Northern Lights College - 2009 Carbon Neutral Action Report

Executive Summary

Northern Lights College, 'BC's Energy College', currently teaches a number of trades and apprenticeship programs and short courses related to energy efficiency. Northern Lights College (NLC) is currently building the Centre for Clean Energy Technology (CECET) which is an initiative to build an innovative teaching-learning building in which NLC will provide skilled training for the renewable energy industry. The benefit of the CECET is the promotion of green building design and environmental sustainability. Built to the highest environmental standards (LEED Platinum), CECET will showcase the latest "off the grid" technology for electricity production, solar and geothermal heating, and water conservation.

Community outreach and public education is a major component of CECET. An open design provides access to the heating and mechanical facilities will provide students and local residents with a first-hand look at renewable energy technology.

Overviews

Actions Taken to Reduce Greenhouse Gas Emissions in 2009

NLC has taken many steps to reduce energy consumption, which also reduces greenhouse gas emissions and help achieve carbon neutrality.

- Completed Energy Audit for all of our facilities, which has determined the amount of carbon that Northern Lights College is producing.
- Removed three old buildings that were very energy inefficient – the Dawson Creek Campus was originally an old Air force base.
- Maintained a Green Team Committee.
- Lighting upgrades with BC Hydro Power Smart program is ongoing.
- Motion sensored lights in all new buildings - Science Building Renovations, Fort Nelson Aboriginal Gathering Space, and Centre for Clean Energy Technology (CECET).
- Workshops scheduled to promote awareness through the Green Team Committee.
- Recycling program in place with implementation of blue boxes in prominent locations for students/staff use.
- The College Board has gone to paperless meetings – first one was April 15/09.The College Board is holding many of its meetings via Video Conference to reduce travel costs and pollution.
- All new construction at Northern Lights College is being built to a minimum of LEED Gold equivalency.

Plans to Continue Reducing Greenhouse Gas Emissions 2010 – 2012

NLC will enter into a two-year contract for Green Power for the CECET building. This will reduce our carbon emissions by an estimated 132 metric tons.

As outlined in the Carbon Neutral Action Report -Actions Towards Carbon Neutral, we will continue to work towards our goals as outlined.

Northern Lights College - 2009 Carbon Neutral Action Report

Actions Towards Carbon Neutrality						
The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the *Greenhouse Gas Reduction Targets Act.*						
Action	**Status (as of 12/31/09)**	**Performance to Date (as of 12/31/09)**		**Steps Taken in 2009**	**Steps Planned for 2010 -2012**	**Start Year**	**End Year**
Mobile Fuel Combustion (Fleet and other mobile equipment)							
Vehicle fuel efficiency							
Replace vehicles with more fuel-efficient models	In Development			No vehicles were replaced in 2009, due to budget restraints.	Trying to replace 3 vehicles per year dependent on finances	2010	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	In Development			College plan is to replace 3-4 vehicles with more fuel efficient models.	We will replace existing vehicles with fuel efficient models.	2010	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	100	% of vehicles are subject to regular maintenance for fuel efficiency	All vehicles are regularly serviced every 5,000 km.	Use synthetic oil in the winter time. All vehicles are regularly serviced every 5,000 km.	1999	No End Date (Continuous)
Replace small maintenance vehicles with more fuel-efficient models	In Development			As the college replaces vehicles they will be replaced with more fuel efficient vehicles.	Considering an electric vehicle for maintenance department.	2010	No End Date (Continuous)
Behaviour change program							
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Ongoing/In Progress			Installed signage for "Idle Free Zones"	Expand signage.	2008	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress			Those travelling for meetings at various locations are carpoolling as circumstances allow .	Encourage campus-to-campus carpooling, through emails and vehicle bookings.	2007	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							
Planning/management							
Enrol in a building energy benchmarking program (e.g., GREEN UP)	Ongoing/In Progress				Implemented SmartTool and	2010	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Complete	100	% of buildings have a real time metering system installed	Continuously added points and upgrading the reliable control systems		2009	No End Date (Continuous)
Owned buildings							
Establish energy performance baseline for owned buildings	In Development				Difficult to establish energy performance baseline for each building as we have one meter for multiple buildings. We would like to have individual metering for natural gas and hydro dependent on funding.	2011	No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	In Development				Centre for Clean Energy Technology (CECET) currently under construction. We are trying to achieve LEEDS Platinum	2010	2011
Incorporate integrated design process into new construction or during renovations of owned buildings	In Development				Under construction (LEEDS Platinum)	2010	2011
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress	100	% of owned buildings have undergone energy retrofits since start year indicated	Entered into retro building retrofit program with BC Hydro called Power Smart Partnership	Ongoing retrofits	1999	No End Date (Continuous)

