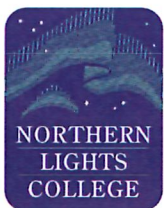


Northern Lights College

2016 Carbon Neutral Action Report





Northern Lights College

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This Carbon Neutral Action Report for the period January 1st to December 31st, 2016 summarizes our emissions profile, the amount of offsets purchased to reach net zero emissions, the actions we have taking in 2016 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2017 and beyond.

Overview/Executive Summary

Northern Lights College is continues with our commitment towards carbon neutrality. We are continuing to focus on building improvements with energy audits and upgrades.



Key Actions Taken in 2016 to Reduce Emissions:

Grounds

- Outside lighting upgrade with LED lighting completed on the Chetwynd and Fort St John Campus

Buildings

- The addition of window tinting on some windows in Dawson Creek at the Main Campus building to see how it may help to reduce heat and cooling loss
- Replaced all blinds in the Main Campus building on the Fort St John Campus, which should help heat loss in the winter and help keep the building cool in the summer
- The addition of window tinting on some windows in Dawson Creek at the Main Campus building to see how it may help to reduce heat and or cooling loss
- Older indoor lighting is continuously being replaced with LED in all areas of the College and it's Campus's (will continue throughout 2017 and beyond)
- Continue to replace faucet fixtures with more energy efficient models
- Hired CCT Controls to do an audit of our boilers on all Campus's and help set up a regular maintenance program to help improve operating efficiency, thus reducing energy and emissions
- Chillers in both the Dawson Creek and Fort St John Campus's have been upgraded
- Replaced an older refrigeration cooler in our Cook Training area with a newer efficient one
- Older inefficient outside doors being replaced with newer insulated doors

Fleet

- We have been upgrading our Video Conferencing equipment between Campus's and this should effectively cut down on driving between Campus's for meetings, reducing emissions from vehicles and fuel costs
- We have started to upgrade our aging fleet vehicles to more efficient ones, to reduce emissions

Other Items

- Replaced all old carpeting the on the Chetwynd Campus with vinyl flooring to lower maintenance and the use a chemicals to try and clean these old carpets and also will help with the air quality in these rooms
- Initiated a duct cleaning schedule, starting with the Chetwynd Campus this should help improve the efficiency of the heating and cooling systems, as well as help to improve any air quality issues in the due to dust in the ducts (this will continue through 2017 and beyond)
- A more comprehensive recycling program, partnering with the Village of Pouce Coupe was put into effect at the Dawson Creek Campus on a one year trial
- Northern Lights College continues to use recycled copy paper and when not available uses "FSC Certified" paper
- Northern Lights Lights is seeking ways to reduce the use of paper by copying 2 sided, and making applicable resources "paperless"

Carbon Neutrality Linked to NLC's Mandate

We continue to practice and promote principles that protect and sustain our natural environment.

Broader Sustainability Goals for NLC for 2017-2018

- Continue to work towards identifying energy saving projects that will reduce our carbon footprint.
- Continuing work from 2016 to replace water taps in washrooms with new water saving automatic ones
- Replacing old water fountains with bottle fillers that keep track of how many times they are used, thus giving us the availability to see how many bottles are being saved
- Smaller plans such as putting up idle free zone signs, using rain barrels to catch water for grounds maintenance, planting more trees to offset CO2 levels, using less lights during spring and summer seasons. Educating staff better on being carbon neutral.
- Replace old air handling units and boilers to more efficient cost saving ones
- Continue with duct cleaning on the Fort St. John and Dawson Creek Campus's, improving heating and cooling efficiency and air quality.
- With the approval of the new Trades Centre to be built, we will see the decommissioning of several very old buildings, which will again see financial savings in both costs for heating, cooling and electrical, as well as repair and maintenance of the older less efficient buildings.
- Our biomass furnace that we already have can now be used to not only heat our Main Campus Centre in Dawson Creek, but also the new Trades Centre being built



- Renovate older building to add better insulation and efficient windows, doors and lighting, for a better insulation factor, which will reduce heating costs and lower the usage of natural resources and also reduce electrical costs

- 2017 will see the outside of our Gym upgraded with new windows and insulated siding.
- By continuously upgrading our Video Conferencing we will continue to cut down on driving between Campus's for meetings, thus reducing emissions from vehicles and fuel costs
- As we upgrade our fleet vehicles, we will continue to look at emissions and how we can reduce them

Anticipated Financial, Environmental, or Social Benefits of Reducing Energy Use and/or GHG Emissions

Financial and Environmental – By replacing the old energy intensive facilities with new energy efficient facilities and equipment the college will lower currently high operational and maintenance costs for existing facilities due to poor building performance, lack of insulation and poorly performing mechanical systems.

