



2010 Carbon Neutral Action Report – Prepared by C. Harmel, Facilities

Executive Summary

To decrease greenhouse gases and energy for 2010, NWCC's planning consisted of:

- Obtaining funding to replace inefficient HVAC equipment, Houston & Kitimat Campuses.
- Reducing maintenance fleet – (IE: no renewal on lease expiry in May of 2011).
- Purchasing additional tricycle for maintenance department.
- High level LEED Certification for renewal/renovation project in Smithers.
- Securing funding for changing out emergency lighting, Terrace Campus.

Overviews

2010 Greenhouse Gas Emissions and Offsets Applied to become Carbon Neutral in 2010

In the Year of 2010 the college reduced its carbon footprint by embarking on a number of projects such as:

- Meter consolidation – from eight to one meter, Kitimat Campus.
- Increasing use of technology for meetings (IE: web-based, teleconferencing, video-conferencing)
- Decreasing amount of travel throughout the region as a direct result of above.
- More portals developed to deliver information and documentation electronically.
- DDC controls installed in Boilerhouse and Daycare.
- Purchased and started installing T8 28W bulbs to replace T8 32W bulbs.
- Purchased proper disposal boxes for fluorescent bulbs – not going into general waste stream
- Reduced food waste by installing composter in March of 2010.
- Purchased "pre-packs" for disposing of fluorescent light fixtures.
- 60% of all computers now have software installed in order to power down.

Plans to Continue Reducing Greenhouse Gas Emissions 2011-2013

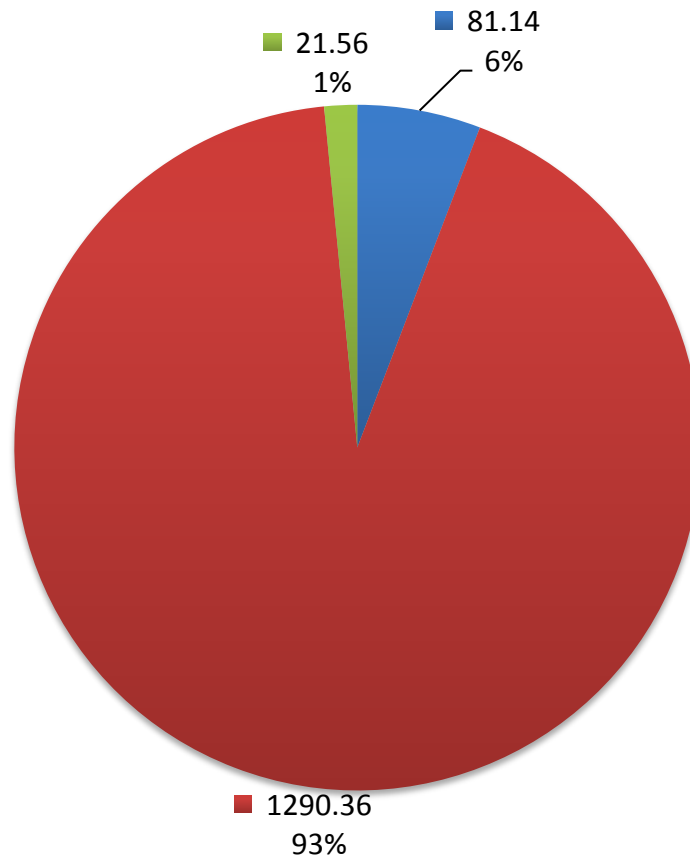
- Looking at ways to reduce demand kWh consumption, Terrace Campus.
- Researching feasibility of water filtration system vs. purchased bottled water.
- Houston Campus: Lighting retrofit audit has been completed and we will investigate possible rebates for products and labour for this project.
- Continuing use of recycled products for building materials as per for LEED specifications.

Executive Summary Approved on this 29 Day of April, 2011



Cathay Sousa – Vice President of Finance & Administration

Northwest Community College Greenhouse Gas Emissions by Source for the 2010 Calendar Year (tCO₂e*)



Total Emissions: 1393.06

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion and Electricity (Buildings)
- Supplies (Paper)

Offsets Applied to Become Carbon Neutral in 2010

Total offsets purchased: **1369.12**. Total offset investment: **\$34,228.00**. Emissions which do not require offsets: **23.94** **

*Tonnes of carbon dioxide equivalent (tCO₂e) is a standard unit of measure in which all types of greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.

