

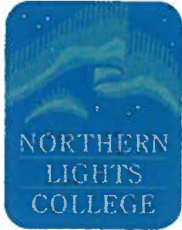
B.C.'s Energy College™

Northern Lights College

2012 Carbon Neutral Action Report



Centre for Clean Energy Technology (CECET)



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Executive Summary

- **NLC continues to work with an Energy Manger to establish priority projects to reduce our energy consumption over the next two years.**
- **Working towards developing a Sustainability Plan for the institution utilizing the results of the Energy Audit, recommendations from the VFA Audit and BC Government Smart Tool.**
- **Attempted through partnerships with municipalities and other interested parties, *Clean Energy Cluster Proposals*. Completed a Biogas Feasibility Study and concluded that biogas would not be a viable project at this time.**
- **We are completely utilizing the Energy House and energy produced by clean energy technologies to reduce the carbon footprint of the Dawson Creek Campus.**
- **Integrate the Green Team Committee recommendations into business practices of Northern Lights College.**
- **Northern Lights College, 'BC's Energy College', currently teaches the Clean Energy Technology and Wind Turbine Maintenance programs relating to clean energy efficiency. The Wind Turbine program explores the theory supporting wind turbines and the practical maintenance procedures required to maintain turbine output.**
- **Centre for Clean Energy Technology (CECET) continues to be an innovative teaching-learning building in which NLC has provided 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 providing students and local residents with a first-hand look at renewable energy technology.**

2012 Greenhouse Gas Emissions

As per SmartTool reporting our total direct emissions for 2012 is (2,006).

Offset Applied to Become Carbon Neutral in 2012

Our total direct offsets have been applied to become carbon neutral for 2012 (2,003).

Changes to Greenhouse Gas Emissions and Offsets Reporting from Previous Years

The surplus of offsets purchased in 2010 and 2011 (61) will be applied against our 2012 emissions.

Actions Taken to Reduce Greenhouse Gas Emissions in 2012

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

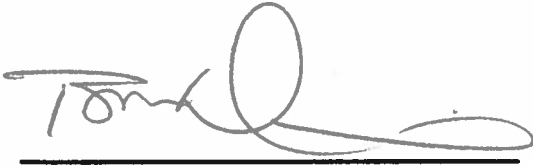
- Continued our partnership with School District 59 and an Energy Manager to establish priority projects to reduce our energy consumption by identifying energy saving projects to reduce our GHG emissions.
- Budget established for implementing energy saving projects where possible.
- Aircraft Maintenance and Engineering - Lighting Upgrade – removed all the existing lights and replaced with new LED light fixtures complete with new conduit raceway, branch circuit wiring, local wall switches and hangar area networked lighting control system.
- DDC Controls Upgrade - throughout the Dawson Creek Campus.
- Purchased all LED lamp standards for the Dawson Creek Campus.
- Intelligent Parking Lot Controllers (car plugs) at all campus locations.
- Maintained a Green Team Committee.
- IT completed a Server Upgrade (35 physical servers reduced to 11 physical servers holding all the virtual machines).
- Network Upgrade completed by IT department
- Paperless meetings, all meetings are being held when possible via video conference to reduce travel costs and pollution.
- Carpooling for staff and students has been encouraged between campuses.

Plans to Continue Reducing Greenhouse Gas Emissions 2013 – 2015

Continue working with the Energy Manager and the Green Team Committee to establish a sustainability plan for all campuses. This will enable us to establish projects that are affordable to help reduce our carbon footprint.

As outlined in the Carbon Neutral Action Report - we will continue to work towards our goals as outlined is dependent upon available funding.

It is important to Northern Lights College to become carbon neutral. Although, budget restraints continue to play a factor in being able to achieve carbon neutrality.



Brent Deinstadt, VP Corporate Services

May 13/13

Date

Northern Lights College - 2012 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	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	Not Yet Evaluated				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	No steps taken to report.	Expand signage to enforce idle free areas.	2008	No End Date (Continuous)
Encourage carpooling in fleet vehicles	Ongoing/In Progress	We did encourage staff & students to carpool between campus locations whenever possible.	Will continue to promote carpooling.	2008	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Not Yet Evaluated				No End Date (Continuous)
Vehicle fuel efficiency					
Replace vehicles with more fuel-efficient models	In Development	budgeted for three new vehicles.	Three vehicles were purchased in Jan 2013	2011	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	In Development	No vehicles were purchased due to budgetary constraints.	Will work towards purchasing vehicles that are more fuel efficient.	2012	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	All fleet vehicles are serviced on a regular basis.	Continue service every 5000 km.	2008	No End Date (Continuous)
Stationary Fuel Combustion, Electricity					
Behaviour change program					
Help staff reduce personal energy use through ""workstation tune-ups""	Not Yet Evaluated				No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Not Yet Evaluated				No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Not Yet Evaluated				No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Not Yet Evaluated				No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	Not Yet Evaluated				No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Not Yet Evaluated				No End Date (Continuous)
Encourage use of stairs instead of elevators	Not Yet Evaluated				No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress	Signage/reminders.	Continue to promote energy conservation.	2008	No End Date (Continuous)
Promote hot water conservation	Not Yet Evaluated				No End Date (Continuous)
IT power management					
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	All new images on desk top computers are setup with hibernation/power saving software.	Work on laptop installation of hibernation/power saving software and in Windows.	2012	No End Date (Continuous)
Implement server virtualization	Completed (in Reporting Year)	Completed implementation.		2012	2012
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress	About 70% complete.	Will continue working towards 20% complete.	2012	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install	Completed (in	Completed installation of multi-function devices in majority of		2012	2012

