

EMILY CARR UNIVERSITY OF ART AND DESIGN

2009 Carbon Neutral Action Report

Executive Summary

2009 was a year of continued activity in working toward reduced Greenhouse Gas Emissions as well as building awareness and commitment to ongoing sustainability. In November, the Emily Carr Senate and Board of Governors approved a “University Sustainability Policy” (<http://www.ecuad.ca/about/governance/policies>) that establishes our goal of integrating sustainability considerations into all operations and curricular decision-making. The University Strategic Plan 2010-15 was in development throughout 2009 which addresses sustainability as a key theme. With the 2010 announcement of a new campus for Emily Carr at Great Northern Way, attention will turn toward planning for a sustainable campus that will become a model for future post-secondary development.

Overviews

Actions Taken to Reduce Greenhouse Gas Emissions in 2009

Key initiatives in 2009 included carrying out a BC Hydro Energy Audit at the Granville Island campus. We also obtained funding through the Public Sector Energy Conservation Agreement and completed replacement of one of our aging boilers. Phase 2 and 3 of this project will be done in subsequent years. SMARTtool was implemented and all 2009 data was entered in order to establish a baseline for assessing current Greenhouse Gas Emissions. This also allows us to estimate offset obligations and work toward further reductions. Emily Carr University does not operate a fleet of vehicles, other than a single forklift.

Operational Changes in 2009

An additional 1300 sq metres of leased studio space at the former Mitchell Press building was added to our inventory.

Plans to Continue Reducing Greenhouse Gas Emissions 2010 – 2012

Planning for the new campus at Great Northern Way, announced in February 2010 in the BC Throne Speech, will occupy most of our attention for the next few years. The intention is to build an exemplary model of a sustainable campus. At this early stage, construction completion dates are still uncertain. In conjunction with this planning, we will further examine curriculum and operations to increase the sustainability focus as we build awareness and commitment to our “green” future. The Sustainable Campus website (http://www.ecuad.ca/about/sustainable_campus) is under development and will further report on plans and activities as they proceed.

