

2012 Carbon Neutral Action Report



Executive Summary

Northwest Community College (NWCC) unveiled our new 2012-2017 Strategic Plan in 2012. A key Value and Operating Principle is:

Sustainability

We conduct our business in an environmentally responsible manner and include sound resource practices such as waste reduction, recycling and energy conservation.

This principle further emphasizes NWCC's pledge to advance our carbon neutral commitments and activities in an effort to reduce greenhouse gas emissions. By working collaboratively with our entire institution, our goal is to engage our employees and encourage each and every one to become involved in making changes that will positively impact the institutions overall sustainability.

To reduce greenhouse gas emissions in 2012, NWCC secured funding for various lighting retrofits at the Terrace Campus trades shops and energy retrofits for the campus' natural gas boiler system. In 2012 the lighting was changed from 400 Watt HID to T5HO high efficiency lighting and will have an approximate annual energy savings of 18,150kW. The retrofit planning is an ongoing process and will continue into the coming years to ensure all lighting and energy upgrades are high efficiency.

NWCC continues to develop processes to reduce water consumption on all of our campus grounds. Actions taken in 2012 included, identifying "no-water" zones for lawn maintenance and the replacement of flower beds with rock gardens in various locations.



Newly constructed Smithers Campus

This year's planning also included submitting an application to acquire an Evr-Green Dual Port Level 2 Electric Vehicle Charging Station. This charging station will be available for public use and as such is not only a benefit to our college but to our entire community.

NWCC's five year IT Plan, includes the ongoing assessment of our network capabilities and resulting implementation of upgrades as necessary. Implementing these changes ensures that the college community has the access to alternative communication for meetings and document distribution. Video-conferencing continues replacing in-person meetings and results in substantially reduced employee travel throughout our vast region. Increased access to internal portals allows for ease of document sharing, therefore eliminating the need for document printing and mail-outs. The five year plan, also includes the replacement of stand-alone printers, copiers, scanners with multi-function copiers. Many of these replacements were accomplished in 2012. NWCC printers and copiers are set to default double-sided print/copy which has decreased NWCC's overall paper usage. Audits were performed on all NWCC computers to ensure that older less efficient computers were replaced with high rated energy star units. Ninety percent of NWCC computers are now Energy Star models and we continue to work toward our goal of having 100% Energy Star models.

NWCC's newly formed "Sustainability Taskforce," will develop a framework for moving forward to identify further opportunities to improve the college's sustainability and reduce greenhouse gas emissions.

Cathay Sousa
Vice President, Finance & Administration



2012 Greenhouse Gas Emissions

The total GHG emissions for Northwest Community College are 1725 for the 2012 calendar year. A breakdown of the 2011 and 2012 emissions are as follows:

Reporting Category	2011 tCO ₂ e	2012 tCO ₂ e	Percent Change
Building Emissions	1384	1459	+5%
Mobile Combustion/Fleet	161	242	+50%
Paper Supplies	27	24	-11%
Total	1572	1725	+10%

NWCC was successful in reducing our paper supply usage by 11% for 2012. This is largely due to the fact that a concentrated effort has been made in all areas across the college region to increase the use of electronic document sharing in order to reduce the need to print documentation. Another factor contributing to this reduction is the ongoing process of ensuring copiers and printers are set to double-sided copy/print.

The largest increase in tCO₂e at NWCC is in our Mobile Combustion/Fleet category. The college has increased offerings in its Heavy Equipment Operator (HEO) program which has resulted in an increase in use of training equipment and therefore increased fuel consumption. NWCC continues to acquire HEO simulators for training in order to keep fuel emission increases to a minimum.

Offsets Applied to Become Carbon Neutral 2012

Northwest Community College's 2012 offsets total 1725 tCO₂e. However, under the *Carbon Neutral Government Regulation* of the *Greenhouse Gas Reduction Targets Act*, there were 23 tCO₂e of emissions that were reported but do not require offsets. Therefore the total offset for 2012 is 1702 tCO₂e.

Changes to Greenhouse Gas Emissions Pre-2012

During the preparation of NWCC's 2012 report it was determined that total emissions for the 2010 and 2011 calendar year were over reported by 769 tCO₂e. The adjustments are reflected in the following table:

Year	Emissions for Offsets	Offsets Purchased	*Adjustment
2010	1421	1548	-127
2011	1547	2189	-642

*This adjustment has been applied against NWCC's 2012 emissions offset purchase.

