuous)
Engagement	Ongoing/In Progress			1. GoBeyond (http://www.go-beyond.ca) goBEYOND is a youth-led project, which works to educate, inspire, engage and support our peers in taking climate action at British Columbia's colleges and universities among them UBC. 2. Green Lounge at Imagine Imagine is UBC's student orientation day in September. Here student can inform themselves on the various sustainability initiatives at UBC.	1. GoBeyond: more activities planned (http://www.go-beyond.ca) 2. The Green Lounge at Imagine will be put on annually from now on.	2008	No End Date (Continuous)
Other Sustainability Actions							
Water conservation							
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Ongoing/In Progress	30	% reduction in water consumption in 2009 compared to 2001 baseline	Tracking performance of water consumption relative to internal targets. From 2003-2007 the EcoTREK program replaced water fixtures with efficient models in all Core buildings.	Develop a water action plan to further reduce water consumption on campus.	2003	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	In Development				A new water engineer will be hired to create a demand-management plan for the campus. Modelling of water supply infrastructure and demand side management will be conducted.	2010	2012
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	Ongoing/In Progress			Development of a stormwater management strategy for the UBC Vancouver Campus Plan; recalibrate stormwater computer model; continue to implement Low-Impact Development (LIDs) stormwater system.	Completion of stormwater modelling recalibration; review implication scenarios for growth and climate change; finalize campus stormwater strategy; restart integrated stormwater management planning in order to complete implementation strategy in 2010.	1992	No End Date (Continuous)
Waste reduction/diversion							

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Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	Ongoing/In Progress	41 % of recycled waste diverted from landfill (including e-waste, organics going to the on-campus in-vessel composter, and batteries) in 2009	<p>1. The UBC Brain Research Centre launched a styrofoam recycling pilot project currently underway. UBC Waste Free (a committee consisting of various stakeholders on campus with the aim to reduce waste http://www.sustain.ubc.ca/campus-sustainability/greening-the-campus/ubc-waste-free) is exploring how this program could potentially become campus-wide in the future.</p> <p>2. Supply Management started a bubble wrap reduction pilot in libraries. Supply Management also organizes regular campus-wide printer cartridge recycling round ups.</p> <p>3. A furniture reuse feasibility study was completed.</p>	<p>1. A solid waste audit of UBC Point Grey campus and the University neighbourhoods will be conducted between March and September in 2010. This initiative will inform changes and improvements to UBC policies, waste reduction strategies and infrastructure required to move towards a target of zero waste .</p> <p>2. A plastic recycling pilot in labs has been started in February 2010. If the pilots (plastic recycling in labs, styrofoam recycling, plastic wrap recycling) are successful, the programs will be expanded across campus.</p> <p>3. Expand styrofoam recycling program campus-wide.</p> <p>4. Expand bubble wrap reduction program campus-wide.</p> <p>5. Start a furniture reuse program.</p>	1997	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress		<p>UBC Pollution Prevention and Hazardous Waste Management Manual was updated http://www.hse.ubc.ca/__shared/assets/manual8709.pdf. 723 new employees received hazardous waste minimization and proper disposal training.</p> <p>4 issues of the Green Research newsletter were distributed. The annual green research work shop was provided.</p> <p>ESF continued to support the UBC recycling programs for: batteries, oil, paint, and solvents, silver recovery from photographic wastes, and the chemicals reuse [chemical exchange] program.</p> <p>The solvent, biomedical, oil, and contaminated solid waste, waste streams were reduced in 12%, 20% 32%, and 25% respectively compare to 2008. Recycling activities removed 9 tonnes of hazardous waste from the waste stream, and saved \$28K on disposal and purchasing costs.</p> <p>Forty-five heads of administrative units and 300 principal investigators received annual [for the first time] reports of hazardous waste generated by their departments or laboratories during 2008.</p>	<p>Continue to provide hazardous waste handling, pollution prevention, and green research training to UBC employees.</p> <p>Submit hazardous waste report to Principal Investigator and Head of Admin Units, for waste generated in 2009.</p> <p>Continue to support UBC recycling programs.</p> <p>Work directly with top hazardous waste generators of various waste streams on implementation of waste reduction measures.</p>	1996	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.)	In Development		First edition of Sustainable purchasing guide was launched.	New version of Sustainable purchasing guide will be launched. http://www.sustain.ubc.ca/sites/default/files/uploads/pdfs/UBCSustainablePurchasingGuide_version2.pdf	2009	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.)	In Development			New version of Sustainable purchasing guide will be launched, and will include office furniture for the first time. http://www.sustain.ubc.ca/sites/default/files/uploads/pdfs/UBCSustainablePurchasingGuide_version2.pdf	2010	No End Date (Continuous)

