Douglas College - 2009 Carbon Neutral Action Report

Executive Summary

Douglas College is concerned about the quality of the natural environment and building a sustainable society. As such, the College has a responsibility to enable the College community to become knowledgeable about the environment, and to become environmentally responsible. To educate by example and to demonstrate good environmental citizenship College operations will make all reasonable efforts to be environmentally sound.

Douglas College continues to investigate opportunities provided by organizations such as BC Hydro's' Power Smart programs and initiatives, Public Sector Energy Conservation Agreement (PSECA), Energy Canada (Enercan), and our Ministry of Advanced Education & Labour Market Development. These relationships provide access to a variety of resources which may assist us in developing an environmental sustainable energy management plan which focuses on achievable, sustainable and measurable results.

Douglas College has established criteria in conjunction with a LEED (Leadership in Energy and Environment Design) certified energy consultant for both our New Westminster and David Lam Campuses to establish baseline energy usage for future measurement of Energy and Green House Gas reduction targets.

Douglas College is committed to educate by example and demonstrate quality environmental stewardship. This work is an on-going process, for which both internal and external resources will need to be built up, and the complex concepts underlying environmentally sustainable development will need to be further elaborated and tested. We will have conversations with our consultants and partners and provide a means for reviewing progress. These actions will provide the opportunity to update procedures based on these reviews and the experience gained.

As a member of the Association of Canadian Community Colleges, the College became a signatory to the "Pan-Canadian Protocol for Sustainability" on August 12, 2009 (see attachment).

Overviews

Actions Taken to Reduce Greenhouse Gas Emissions in 2009

Actions undertaken in 2009 were as follows:

- As a member of the Association of Canadian Community Colleges, the College became a signatory to the "Pan-Canadian Protocol for Sustainability" on August 12, 2009.

- Deployment of 1250 "Shut-down on schedule" licenses onto student lab PC's.

- Reduced electrical consumption by converting 30 incandescent flood lights to LED fixtures.

- Installation of 4 Variable Speed Drives

- Upgraded 42 pneumatically controlled VAV boxes to DDC controlled.

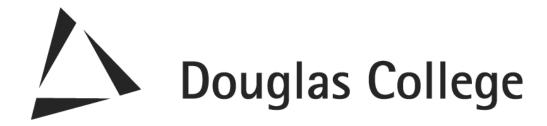## Plans to Continue Reducing Greenhouse Gas Emissions 2010 – 2012

Douglas College will continue to take short and long term actions to meet Provincially mandated legislation for the reduction of Greenhouse Gas Emissions.

Douglas College will, through Facilities Services, "continue to research and promote short and long term initiatives to promote environmental sustainability".

The College, through Facilities Services will "look at how we can model a commitment to the highest values in environmental stewardship and sustainability at Douglas College".

The College, through Facilities Services, will continue to "enhance sustainability initiatives and continue an awareness campaign to encourage our employees to creatively think and act on reducing consumption and take on the challenge of modeling new personal behaviour around sustainability".

It is our understanding that there will be significant reductions in the Annual Capital Allowance. These reductions will have an impact on the ability of the College to pursue substantive capital initiatives to reduce Greenhouse Gas Emissions.