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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)							
This section is not applicable to this organization							
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							
Planning/management							
Enrol in a building energy benchmarking program (e.g., GREEN UP)	In Development				Programs affecting existing buildings will be considered with respect to the future move of ECU to a new campus at Great Northern Way (GNW)	2010	No End Date (Continuous)
Reduce office space (square meters) per employee	Ongoing/In Progress	8	is the current average rentable square meters per employee	Given the extreme shortage of office space at ECU, most faculty and some staff already share very small offices.	Planning for sufficient office space at the new campus will be part of the design process.	2010	2012
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress			Both Granville Island buildings have real time monitoring for electricity consumption. New boilers installed in 2009 also have monitoring systems.	Real time monitoring will be considered as existing equipment is replaced. It will also be included in planning the GNW campus.	2000	No End Date (Continuous)
Owned buildings							
Establish energy performance baseline for owned buildings	Ongoing/In Progress	100	% of owned buildings have an established energy performance baseline	BCHydro conducted an energy audit of owned buildings in 2009. 2009 data has been entered into SMARTtool as a baseline	Further follow-up on the Energy Audit recommendations will be carried out. 2010 data and subsequent years will be entered as required in SMARTtool	2009	No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	In Development				Planning will begin in 2010 for a new campus at GNW. The intention is to achieve a minimum of Gold LEED standard.	2010	2012
Incorporate integrated design process into new construction or during renovations of owned buildings	In Development				Extensive consultation within the ECU community and with possible external partners will take place in planning the new campus with a view to encouraging integration and interdisciplinary.	2010	2012
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	In Development				Effort will be made to minimize fugitive emissions related to refrigerants at the new campus.	2010	No End Date (Continuous)
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress			Continuing work was done on lighting and energy upgrades.	Work to complete energy retrofits in 2010 will be severely limited due to cuts to annual ACA funding.	2000	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress			Phase one of boiler replacement project completed. A new condensing boiler installed alongside one of the old Cleaver Brooks boilers. Project funded by the province and BCHydro through the Public Sector Energy Conservation Agreement.	Phase two replacement of the second Cleaver Brooks boiler and phase 3 installation of a heat pump are planned for 2010 and beyond but are dependent on funding of approximately \$500,000.	2010	2012
Upgrade lighting systems during retrofits	Ongoing/In Progress			Additional upgrades from T12 to T8 bulbs were completed. Washrooms and some studio areas installed with motion sensor lights.	Remaining T12 bulbs will be replaced with T8 bulbs in areas like the library.	2002	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
Install an on-site renewable energy demonstration project	In Development				A renewable energy demo project may be included in the plans for constructing a "green" building at GNW. Student projects related to renewable energy and other sustainability issues are regularly on display for the public at the current campus.	2010	No End Date (Continuous)
Leased buildings							
Establish energy performance baseline for leased buildings	Ongoing/In Progress	100	% of leased buildings have an established energy performance baseline	2009 data has been entered in SMARTtool in order to establish a baseline.	Ongoing entry of data into SMARTtool.	2009	No End Date (Continuous)
IT power management							
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	10	% of computers shut down automatically outside of regular business hours	Implemented automated shut-down of computers on the public stations in the Library.	Most office computers will be upgraded to Windows 7. This provides the opportunity to revisit policy and capabilities to manage automatic shut-down.	2009	2010
Implement server virtualization	Ongoing/In Progress	20	% of servers have been virtualized since start year indicated	Evaluated software options.	Completion of virtualization of all candidate hardware servers.	2009	2012
Apply auto-sleep settings on computer monitors and CPUs	Complete	100	% of computers have auto-sleep settings applied	Implemented in 2009 on PCs using Windows Active Directory. Auto sleep is a routine feature on all Mac computers.		2009	2009
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress	25	% reduction in printers, copiers, and/or fax machines since start year indicated	Many offices/departments have had single-function devices replaced with multi-function devices.	More offices will be reviewed and targeted for equipment rationalization and reduction.	2009	No End Date (Continuous)
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	Ongoing/In Progress	50	% of devices have auto-sleep settings applied	All new devices purchased in 2009 have been configured for auto-sleep.	All devices purchased will be configured for auto-sleep.	2009	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	75	% of computers are ENERGY STAR rated	All computers purchased in 2009 are energy star rated.	All computers purchased will be energy star rated.	2009	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	In Development				Energy Star models will be sourced for new purchases.	2010	No End Date (Continuous)
Replace desk lamp incandescent bulbs with compact fluorescent (CFL) bulbs or source more efficient desk lamps for future purchases	Ongoing/In Progress			Incandescent bulbs have been replaced with CFLs in most desk lamps as old bulbs burn out.	Continue replacing bulbs with compact fluorescents.	2008	2010
Behaviour change program							
Help staff reduce personal energy use through "workstation tune-ups"	In Development				A program to systematically review workstations for energy efficiency will be developed in 2010.	2010	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	In Development				Signs and stickers will be developed and installed.	2010	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress			All motorized blinds are closed at night when security guards conduct building closure procedures.	Staff will be asked to close manual blinds when they leave work for the day.	2009	No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	Ongoing/In Progress			Instructions posted near the dishwasher.	Further signage planned.	2009	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
Encourage use of stairs instead of elevators	Ongoing/In Progress			Mentioned in the staff "Wellness Letter" under exercise at work.	Signage planned.	2009	2010
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			Energy saving tips have been distributed to employees via email.	Signage and stickers are being developed.	2010	2010
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	66	% of total paper purchased contains 30% recycled content	An effort was made to increase the volume of paper with recycled content used at the university. Visions newsletter printed on 30% recycled paper instead of glossy paper.	Continue to move toward increased use of recycled paper content for all ECU publications and printing.	2008	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Ongoing/In Progress	33	% of total paper purchased contains 100% recycled content	All printers were tested for their ability to print on 100% recycled paper.	Replacement printers will be guaranteed to print on 100% recycled paper. Volume of 100% recycled content will increase.	2009	No End Date (Continuous)
Printer/document settings							
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress			Various departments, such as Finance and the Library, encourage staff to print double-sided whenever possible. All new printers purchased in 2009 are capable of printing double-sided.	Further promotional efforts to encourage double-sided or no printing will be undertaken by IT Services.	2009	No End Date (Continuous)
Apply "print and hold" settings to networked printers to eliminate unclaimed print jobs	In Development				Will be considered in planning to redesign methods of providing networked print services in the future.	2010	No End Date (Continuous)
Reduce default margin size in standard document templates (e.g., letters, briefing notes, forms, etc.)	Complete			Margin size reduced as part of ECU letterhead and identity redesign.		2008	2009
Electronic media in place of paper							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development			Identification of software requirements.	Development and deployment of software.	2010	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress			ECU policies are now posted on the website instead of a printed manual. Agendas and minutes for Board, Senate and Committee meetings are distributed by email rather than printed. More manuals and large documents are produced as PDFs or online files.	Electronic submission of masters theses rather than production of paper copies will be investigated. Online version of the annual graduate catalogue rather than print is being explored.	2008	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Ongoing/In Progress			Electronic payroll notification was established in 2005. E-cheques for students, staff and some vendors was introduced in 2009.	Increase the number of vendors who will receive e-cheques rather than printed ones.	2005	No End Date (Continuous)
Behaviour change program							
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development				Training will go together with deployment.	2010	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	In Development				Further effort will be made to promote paperless meetings.	2010	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress			Scrap paper is re-used extensively in areas such as the library and departmental offices	Promote the re-use of scrap paper to all departmental areas.	2005	No End Date (Continuous)
Other Paper Supplies Actions							
Paper use reduction in studio practice	Ongoing/In Progress			Eliminated the covering of studio work tables with sheets of paper to ensure cleanliness.	Further actions to reduce unnecessary paper consumption in studio practices will be explored.	2008	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 *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.)	Ongoing/In Progress			Software installed on an as-needed basis.	Further evaluate software options.	2007	2011
Make desktop web-cameras available to staff	Ongoing/In Progress			Web cameras are available for loan to staff and faculty from IT Services	Publicize availability and encourage use.	2008	No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Ongoing/In Progress			A mobile unit was purchased in 2008 and began use in 2009.	Promote increased use of video-conferencing alternatives	2008	No End Date (Continuous)
Behaviour change program							
Train staff in web-conferencing	Ongoing/In Progress	5	% of staff are trained web-conferencing	Evaluated need for further training.	Implement training on an as-needed basis.	2005	No End Date (Continuous)
Train staff in video-conferencing or provide technical support for video-conferencing set-up	Ongoing/In Progress			Technical support for video conferencing is available through IT Services or the Intersections Digital Studio.	Training will be provided as requested.	2008	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress	10		Frequently members of administration, staff and faculty participated in meetings and workshops using virtual tools such as Elluminate or video conferencing.	Encourage further virtual attendance through development of a travel reduction policy and other promotional activities. Provide software training as required.	2007	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress			Car-pooling is common practice when feasible.	Continue to encourage car-pooling.	2006	No End Date (Continuous)
Other Business Travel Actions							
Recruitment related travel	Ongoing/In Progress			In an effort to reduce the amount of travel required for recruitment purposes, Student Services is identifying alumni who live abroad and are able to participate in local education fairs and events on behalf of ECU.	Evaluation of this approach will be conducted and further alternatives to air travel considered.	2009	No End Date (Continuous)
Education, Awareness, and Engagement							
Team-building							
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	In Development				The proposed sustainability coordinator would introduce a program throughout the university.	2010	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	In Development				A budget proposal for a part-time sustainability coordinator has been submitted for 2010/11.	2010	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress			The Wellness Committee hosted a number of health and social sustainability noon-hour workshops for the ECU community as well as organized other related activities.	Further activities will be planned and delivered.	2008	No End Date (Continuous)
Staff Professional Development							