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Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Complete			<p>The majority of academic spaces are cleaned with Green Seal products since 2007, however not 100% of the buildings have switched yet. A new code requirement came into play through the City of Vancouver where UBC is now commissioned to install back-flow preventors to our taps before installing the green product dispensing units. This initiative has caused a delay in the ability to switch to green products campus wide.</p> <p>Paper towels and toilet paper are 100% recycled paper. Since 2009 all garbage bags are "value plus" degradable bags manufactured in Alberta versus previously purchased bags manufactured in China, reducing their carbon footprint.</p>		2007	No End Date (Continuous)
Require a minimum purchase of sustainable, and organic food and beverages supplied by contracted food suppliers or caterers	Ongoing/In Progress			Continuing to offer fair trade locally roasted coffee in all our non-franchise outlets. Continuing to offer 100% BC organic apples in our residence dining operations and growing the list of available local and/or organic fruit. Continuing to partner with UBC Farm to offer locally grown (~2 km field-to-plate) items. Continuing to partner with Ocean Wise™ to provide sustainable seafood options, and continuing to work with other campus sustainable seafood research initiatives. Continuing to offer local fresh poultry and free range whole shell eggs. Participated in "bottled water free day". Participated in Eat BC! to highlight dishes featuring a majority of BC-produced items.	Currently working with student research groups to increase availability of sustainable food options - current focus is on options to reduce the carbon footprint of our meat purchases and an enhanced sustainability aspect to our RFP process. Continuing to expand and enhance current initiatives.	2001	No End Date (Continuous)
Building construction, renovation, and leasing							
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	Ongoing/In Progress			Minimum 50% diversion of construction waste is mandatory for institutional buildings according to UBC Technical Guidelines. For residential construction, 75% diversion is mandatory according to UBC's Residential Environmental Assessment Program.	Continued diversion.	2005	No End Date (Continuous)
Incorporate lifecycle costing into new construction or renovations	Complete	100	% of business cases incorporating lifecycle costing since start year indicated	Lifecycle costing is used in all new construction and major renovation projects.		2000	No End Date (Continuous)
Indoor air quality							
Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.)	Ongoing/In Progress			Scent free policy is addressed at the department level; Information regarding indoor air quality is posted on the HSE web site http://www.hse.ubc.ca/safety/occupationalhygiene/iaq.html ; IAQ assessments are performed by HSE staff on an as need basis	Continue to provide IAQ assessments	1990	No End Date (Continuous)
Commuting to and from home							
Introduce telework/work from home policy	Ongoing/In Progress			HR has a tele-commuting guideline for Management and Professional staff available (about 3100 can use it, which is 1/3 of the entire staff, but only a small percentage are likely using the option because the policy was introduced only recently). It is at the discretion of the supervisor whether staff can tele-commute or not. Refer to: http://www.hr.ubc.ca/files/pdf/telecommuting/UBC_Telecommuting_Guidelines_M_P_Staff.pdf	Continue to offer tele-commuting to staff were possible	2009	No End Date (Continuous)
Offer staff a compressed work week	Ongoing/In Progress			UBC functions in a decentralized manner so it is difficult to assess the number of staff who use flex time or tele-commute. Union staff have the opportunity to work flexible hours in some cases. An estimated 20% of unionized employees use this opportunity. It is up to the supervisor and depends on the job duties . Continued.	Continued.	2000	No End Date (Continuous)

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Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress		1071 active members in the Employer Pass Program. Supported Bike to Work Week, Bike Month, the UBC Bike Kitchen. Created over 400 new bike parking locations. Installed 71 "sharrows" and new "share the road signage" 375 individuals registered in one of available carpooling programs (http://www.trek.ubc.ca/programs/carpool/index.html#jbrs.)	Provide housing for students, staff and faculty on campus, reducing commuting needs	1997	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Ongoing/In Progress		Continued to examine projects at the development review committee and push for the inclusion of these facilities.	New policy being introduced will require lockers, showers, washbasins and secure bicycle parking in all new development / redevelopment on campus.	1997	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In Progress		Draft Campus plan calls for the construction of 18 new storage facilities across campus.	Construction of the Buchanan Tower Secure Bicycle Parking Facility (min. capacity 68 bicycles)	1997	No End Date (Continuous)
Modify parking fees or parking availability for staff/students	In Development		3000 parking spaces have been removed over the last several years to accommodate construction of residential and faculty buildings.	<p>The hourly rate at all the parkades was increases on January 1st 2010 from \$3 per hour to \$3.50 per hour.</p> <p>The following proposed rate increases are taken from the UBC Parking Services 5-year Business Plan and are based on a pricing strategy that meets the principles in the Replacement Parking Plan, is compatible with public transit pricing and supports Transportation Demand Management objectives.</p> <p>Note – due to recent PST rate increase effective Jan 1, 2010, these proposed rate increases will be re-evaluated and may be altered to meet the objectives outlined above.</p> <p>Faculty/Staff rates: raised approx. 2.5% in both 2011/12 and 2012/13 Student rates: raised approx. 0% in 2011/12 and 2% in 2012/2013 Parkade hourly rates: raised approx. 0% in 2011/12 and 33% in 2012/2013 On Street daily rates: raised approx. 0% in 2011/12 and 25% in 2012/2013</p>	2010	No End Date (Continuous)
Other Sustainability Actions						
Replace laptop/desktop computers with thin clients, to reduce both electricity use and electronic waste	In Development		Setting up the program (voluntary).	Approximately 300 computers will be replaced as part of their normal life-cycle (i.e. at end-of-life) with lower-power, longer-life Thin Clients, which will then connect to virtual desktop infrastructure in the data centre in 2010	2010	No End Date (Continuous)
Green Research project will reduce water consumption in labs	In Development				2010	No End Date (Continuous)
Provide housing for students, staff and faculty on campus, reducing commuting needs	Ongoing/In Progress		<p>Over 400 of non student housing beds were created in 2009.</p> <p>A UBC student housing demand study was conducted in 2009 to determine the need/demand for future on-campus student housing and to input the results and findings into the Vancouver Campus Plan Presentation: http://www.housing.ubc.ca/files/van/pdf/others/student_housing_demand_study.pdf Study: http://www.planning.ubc.ca/news_events/whats_new/articles263.php</p>	About 800 student beds will be added by 2012, with another 1700 beds and 240 apartments added by 2015.	1991	No End Date (Continuous)