** Under the *Carbon Neutral Government Regulation of the Greenhouse Gas Reduction Targets Act*, all emissions from the sources listed above must be reported. As outlined in the regulation, some emissions do not require offsets.

Northwest Community College - 2010 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 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	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	10	% of vehicles are fuel- efficient models	Purchased two new fuel efficient vans to replace older 1995 vans.	Lease expiry on one maintenance vehicle will not be renewed.	2008	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In progress	7	% of vehicles down-sized since start year indicated	Purchased two new fuel efficient vans to replace older 1995 vans.	Looking at decommissioning larger cube vans as they near end of life.	2010	No End Date (Continuous)
Replace small maintenance vehicles with more fuel-efficient models	In Development	0	% of small maintenance vehicles are fuel-efficient		As small maintenance vehicles are retired, we will purchase more efficient ones.	2011	No End Date (Continuous)
Behaviour change program							
Provide fleet driver training to reduce fuel use	In Development	0	% of current drivers are trained		To work with Continuing Education Dept. to develop a fleet driver training program.	2010	No End Date (Continuous)
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Ongoing/In progress	10	Percentage of campuses that have "anti-idling" signage	Expanded signage inventory for Terrace Campus	To install signage in following campuses: Haida G'waii (three campuses, Kitimat, Prince Rupert, Houston, Smithers, Hazelton)	2008	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In progress	80	% of people that carpool to events and/or meetings	Carpooling to events/meetings is mandatory	Continue carpooling enforcement	2008	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Ongoing/In progress			Purchased "work tryke" for maintenance department	To purchase additional "work tryke" for maintenance department	2009	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							
Owned buildings							
Register for performance labelling/certification for operations and maintenance of owned buildings (e.g., LEED EB:O&M)	Ongoing/In Progress	4	% of owned buildings have operations and maintenance labelling/certification	Smithers Campus is to be of high LEED certification, building is not yet at substantial completion. This will increase previous number.	Any new renovations or projects will incorporate LEED approved products and practices.	2004	No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress	4	% of owned buildings are certified LEED NC Gold or LEED NC Platinum	Smithers Campus is to be of high LEED certification, building is not yet at substantial completion. This will increase previous number.	All new construction to be of High LEED rating	2004	No End Date (Continuous)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Ongoing/In Progress			We're continuing to replace water cooled condensers with air cooled units (saves on water consumption).	As condensers fail, we will always replace condensers with air cooled condensers.	2009	No End Date (Continuous)
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress	2	% of owned buildings have undergone energy retrofits since start year indicated	Daycare and Boilerhouse are now added onto DDC controls	Kitimat and Houston Campus HVAC equipment is to be changed out to more energy efficient equipment	2010	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	8	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	Audits performed on Kitimat and Houston Campus to look at changeout of HVAC equipment to save energy (and at end of life)	Kitimat and Houston Campus HVAC equipment is to be changed out to more energy efficient equipment - This is now in progress.	2009	No End Date (Continuous)