Northern Lights College - 2009 Carbon Neutral Action Report

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
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	35	% of retrofits (captured above) had heating, cooling, and ventilation systems upgrades	Upgraded the mechanical system in the Science Building	Will replace boilers in Chetwynd and Fort Nelson if funding is available.	2000	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	100	% of retrofits (captured above) had lighting systems upgrades	Upgraded Science Buiding with lighting systems	Will replace lighting systems as renovations are undertaken	2009	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	100	% of retrofits (captured above) had control system upgrades or adjustments	Upgraded reliable controls in the Science Building	Will replace reliable controls as renovations are undertaken	2009	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	100	% of retrofits (captured above) had insulation improvements	Dawson Creek Science Building and Fort Nelson Campus envelope upgraded	Will continue as renovations are undertaken	2009	No End Date (Continuous)
Install an on-site renewable energy demonstration project	Ongoing/In Progress	100	% of retrofits (captured above) had on-site renewable energy components	Centre for Clean Energy Technology (CECET) construction was started and is a renewable energy demonstration facility	Completion in 2011	2009	2011
IT power management							
Apply auto-sleep settings on computer monitors and CPUs	Complete	100	% of computers have auto-sleep settings applied	All computers currently have auto-sleep settings.		2000	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Complete	99	% reduction in printers, copiers, and/or fax machines since start year indicated	Entered into a contract with Ricoh to supply multi-function devices in the majority of the departments.		2004	No End Date (Continuous)
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	Complete	100	% of devices have auto-sleep settings applied	Equipment purchases prior to 2009 already had the auto-sleep settings as a feature.		2004	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	100	% of computers are ENERGY STAR rated	As Energy Star standards were implemented all new purchases met those standards.	As needed, replacement models will be Energy Star models.	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	50	% of fridges are ENERGY STAR rated	Have been replacing refridgerators with Energy Star models.	As needed, replacement models will be Energy Star models.	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			We purchase only Energy Star appliances.	As needed, replacement models will be Energy Star models.	2009	No End Date (Continuous)
Behaviour change program							
Help staff reduce personal energy use through "workstation tune-ups"	In Development				Work with Green Team Committee to implement 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			Awareness provided to staff through the Green Team Committee.	Work with Green Team Committee to implement a workshop for behavioural changes.	2010	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress			Awareness provided to staff through the Green Team Committee.	Work with Green Team Committee to implement a workshop for behavioural changes.	2010	No End Date (Continuous)

Northern Lights College - 2009 Carbon Neutral Action Report

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 staff to use air dry setting on dishwashers	Ongoing/In Progress			Awareness provided to staff through the Green Team Committee.	Work with Green Team Committee to implement a workshop for behavioural changes.	2010	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Ongoing/In Progress			Awareness provided to staff through the Green Team Committee.	Work with Green Team Committee to implement a workshop for behavioural changes.	2010	No End Date (Continuous)
Encourage use of stairs instead of elevators	Ongoing/In Progress			Awareness provided to staff through the Green Team Committee.	Work with Green Team Committee to implement a workshop for behavioural changes.	2010	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			Awareness provided to staff through the Green Team Committee.	Work with Green Team Committee to implement a workshop for behavioural changes.	2010	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress			Awareness provided to staff through the Green Team Committee.	Work with Green Team Committee to implement a workshop for behavioural changes.	2010	No End Date (Continuous)
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	7	% of total paper purchased contains 30% recycled content	We are having difficulty with our existing printers handling recyclable paper, therefore research is being conducted on recycled paper that will be compatible with our existing equipment.	Will find recyclable compatible paper that will work with our existing equipment.	2010	No End Date (Continuous)
Printer/document settings							
Switch networked printers and photocopiers to automatic double-sided	In Development				Widen awareness and encourage staff. Involve IT department to set the printers to automatic double-sided printing.	2011	No End Date (Continuous)
Apply "print and hold" settings to networked printers to eliminate unclaimed print jobs	In Development				Involve IT department to make staff more aware and implement this option.	2011	2012
Electronic media in place of paper							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development				Looking at implementing Sharepoint in 2011	2011	No End Date (Continuous)
Use electronic document library for filing common documents	Ongoing/In Progress			We use ftp sites and our shared server for housing electronic documents that can be accessed by authorized staff.	Continue using up-to-date technology.	2010	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress			We use ftp sites and our shared serves for housing electronic documents that can be accessed by authorized staff. As well we post to our staff only website.	Expand to more user groups.	2010	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Complete			Conversion to electronic payroll notification system completed in September 2006.		2010	No End Date (Continuous)
Behaviour change program							
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress			Administration Committee is paperless. All staff are encouraged to use as little paper for meeting as possible. Use of laptops encouraged for meetings.	Continue and expand to all departments	2010	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress			Green Team Committee encourages re-use of scrap paper.	Continue common practices and more awareness.	2010	No End Date (Continuous)