Actions taken to reduce Greenhouse Gas Emissions in 2012:

- Terrace campus lighting retrofits in the carpentry, welding and mechanical shops. Lighting changed from 400 Watt HID to T5HO high efficiency lighting (approximate energy savings of 18,150 kW annually).
- Kitchen waste from NWCC's School of Exploration and Mining camp is given to a local pig farmer as feed.
- Wood heaters from NWCC's School of Exploration and Mining camp have been replaced with low emission propane geo-stoves.
- New multi-function copiers have been installed at the Terrace campus. These printers replace stand-alone copiers, printers, fax machines and scanners. Copier default settings have been pre-set to double-sided copy to reduce the use of paper.
- The Heavy Equipment Operator program continues to utilize technology with equipment simulators reducing actual hours running equipment. NWCC acquired 11 new HEO Simulators in 2012, thus reducing equipment use and fuel emissions.
- NWCC began the application process to acquire a Leviton Evr-Green Dual Port Level 2 charging station for electric vehicle charging, at its Terrace campus.
- Increased online registration processes for NWCC conferences and events to reduce the need for paper registration forms.
- Audits done on computers to replace less efficient computers with high rated energy star units. 90% of NWCC computers are now Energy Star models.
- NWCC reduced its internal mail delivery from five to three deliveries per week, resulting in reduced emissions from fleet and courier vehicles.

Plans to Continue Reducing Greenhouse Gas Emissions 2013 – 2014

- Installation of a Leviton Evr-Green Dual Port Level 2 charging station for electric vehicle charging, at its Terrace campus. The dual output station will provide 7.2 kW to each of the two charging ports (installation scheduled for February 2013).
- Purchase of Electric Charged Vehicle for the NWCC fleet.
- DDC upgrades planned for Terrace and Hazelton campuses.
- Installation of energy efficient boiler control for Terrace Campus.
- Expanded installation of multi-function copiers to other NWCC campuses.
- Expansion of simulators for Heavy Equipment Operator program, exploration into other training simulators (i.e. Welding) to increase training and reduce emissions.
- Utilization of LEED specification for building, renovations and or retrofitting.
- Continued upgrade of computers in order to have 100% of NWCC's computers Energy Star models.
- Increased utilization of cafeteria food composter.
- Replace single sort recycle bins with multiple sort containers.
- Creation of a Sustainability Taskforce to promote and implement 'green initiatives' across the institution.

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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	Steps Taken	Steps Planned	Start Year	End Year
Mobile Fuel Combustion (Fleet and other)					
Behaviour change program					
Provide fleet driver training to reduce fuel use	Ongoing/In Progress	No steps taken in 2012.	Continue to work with Workforce Training & Continuing Studies to develop a fleet driver training program.	2012	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	Maintenance of existing signage.	Continue maintenance and new signage as needed (ie. new or renovated properties).	2008	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress	Carpooling to events/meetings is mandatory.	Continued carpool enforcement. Continue to review existing policies regarding travel.	2008	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Ongoing/In Progress	NWCC encourages mass transit use by offering student bus passes for purchase on campus, showers at the Smithers campus for bikers, secure bike racks and overall fostering of a healthy lifestyle. NWCC has a pedal tricycle that is used whenever possible during the spring/summer months for inter-campus deliveries.	Create a Green/Sustainability Taskforce to implement and promote 'green initiatives' across all campuses.	2011	No End Date (Continuous)
Other Mobile Fuel Combustion Actions					
Use of simulators for training to reduce the need for heavy equipment.	Ongoing/In Progress	NWCC's Heavy Equipment Operator (HEO) program uses the latest in simulator technology. NWCC purchased 11 HEO simulators in 2012, which reduces the use of heavy equipment resulting in a reduction of fuel emissions.	NWCC plans to continue to acquire HEO simulators for use in its training delivery. NWCC continues to pursue various areas of training in which simulators can be used.	2011	No End Date (Continuous)
Reduced daily internal procedures resulting in reduced fleet usage.	Ongoing/In Progress	NWCC has reduced its internal mail delivery from five days per week to three days per week. This results in reduced fleet and courier use.	NWCC will continue to review and update internal procedures.	2012	No End Date (Continuous)
Vehicle fuel efficiency					
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	Fuel efficiency is part of the consideration for all vehicle purchases. Application made for an evr-green Dual Port Level 2 electric vehicle charging station.	Installation of evr-green Dual Port Level 2 electric vehicle charging station. This station will provide 7.2kW output (30A @ 240V) for 2 electric charged vehicles. NWCC has plans to purchase an electric charged vehicle for the NWCC fleet.	2008	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	"Right-sizing" principals are used for purchasing vehicles.	NWCC will continue to review and evaluate it's vehicle purchases based on "right-sizing."	2010	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	Fleet maintenance scheduling is an integril part of the ongoing efforts to maintain or improve fuel efficiency.	NWCC vehicles/equipment will continue to follow manufacturers recommended maintenance schedules, with fuel efficiency as part of the scope.	2011	No End Date (Continuous)
Stationary Fuel Combustion, Electricity					
Behaviour change program					
Help staff reduce personal energy use through ""workstation tune-ups""	Ongoing/In Progress	No steps taken in 2012.	Part of five-year IT plan.	2012	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress	Continued with "green" reminders.	Continue "green" reminders.	2011	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress	Continued with "green" reminders.	Continued with "green" reminders.	2011	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress	Existing signage in place to close windows after occupants leave. It is part of our security department protocol to ensure all windows are closed after hours.	Continue with current practices.	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: Shut off lights, close doors and turn down heat if applicable prior to leaving.	Scheduled "green" reminders.	2010	No End Date (Continuous)
Encourage use of stairs instead of elevators	Ongoing/In Progress	Green Reminder/Tip: Encourage health habits by using stairs, and emphasise that elevators are for disabled, seniors and service only.	Scheduled "green" reminders.	2010	No End Date (Continuous)