Northwest Community College - 2010 Carbon Neutral Action Report

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Upgrade lighting systems during retrofits	Ongoing/In Progress	50	% of retrofits since start year indicated had lighting systems upgrades	Kalum Lake main floor lighting changed out to more energy efficient lighting.	To secure funding for Houston campus retrofit	2005	2012
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	5	% of retrofits since start year indicated had control system upgrades or adjustments	Daycare and Boilerhouse are now added onto DDC controls	DDC Controls to be fine-tuned with Kitimat and Houston HVAC replacements.	2010	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	8	% of retrofits since start year indicated had insulation improvements	We were not able to secure additional funding to re-envelope the dormitory buildings.	We hope to secure funding in future years to obtain funding to reinsulated dormitory buildings.	2009	No End Date (Continuous)
Install an on-site renewable energy demonstration project	Ongoing/In Progress	0	% of retrofits since start year indicated had on-site renewable energy components	The Biomass project thus far hasn't gone through, waiting to hear future details on this proposal	Terrace Campus was looked at for biomass and at this time, it's not cost effective to implement.	2009	No End Date (Continuous)
IT power management							
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	60	% of computers shut down automatically outside of regular business hours	All computer labs and most offices had software installed to perform this function.	Aim is to reach 100% computer power shut downs at all campuses	2010	2013
Implement server virtualization	In development				Part of five-year IT plan	2011	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	In development				Part of five-year IT plan	2011	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	In development				Part of five-year IT plan	2011	No End Date (Continuous)
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	In development				Part of five-year IT plan	2011	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	100	% of fridges are ENERGY STAR rated	Dormitory fridges and freezers were converted to "all in one" energy-star rated units.	Any new fridges or appliances will have energy-star rating	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			Continuing to purchase energy-efficient appliances	Reinforce education to college community to purchase energy efficient equipment	2009	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			Continued to monitor	To ban all incandescent light bulbs on all desk top lamps (wherever possible).	2005	No End Date (Continuous)
Behaviour change program							
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress			Continued with "green" reminders via global email	Continued reminders	2010	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress			There is existing signage to close windows after occupants leave, Security staff also check windows at night for proper closure.	Continued practices as in 2010	2009	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Ongoing/In Progress			Green Reminder/Tip: Staff to shut off lights, close doors and turn down heat if applicable (prior to leaving)	Scheduled "green" reminders	2010	No End Date (Continuous)

Northwest Community College - 2010 Carbon Neutral Action Report

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Encourage use of stairs instead of elevators	Ongoing/In Progress			Green Reminder/Tip: Encourage healthy habits by using stairs and emphasise that elevators are for disabled persons and for service only.	Scheduled "green" reminders	2010	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			We have this in place - Part of number 46	Scheduled "green" reminders	2010	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress			Green Reminder/Tip: Use available hand sanitisers for hands, save on hot water.	Scheduled "green" reminders	2010	No End Date (Continuous)
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	5	% of total paper purchased contains 30% recycled content	There was a reduction in 30% paper procurement, but, this reflects lower demand for coloured paper	To continue using 30% recycled paper for colour paper	2008	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	In Development			No steps taken in 2010	100% recycled paper is not compatible with our machines at this time, research will continue.	2010	No End Date (Continuous)
Printer/document settings							
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress			Many stand-alone printers have been taken out of commission and are now networked into copiers that have been reset to double-sided.	Continuing practice of setting printers to double-sided printing	2010	No End Date (Continuous)
Electronic media in place of paper							
Use electronic document library for filing common documents	Ongoing/In Progress			Increased number of portals for staff and student use	Time sheets are still under development	2003	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress			Started using OH & S Portal for meeting minutes, forms and other documents related to occupational health & safety	Expand use of portals for other committees to use as access for documents and information.	2009	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Ongoing/In Progress			Increasing number of employees with access to email do have direct deposit with "echeck notification"	Continue to increase this practice for less paper	2003	No End Date (Continuous)
Behaviour change program							
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development				To install and train for collaborative sharing	2011	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress			Plan for purchasing computer notebooks to use instead of "papered" agendas and meeting minutes.	Pending budget approval, management staff will use notebooks instead of paper.	2010	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress			Paper is cut down and used for scrap	Continue use of waste paper for scrap paper	2010	No End Date (Continuous)