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Action	Status	Steps Taken	Steps Planned	Start Year	End Year
multi-function devices as part of a print management strategy	Reporting Year)	locations.			
Apply auto-sleep settings on printers, fax machines, and/or multi-function devices	Completed (in Reporting Year)	Completed projects.		2012	2012
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	Replaced the majority of computers with Energy Star models.	Will continue replacing as budget allows.	2008	No End Date (Continuous)
Leased buildings					
Establish energy performance baseline for leased buildings	Not Yet Evaluated				No End Date (Continuous)
Owned buildings					
Establish energy performance baseline for owned buildings	Ongoing/In Progress	Entered into contract with CES Engineering Ltd. Also, continued to work with our Energy Manager.	Continue to work with our Energy Manager to establish performance baselines.	2011	No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress	Waiting for confirmation on LEEDS Platinum for the Centre for Clean Energy Technology (CECET).	Any new buildings will be LEEDS Gold;Renovations LEEDS Silver.	2011	No End Date (Continuous)
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	Began electrical upgrade to Aircraft Maintenance & Engineering building.	Complete the remainder of project.	2012	2013
Planning/management					
Reduce office space (square meters) per employee	Ongoing/In Progress	We reduced office space as we have closed down a couple of buildings that contained multiple office spaces. Made better utilization from existing buildings.	Try to further reduce unnecessary office space by developing Office Space standards for all our campus locations.	2012	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	We entered into a contract with CES Engineering Ltd. for energy monitoring and targeting services in five central electrical strategic locations throughout our Dawson Creek Campus.	To continue adding additional monitoring as the budget will allow.	2011	No End Date (Continuous)
Retrofit details for owned buildings					
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	Mechanical upgrade in Aircraft Maintenance Engineering building.	Complete the mechanical upgrade 2013.	2012	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	Complete LED lighting upgrade in Aircraft Maintenance Engineering building.	Complete AME project and installing LED street lighting at the Dawson Creek Campus.	2011	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	Completed and upgraded reliable control systems in the Main Campus Centre and AME.	We will complete these projects.	2008	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	New windows in AME building.	Nothing planned at this time.	2009	No End Date (Continuous)
Supplies (Paper)					
Behaviour change program					
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Not Yet Evaluated				No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress	Encouraged paperless meetings.	Continue to encourage paperless meetings.	2010	No End Date (Continuous)
Electronic media in place of paper					
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development	None	Initial planning stage and possible implementation.	2013	No End Date (Continuous)
Use electronic document library for filing common documents	In Development	None	Initial planning and possible implementation.	2013	No End Date (Continuous)
Switch to an electronic payroll notification system in place of paper pay stubs	Completed (in Reporting Year)	Electronic payroll notification system installation completed and in use.		2011	2012
Paper Type					

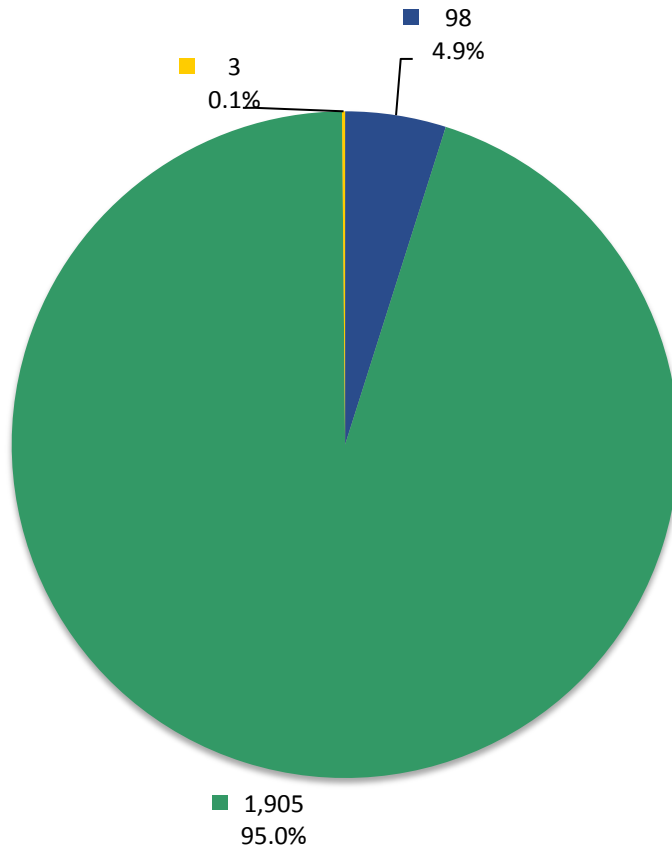
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The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the Greenhouse Gas Reduction Targets Act.

Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	Purchases 30% recycled paper.	Continue to purchase 30% recycled paper.	2011	No End Date (Continuous)
Purchase 40% post-consumer recycled paper	Not Yet Evaluated				No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Not Yet Evaluated				No End Date (Continuous)
Printer/document settings					
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	The majority of network printers or photocopiers are set to automatic double sided printing. Users do have the option to print single sided.	Continue to use the double sided feature.	2011	No End Date (Continuous)

**Northern Lights College
Greenhouse Gas Emissions by Source
for the 2012 Calendar Year (tCO₂e*)**



Total Emissions: 2,006

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

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

Total offsets required: **2,003**. Total offset investment: **\$50,075**. Emissions which do not require offsets: **3** **

*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.