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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)						
Owned buildings						
Incorporate integrated design process into new construction or during renovations of owned buildings	In Development			Will investigate integrated design with our Consultants and where feasible, incorporate integrated design into new construction & renovations - 2010	2010	No End Date (Continuous)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Ongoing/In Progress		Contractors are required to record all refrigerant top ups. Equipment set for disposal has the refrigerant reclaimed/removed prior to disposal.	Contractors will continue to record all refrigerant top ups. Equipment set for disposal will continue to have refrigerant reclaimed/removed prior to disposal.	1996	No End Date (Continuous)
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress		Conducted a number of small retrofits as described in the next section.	Where and when economically feasible, complete small energy retrofits.	1996	No End Date (Continuous)
Retrofitting owned buildings						
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	0	% of retrofits (captured above) had heating, cooling, and ventilation systems upgrades	Added 9 freezer/cooler curtains (est savings 85,000 kWh/yr) Added 4 variable speed drives (est savings 15,000 kWh/yr)	FACILITIES - Standard practice is to include mechanical system upgrades during any renewal/retrofit work	1996	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	0	% of retrofits (captured above) had lighting systems upgrades	Replaced 30 PAR pot lights with new LED pot lights in cafeteria.	FACILITIES - Complete a Lighting Assessment (in 2011) to evaluate whether new opportunities are available to reduce electrical power consumption. FACILITIES - Standard practice is to include lighting system upgrades during any renewal/retrofit work	1996	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	0	% of retrofits (captured above) had control system upgrades or adjustments	Upgraded 42 VAV boxes from pneumatic to DDC (15 cafe, 8 dental, 3 daycare, 16 in Admin). Re-balanced all electronic VAV boxes at the NW campus.	FACILITIES - Standard practice is to include control system upgrades during any renewal/retrofit work	1996	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	0	% of retrofits (captured above) had insulation improvements	In re-roofing tender for 2010, include option to add a GREEN roofing (NW) to reduce solar gain in summer.	FACILITIES - Standard practice is to consider insulation improvements during any renewal work	1996	No End Date (Continuous)
IT power management						
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	40	% of computers shut down automatically outside of regular business hours	Added 1250 "Shut-down on schedule" licenses onto PC's in student labs.	IT - Research and test power management software on employee PCs. Possibly deploy power management software on employee PCs as appropriate.	2009	2012
Implement server virtualization	Ongoing/In Progress	40	% of servers have been virtualized since start year indicated	Virtualized additional servers.	IT - Continue migrating Intel-based stand-alone servers into virtual environment. Consolidate Sun Spark servers on Sun virtualization platform. Implement policy about virtual server being a primary choice for any new servers.	2007	2012
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress	80	% of computers have auto-sleep settings applied	Continued to apply settings across to computer CPU's.	IT - Auto-sleep settings become a default for all new monitor installations. Achieve 100% compliance.	2005	2012
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	In Development			IT - Renew the fleet of multi-function devices. Enable functions that have not been used so far. Eliminate as many stand alone devices as possible.	2010	2012
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	IT - Applied "Windows XP based "auto-sleep settings while deploying new/additional devices. PRINTSHOP - In the PrintShop, machinery either goes into sleep mode or is now turned off	IT - Continue to apply auto-sleep settings on devices being deployed and/or services. Achieve 100% compliance. PRINTSHOP - When purchasing new equipment, sleep mode will be a requirement for new duplicators.	2007	2011
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	80	% of computers are ENERGY STAR rated	All deployed PCs were Energy Star rated.	IT - Continue to deploy only Energy Star rated computers. Achieve 100% compliance.	2006	2010
Appliances and electronic devices						