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Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress	Green Reminder/Tip: Shut off lights, close doors and turn down heat if applicable prior to leaving.	Scheduled "green" reminders.	2011	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress	Green Reminder/Tip: Use available hand sanitizers for hands to cut down on the use of hot water.	Scheduled "green" reminders.	2010	No End Date (Continuous)
IT power management					
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	No steps taken in 2012.	The NWCC IT department has plans to upgrade the current power management software to more efficient software.	2010	No End Date (Continuous)
Implement server virtualization	Ongoing/In Progress	No steps taken in 2012.	Part of five-year IT plan.	2011	No End Date (Continuous)
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress	No steps taken in 2012.	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 as part of a print management strategy	Ongoing/In Progress	Terrace campus has replaced 2 stand-alone copiers with new multi-function copiers that have copy, scan, print and fax capabilities.	NWCC will continue to replace stand-alone copiers with multi-function copiers.	2012	No End Date (Continuous)
Apply auto-sleep settings on printers, fax machines, and/or multi-function devices	Ongoing/In Progress	New printers, fax machines, and/or multi-function devices have auto-sleep settings applied.	Part of the five-year IT plan is to continue with the expansion of having these settings applied on all devices.	2012	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	Audits were performed on NWCC computers to determine how many computers need to be upgraded to Energy Start Models. 90% of NWCC computers are now Energy Star Models.	Continue to upgrade computers to have 100% Energy Star Models across the institution.	2012	No End Date (Continuous)
Leased buildings					
Establish energy performance baseline for leased buildings	Not Yet Evaluated				No End Date (Continuous)
Lease space with operations and maintenance performance labelling/certification (e.g., LEED EB:O&M)	In Development	No steps taken in 2012.	New lease location sought for NWCC's Masset campus. Lease space with operation and maintenance performance labelling/certification will be considered.	2013	No End Date (Continuous)
Lease space with commercial interiors performance labelling/certification (e.g., LEED CI)	In Development	No steps taken in 2012.	New lease location sought for NWCC's Masset campus. Commercial interiors performance labelling/certification will be considered.	2013	No End Date (Continuous)
Lease space in buildings with new construction performance labelling/certification (e.g., LEED NC)	In Development	No steps taken in 2012.	New lease location sought for NWCC's Masset campus. Buildings with new construction labelling/certification will be considered.	2013	No End Date (Continuous)
Develop a green lease policy that requires green features to conserve energy be included in all lease negotiations	Not Yet Evaluated				No End Date (Continuous)
Other Stationary Fuel Combustion					
Replacement of wood heaters with lower emission propane geostoves.	Completed (in Reporting Year)	All wood heaters for tents in NWCC's School of Exploration and Mining camps have been replaced with low emission propane geostoves.		2012	2012
Owned buildings					
Establish energy performance baseline for owned buildings	Not Yet Evaluated				No End Date (Continuous)
Register for performance labelling/certification for operations and maintenance of owned buildings (e.g., LEED EB:O&M)	Ongoing/In Progress	The newly constructetd Smithers campus will be of high LEED certification. The application for LEED certification classification is in progress.	All new construction to be of high LEED rating.	2008	No End Date (Continuous)
Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI)	Ongoing/In Progress	The newly constructed Smithers campus will be of high LEED certification. The application for LEED certification classification is in progress.	All new construction to be of high LEED rating.	2008	No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress	The newly constructed Smithers campus will be of high LEED certification. The application for LEED certification classification is in progress.	All new construction and major renovations to be of high LEED rating.	2008	No End Date (Continuous)