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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
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress		The Acting Sustainability Coordinator attended 4 courses in the UBC Sustainability Management program and also attended the CAUBO sponsored Leadership in Sustainability conference in Toronto as well as several local workshops.	Staff from a variety of departments will be encourage to attend workshops or conferences regarding sustainability as they occur.	2009	No End Date (Continuous)
Staff awareness/education						
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress		Sustainable Campus section of the ECU website was developed. Promoted and participated in March 2009 Earth Hour by turning off all computers and other equipment on campus and encouraged everyone to participate at home.	Continued promotion and participation in both public and internal programs. March 2010 participation in Earth Hour will be promoted.	2008	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress		A green tips section was added to the ECU Sustainable Campus web pages.	The website will be further developed and expanded.	2009	No End Date (Continuous)
Client/public awareness/education						
Provide education to clients/public about the science of climate change	Ongoing/In Progress		Students address issues of climate change in curriculum as well as through projects and public displays. Faculty members speak at public events, both on campus, at conferences and elsewhere.	This is an ongoing, and hopefully expanding, area of activity.	2006	No End Date (Continuous)
Provide education to clients/public about the conservation of water, energy, and raw materials	Ongoing/In Progress		Courses and student projects dealt with water conservation and other ecological topics.	This an ongoing and expanding area of curriculum development.	2006	No End Date (Continuous)
Provide green tips on client/public website or in newsletters	Ongoing/In Progress		Developed the Sustainable Campus section of the ECU website for reporting on news and initiatives at ECU.	Website will be further developed and expanded.	2009	No End Date (Continuous)
Other Education, Awareness, and Engagement Actions						
University Sustainability Policy	Complete		In November 2009 the Senate and Board of Governors approved the new University Sustainability Policy.		2009	2009
Strategic Planning 2010-15	Ongoing/In Progress		Information gathering and consultation took place in preparation for the development of the strategic plan.	The ECU strategic plan for 2010-15 will develop goals and establish objectives and timelines in areas of sustainability.	2010	No End Date (Continuous)
Sustainability Curriculum	Ongoing/In Progress		Courses specifically addressing sustainability issues included Humanities "Water + You", 2nd year Design "Ecological Perspectives", 3rd year "Sustainable Design" in conjunction with industry partner Lululemon. In addition, faculty experts were invited to participate as speakers at other institutions and conferences.	In 2010 additional courses and events include "Appetite" on consumption, a Sustainable Design Roundtable including participants from Italy, English 201 on "Ecology + Response Abilities". Working sustainability themes and values into all areas of curriculum and courses is an ongoing priority.	2006	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		Faucets and toilets are motion triggered	Water bottle filling station will be installed in 2010 in order to reduce consumption of bottled water.	2005	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			Waterless urinals are under consideration. Planning for the GNW campus will include a comprehensive water management strategy.	2010	2012
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	In Development			GNW campus will include landscape strategies that take into account water conservation.	2012	No End Date (Continuous)
Waste reduction/diversion						