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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
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	In Development			PURCHASING - Investigated procurement standards with regards to Energy Star rating "for refrigerators".	PURCHASING - Where economically feasible, replacement refrigerators will be ENERGY STAR models.	2010	No End Date (Continuous)
Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases	In Development			PURCHASING - Investigated procurement standards with regards to Energy Star rating for "other appliances".	PURCHASING - Where economically feasible replace other appliances with ENERGY STAR models. IT -Continue sourcing Energy Star models of various computer and network equipment whenever possible and financially viable.	2008	No End Date (Continuous)
Behaviour change program							
Help staff reduce personal energy use through "workstation tune-ups"	Ongoing/In Progress	50	% of current staff have completed a workstation tune-up	Continued deploying new and replacement staff PCs tuned up towards saving electricity.	IT - Continue deploying new and replacement staff PCs tuned up towards saving electricity.	2007	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress	40		Applied "Turn Me Off" stickers to PCs and LCDs to remind staff to turn the power off when leaving work.	IT - Continue to apply "Turn Me Off" stickers to PCs and LCDs to remind staff to turn the power off when leaving work.	2009	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Complete			Completed in 2008		2008	No End Date (Continuous)
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	0	% of total paper purchased contains 30% recycled content	Researched costs associated with 30% recycled content - a 7% cost increase was determined	FACILITIES - Will continue to monitor industry costs of 30% post-consumer recycled paper	2008	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Ongoing/In Progress	0	% of total paper purchased contains 100% recycled content	Researched costs associated with 100% recycled content - a 40% cost increase was determined	FACILITIES - Will continue to monitor industry costs of 100% post-consumer recycled paper	2008	No End Date (Continuous)
Printer/document settings							
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	20	% of network printers or photocopiers are set to automatic double-sided	PHOTOCOPIERS - No action in 2009 PRINTERS - Outfitted computer lab printers with duplexing units and set duplex printing as a default option on lab PCs. PRINTSHOP - If not specified, the PrintShop prints jobs double sided. 95% of all Coursepack production is now double sided	PHOTOCOPIERS - A Request for Proposal (Photocopiers) is scheduled for issue in 2010. Included in the bid document will be specifications for automatic double sided copying. PRINTERS - Whenever possible and not cost-prohibitive, purchase printers with duplexing capabilities. Set duplex printing as default option for users of duplex-capable printers PRINTSHOP - Both the PrintShop and Coursepack development areas will continue to promote 100% double sided duplication	2009	2012
Apply "print and hold" settings to networked printers to eliminate unclaimed print jobs	In Development				IT - Investigate the implications and where possible apply "print and hold" settings on networked printers	2010	2010
Reduce default margin size in standard document templates (e.g., letters, briefing notes, forms, etc.)	Ongoing/In Progress			PRNTSHOP - Where practical, the Print Shop Staff recommends cost saving measures to clients	IT - Difficult to implement as there are no user controls available. PRINTSHOP - Monitoring of print jobs will continue to maximize efficiency	2008	No End Date (Continuous)
Electronic media in place of paper							
Switch to an electronic payroll notification system in place of paper pay stubs	Complete	100	% Completed in 2009	Trial completed in 2008, full implementation in 2009.		2008	2009
Other Paper Supplies Actions							
T-4's and Student T2202's are now online.	Complete	100	% Complete in 2009	Trial completed in 2008, full implementation in 2009.		2008	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.)	Ongoing/In Progress	3	% of computers have web-conferencing software installed	As requested by users, the College IT department will install web-conferencing software.	As requested by users, continue to install web-conferencing software onto PC's.	2005	No End Date (Continuous)
Make desktop web-cameras available to staff	Ongoing/In Progress	5	% of staff have access to a desktop web-camera	Purchased and deployed additional web-cameras.	IT - Purchase and deploy additional web-cameras.	2005	No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Ongoing/In Progress	10	% of meeting rooms have access to video-conferencing equipment	Renewed one out of three video-conferencing systems in operation.	IT - Purchase and deploy more video-conferencing units for meeting rooms.	1992	No End Date (Continuous)
Behaviour change program							
Train staff in web-conferencing	Ongoing/In Progress	5	% of staff are trained web-conferencing	Provided training to staff on as needed basis.	IT - Provided training to staff on 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	100	% of staff are trained in video-conferencing or have access to technical support	Continued to provide technical support for video-conferencing set-up.	IT - Continue to provide technical support for video-conferencing set-up.	1992	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress			Assist Faculty when considering online presentations/courses by hosting the following events: - Building Online Learning Communities: Effective Strategies for the Virtual Classroom - Lessons from the Cyberspace Classroom: The Realities of Online Teaching - What is MERLOT? The Multimedia Educational Resources for Learning and Online Teaching - Choosing & then Getting Creative with Workable Online Technologies - Designing Blended (Hybrid) Learning Courses	Continue to provide training and support online learning	2000	No End Date (Continuous)
Encourage carpooling to meetings	In Development				Add "Green Commuting Tips" to Employee Newsletter	2010	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress			Employee Relations provides new employees information on Employer Transit Pass.	Add "Green Commuting Tips" to Employee Newsletter	2010	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			The College formed the "Environmental Sustainability Task Force" in 2007.	2010-2012: With executive support, establish a permanent team.	2007	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Complete			College has allocated an annual budget for the Task Force to promote awareness and education.		2007	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	In Development				2010-2012: With executive support, establish a permanent team and provide training to the team.	2010	No End Date (Continuous)
Awards/Recognition							
Establish a sustainability/green awards or recognition program	In Development				2010-2012: With executive support, establish a green award and/or recognition program.	2010	No End Date (Continuous)
Staff Professional Development							
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress			Facilities Manager attended the three day "PowerSmart Forum" and a Lighting Redesign Workshop.	As requested, continue to provide PD opportunities for College employees.	1990	No End Date (Continuous)
Staff awareness/education							
Provide education to staff about the science of climate change	In Development				Develop strategies and plans to provide ongoing awareness seminars.	2010	No End Date (Continuous)