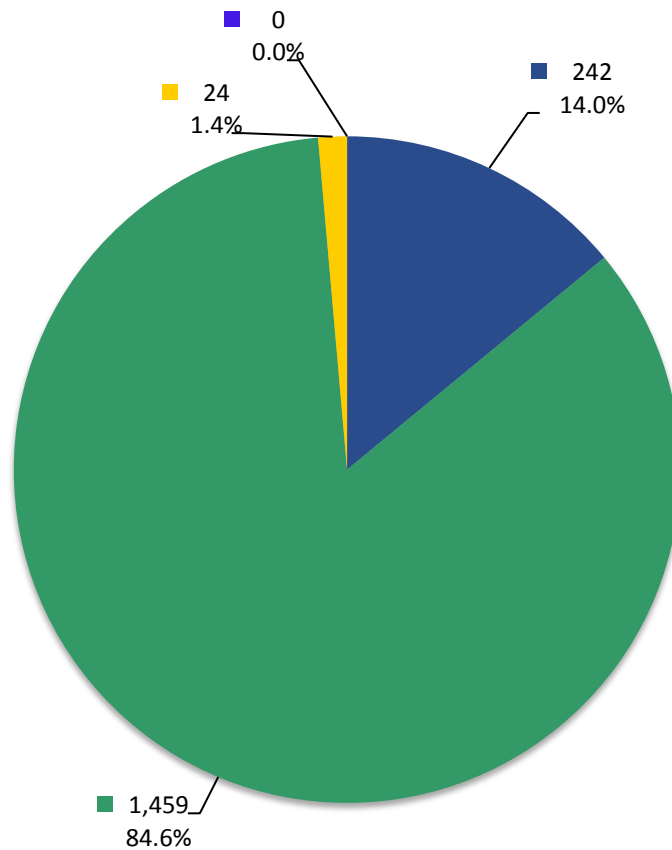
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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	Houston campus HVAC system replaced with higher energy efficient equipment.	Continue to upgrade to more energy efficient equipment.	2012	No End Date (Continuous)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Ongoing/In Progress	NWCC continues to replace water cooled condensers with air cooled units (savings on water consumption).	As condensers fail, they will be replaced with air cooled condensers.	2010	No End Date (Continuous)
Planning/management					
Reduce office space (square meters) per employee	Not Yet Evaluated				No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Not Yet Evaluated				No End Date (Continuous)
Retrofit details for owned buildings					
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	Houston campus HVAC equipment was replaced with more energy efficient equipment.	Continue to upgrade HVAC equipment.	2008	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	Lighting upgrades to the Terrace campus mechanical, carpentry and welding shops included T5HO High Efficiency lighting replacement. Resulting in approximately 18,150 kW energy savings annually.	Continue to upgrade to higher efficiency lighting.	2012	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	No steps taken in 2012.	Replacement of boiler control system with high efficiency control system.	2012	2012
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	No steps taken in 2012.	NWCC hopes to secure funding in order to improve building insulation.	2009	No End Date (Continuous)
Supplies (Paper)					
Behaviour change program					
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress	Use of email for routing of documents requiring approval (ie. budgets and contracts).	Continued practise of reduction in paper.	2011	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress	Expanded use of shared drives for access to meeting documents. Continued circulation of meeting documents via email distribution.	Continued expansion and encouragement of electronic retrieval and distribution of meeting documentation.	2010	No End Date (Continuous)
Electronic media in place of paper					
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress	Increased posting of forms, templates and supporting documents to portal and shared drives.	Continue to expand document postings to the portal and shared drives.	2008	No End Date (Continuous)
Use electronic document library for filing common documents	Ongoing/In Progress	Increased number of portals for staff and student use.	Continued practise of reduction in paper.	2009	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Ongoing/In Progress	Continued expansion of "echeck notification."	Continue practise of reduction in paper.	2008	No End Date (Continuous)
Other Paper Supplies Actions					
Encourage staff to use double sided function for all photocopying.	Ongoing/In Progress	New multi-function copiers have default settings to double-sided copy to reduce the amount of paper used.	New copiers installed will be pre-set to double sided copy.	2012	No End Date (Continuous)
Paper Type					
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	No steps taken in 2012	Continued use of 30% recycled paper for colored paper.	2008	No End Date (Continuous)
Purchase 40% post-consumer recycled paper	Ongoing/In Progress	No steps taken in 2012.	NWCC purchases environmentally sustainable forest paper. As printers that can handle recycled paper are purchased this will be re-evaluated.	2010	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Ongoing/In Progress	No steps taken in 2012.	NWCC purchases environmentally sustainable forest paper. As printers that can handle recycled paper are purchased this will be re-evaluated.	2010	No End Date (Continuous)
Printer/document settings					

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	Standard practise is to set printer defaults to double-sided printing.	Continued practise with network printers.	2010	No End Date (Continuous)

Northwest Community College Greenhouse Gas Emissions by Source for the 2012 Calendar Year (tCO₂e*)



Total Emissions: 1,725

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion (Building Heating and Generators) and Electricity
- Supplies (Paper)
- Fugitive Sources

Offsets Applied to Become Carbon Neutral in 2012 (Generated May 27, 2013 11:43 AM)

Total offsets required: **1,702**. Total offset investment: **\$42,550**. Emissions which do not require offsets: **23** **

*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.