Northwest Community College - 2010 Carbon Neutral Action Report

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 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Business Travel							
Virtual meeting technology							
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Ongoing/In Progress			Web Based, no need to install on individual computers	Slated for completion in 2011	2007	2011
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Ongoing/In Progress	80	% of meeting rooms have access to video-conferencing equipment	Continue to add Video Conference Units as funds are available	2 campuses left to equip	2007	2013
Behaviour change program							
Train staff in web-conferencing	Ongoing/In Progress			No new training done this year	Arrange for training	2008	No End Date (Continuous)
Train staff in video-conferencing or provide technical support for video-conferencing set-up	Ongoing/In Progress			As video-conferencing equipment was added, training took place	Smithers campus - new video-conferencing equipment added	2008	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress			Web conferencing, in house teleconference and video conference tools implemented and now used on a regular basis for College meetings; travel outside College region reduced through encouraging urban centres to implement Video Conference capability thus enabling us to participate in a rich media environment.	Continued use and training in this area, reducing travel	2008	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress			Due to pending carbon offsets, emphasis on carpooling was a must	Prior to special events and/or meetings, senior management enforces carpooling via email.	2008	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress			Again, emphasis on "greener" modes of transportation	Management staff are encouraged to use public transit while attending meetings out of town meetings.	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			Green team re-established	To engage senior management "buy-in"	2007	2012
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress			Resources and staff made available for this purpose	Continuing staff/resources to promote "greener" practices	2007	2012
Staff Professional Development							
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress			University Credit faculty conducted environmental workshops	There will be additional workshops and they will increase in number.	2007	No End Date (Continuous)
Staff awareness/education							
Provide education to staff about the science of climate change	Ongoing/In Progress			Continued environmental Science program	Continued program	2009	No End Date (Continuous)

Northwest Community College - 2010 Carbon Neutral Action Report

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Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress		Part of above curriculum (IE: Environmental Science)	To include new research about Environmental Science.	2009	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress		Continuing use of portal	Use portal more effectively	2008	No End Date (Continuous)
Provide sustainability education during new staff orientation	Ongoing/In Progress		Educated both staff and students about recycling program at NWCC and culinary staff are aware of composting rules.	Monitor and follow up with regards to sustainability practices	2010	No End Date (Continuous)
Client/public awareness/education						
Provide education to clients/public about the science of climate change	Ongoing/In Progress		Continued environmental Science Program	Continued Program	2009	No End Date (Continuous)
Provide education to clients/public about the conservation of water, energy, and raw materials	Ongoing/In Progress		Part of above curriculum (IE: Environmental Science)	To include new research about Environmental Science.	2009	No End Date (Continuous)
Provide green tips on client/public website or in newsletters	Ongoing/In Progress		No new "green" tips on home page	Rekindle Green theme on NWCC's homepage	2009	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		Faulty flush valves were retrofitted water saving "flushometer" type valves	Continue to replace valves with this (or improved) model	2009	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	Ongoing/In progress		Any new condensers are now air-cooled, not water-cooled	As condensers fail, new ones are not going to be water-dependent	2008	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		Composter operation started in March of 2010	Continue use of composter by using cafeteria food waste	2009	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In progress		Purchased "pre-packs" for fluorescent lighting - Not for regular waste stream	To increase awareness for ALL campuses to use this method of disposal for fluorescent lamps.	2010	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.)	Ongoing/In Progress		Two new facilities IE: Longhouse and Smithers campus are using recycled materials for floor covering. EG: Longhouse has floor that's made of disposed vehicle tires!	Continue to adopt "recycled" products in purchasing items and services.	2010	No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In progress		Now part of the janitorial contract scope	As contracts expire, revised language to reflect environmentally-friendly products will be implemented	2008	2013
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		Smithers renovation/renewal project incorporated this policy as part of LEED goal.	All new construction to adopt recycling building waste materials (as part of LEED)	2010	No End Date (Continuous)
Incorporate lifecycle costing into new construction or renovations	Ongoing/In progress		VFA audit team started inspections of key facilities that adopt lifecycle costing and priorities.	Additional buildings/campuses slated for inspection this year. Note that dormitories are not included.	2010	No End Date (Continuous)
Indoor air quality						

Northwest Community College - 2010 Carbon Neutral Action Report

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)	Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.)	Ongoing/In progress		Maintain signage of scent-free policy	Maintain signage of scent-free policy	2004	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		Smithers campus and Longhouse included low VOC's as part of specification.	All new construction to consist of low VOC materials	2010	No End Date (Continuous)
Commuting to and from home						
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In progress		Continued encouragement for carpooling	To prevent emissions and a clogged-up parking lot, public event attendees will be encouraged to carpool and this will be well publicized.	2011	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Ongoing/In progress		Showers are furnished as part of the Smithers renovation/renewal project.	New campus buildings will be furnished with showers to encourage bicycle or foot transportation.	2011	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In progress		No new bike racks purchased.	Smithers campus will have at least two bike racks to encourage bicycle use.	Started before 1995	No End Date (Continuous)