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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
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	Ongoing/In Progress		Extensive recycling of paper, plastics, bottles, tins, electronic equipment and building materials already takes place. However, a major factor and cost consideration is storage until bulk disposal can be arranged. Curriculum-related model building has moved to using recyclable corrugated cardboard instead of disposable foam-core. Both the cafeteria and individual departments compost food waste.	Policy for waste reduction and diversion to be developed along with specific goals, objectives and targets. Planning for adequate recycling equipment and storage will be a factor in planning the new campus at GNW.	2006	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress		Hazardous waste from paints, solvents and cleaners are captured and disposed of appropriately. An additional SMARTwasher for painting tools was purchased in 2009, bringing the total to 7 throughout the campus.	Alternatives to hazardous solvents and cleaners are being investigated. Also, substitution of water-based inks and colourants in visual arts studios are being explored.	2008	No End Date (Continuous)
Procurement (non-paper supplies)						
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			Planning the new GNW campus will provide the opportunity to employ green standards in purchasing new equipment and furnishings.	2012	No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress		New products are introduced as they become available.	Continue to research further alternative products as they become available.	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		The company contracted to supply cafeteria and catering service has a sustainability policy that includes sourcing local products where possible as well as using recyclable and/or reusable cups and food containers.	Increase signage and information for cafeteria users. Continue to source local and/or organic products.	2009	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		Facilities Dept re-uses doors, locks, insulation, duct work, etc when doing office and other small renos.	This is an ongoing and expanding initiative.	1998	No End Date (Continuous)
Indoor air quality						
Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.)	Ongoing/In Progress		Various departments have taken the initiative to discuss and agree on scent free environments.	Publicize issues concerning scents and allergies. Consider developing a scent-free policy.	2008	No End Date (Continuous)
Incorporate low volatile organic compounds (VOCs) standards into procurement policy for products such as paints, carpets, and furniture	Ongoing/In Progress		Low VOC paint was used during renos and re-painting.	Development of a new "green" campus at GNW will provide an opportunity to use a wide variety of environment-friendly products.	2009	No End Date (Continuous)
Commuting to and from home						
Introduce telework/work from home policy	In Development		Some IT Dept staff regularly work from home.	During the Olympics, additional staff experimented with teleworking. Viability is being assessed.	2009	No End Date (Continuous)
Offer staff a compressed work week	Ongoing/In Progress		Some departments experiment with a compressed work week for staff, for example, the AV Dept.	A compressed work week is not feasible for areas with limited staffing. Proposals will be considered when presented.	2008	No End Date (Continuous)
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress		Various options for encouraging use of public transit and other alternatives for commuting were explored. The student union actively lobbied for an affordable Upass program.	ECU students continue to lobby for an affordable Upass for public transit users.	2008	2010
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Complete		No further action was required.		2005	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
Provide secure bicycle storage	Ongoing/In Progress		Secure bike sheds were relocated and expanded.	Further bike storage will be explored as needed.	2009	2012
Modify parking fees or parking availability for staff/students	Ongoing/In Progress		Daily parking permits were introduced to encourage users to bring a car only when needed instead of purchasing a term pass.	Policy regarding fees will be reviewed as needed.	2009	2009
Other Sustainability Actions						
Indoor air quality in wood shops	In Development		Funding was obtained for retrofitting air handling units in the wood shops.	Wood shops on campus will be retrofitted with air extraction equipment that will increase capture of fine particulate matter and reduce noise.	2009	2010