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Provide education to staff about the conservation of water, energy, and raw materials	In Development			Revise and develop new, updated goals and objectives for the ESTF. Continue improving the ESTF website by providing news updates and new resources for employees and students. Dec 2009	2010	No End Date (Continuous)
Provide green tips on staff website or in newsletters	In Development			2010: Revise sustainability website to include a "Green Tips" section	2010	No End Date (Continuous)
Client/public awareness/education						
Provide education to clients/public about the science of climate change	In Development			Add "Climate Change Information & Green Tips" to Employee Newsletter	2010	No End Date (Continuous)
Provide education to clients/public about the conservation of water, energy, and raw materials	In Development			Add "Climate Change Information & Green Tips" to Employee Newsletter	2010	No End Date (Continuous)
Provide green tips on client/public website or in newsletters	In Development			Add "Climate Change Information & Green Tips" to Employee Newsletter & website	2010	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	Complete		FACILITIES - Continue implementing water conservation strategy where fixture replacements are scheduled.		1996	2012
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	Ongoing/In Progress		FACILITIES - Continue implementing water potable water management where fixture replacements are scheduled. For example; in 2009, converted thirty (30) manual toilet & urinal flush valves automatic low flush	FACILITIES - Continue to convert balance of flush valves at the NW campus to low flow fixtures - Continue to convert washroom faucets to low flow faucets. - Replace shower heads in changerooms with low flow shower heads.	2010	No End Date (Continuous)
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	Complete		FACILITIES - When completing any infrastructure work, Facilities Services has an informal stormwater management strategy.		1996	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		No new steps taken in 2009	When feasible, will investigate additional (new) opportunities to reduce and/or divert building waste.	1996	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress		No new steps taken in 2009	The College will continue to reduce hazardous waste where possible. Where not possible, hazardous waste will be sent to hazardous waste disposal contractors.	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.)	Ongoing/In Progress		BOOKSTORE - The Bookstores offers both recycled and non-recycled binders, presentation portfolios, pens, paper products and clothing items that contain recycled content.	PURCHASING - To be reviewed/included in the new Purchasing department procedures. BOOKSTORE - Where feasible, the stores will continue to procure recycled content products for customer purchase	2010	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			PURCHASING - To be reviewed/included in the new Purchasing department procedures.	2010	No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress		For large events, provide water jugs and plastic cups made in lieu of bottle and Styrofoam cups. Soup bowls, take-out dinner plates & coffee cups have all been converted to paper (Dec.2009) Converted bulk of cleaning chemicals to "Green Seal" approved products - 2009	FACILITIES - Investigate use of biodegradable trash bags FACILITIES - Investigate other cleaning products for possible conversion	2009	2012
Indoor air quality						
Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.)	Ongoing/In Progress		In areas where sensitivities exist, the College supports "Scent Free" zones.	When requested by hyper-sensitive employees, continue to support and/or accommodate "Scent Free" zones.	2000	No End Date (Continuous)

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Incorporate low volatile organic compounds (VOCs) standards into procurement policy for products such as paints, carpets, and furniture	In Development		PRINTSHOP - The PrintShop has moved from; 1) rubber / oil base inks to a soya based products; 2) use cornstarch anti-offset powder instead of chemical based product	PURCHASING - To be reviewed/included in the new Purchasing department procedures. PRINTSHOP - Where possible, the PrintShop will continue to review products to introduce 'friendly' environmental products	2010	No End Date (Continuous)
Commuting to and from home						
Offer staff a compressed work week	Complete		When possible, Staff are able to work a "Modified" week and have an additional day off every second week.		1990	No End Date (Continuous)
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress		The college offers staff the opportunity to "Go Green". They are provided a semester allowance and can either purchase a parking pass, bus pass or save the allowance and walk to work. Douglas College continues to be a member of the "Translink Employer Pass Program". This program offers discounted annual transit passes to their employees.	As applicable, maintain the Go Green & Employer Pass programs for College employees.	1990	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Complete		Both the New Westminster and the David Lam campus have locker & shower facilities available for employees.		1990	No End Date (Continuous)
Provide secure bicycle storage	Complete		Both the New Westminster and the David Lam campus have bicycle racks available for cyclists to secure their bicycles.		1990	No End Date (Continuous)
Modify parking fees or parking availability for staff/students	Ongoing/In Progress		The college offers staff the opportunity to "Go Green". They are provided a semester allowance and can either purchase a parking pass, bus pass or save the allowance and walk to work.	Maintain the Go Green opportunity to staff.	1990	No End Date (Continuous)