The new Trades building is using green materials and new upgraded materials to insulate which will reduce the amount of heating that should be required for that building.

Cost and emissions savings should be gained by upgrading older fleet vehicles and using video conferencing more for meetings, thus saving the amount of vehicles on the road.

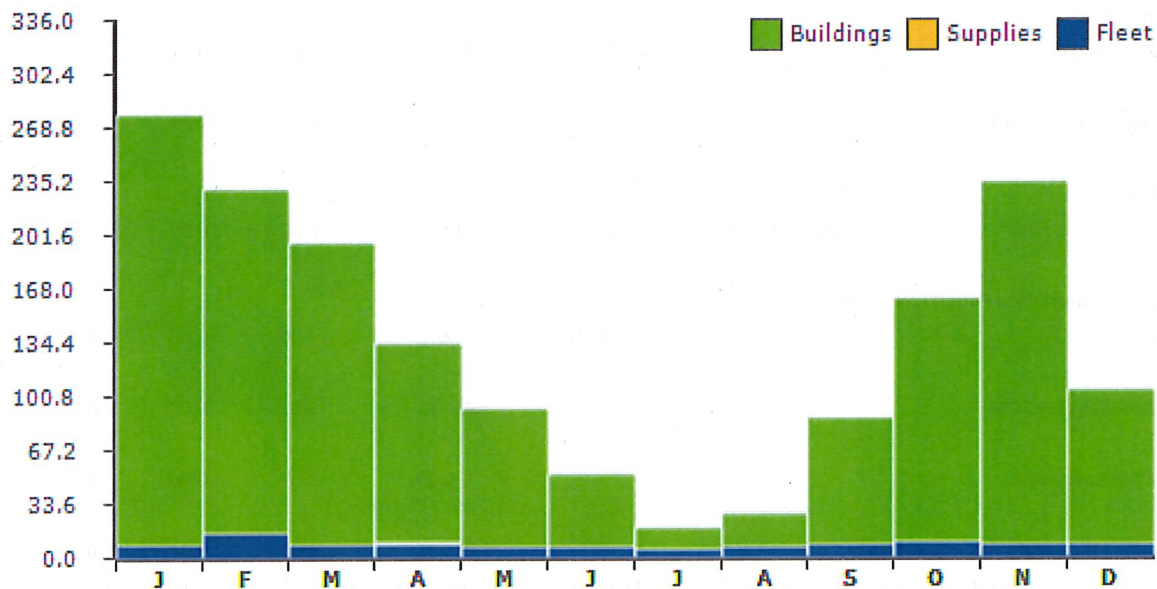
Social Benefits – The new and more efficient Trades Centre building will improve NLC facilities, which will in turn enhance student life, revitalize the Dawson Creek Campus, and improve the College's image and ability at recruitment and retention of students. In the process showing the students, staff and the community some newer building methods, using greener materials.

Efforts made to Reduce Emissions and Improve Overall Sustainability

- Continue to complete mechanical and electrical renovations to our existing facilities to reduce our energy consumption.
- Continue to use 100% recyclable copy paper and/or paper that is “FSC-Certified”

Total Emissions Calendar Year 2016 Northern Lights College

Metric tonnes
CO2 equivalent (tCO2e)



[Click on the bars to view data for each month](#)

Totals Calendar Year 2016, Northern Lights College

	Measure	Quantity	CO ₂	Greenhouse Gases in Tonnes			tCO ₂ e ¹
				BioCO ₂	CH ₄	N ₂ O	
Scope 1 (Direct) Emissions							
Mobile Combustion (Fleet)	Litres	47,833.21	106.31	3.67	0.01	0.03	117.97
Stationary Combustion, Reported ³	GigaJoules	29,970.43	1,488.36	0.00	0.03	0.03	1,497.38
Scope 2 (Indirect) Emissions							
Purchased Energy, Reported ³	GigaJoules	11,187.32	33.56	0.00	0.00	0.00	33.56
Scope 3 (Business Travel and Office Paper) Emissions							
Office Paper	Packages	430.00	2.73	0.00	0.00	0.00	2.73
Total Emissions, Calendar Year 2016			1,630.95	3.67	0.04	0.05	1,652
Carbon Neutral or Offset Exempt			0.00	3.67	0.00	0.00	4
Total for Offsets ⁴			1,630.95	0.00	0.04	0.05	1,648

1. Each greenhouse gas has been converted to a standard measurement (tCO₂e) by multiplying its emissions by its global warming potential (GWP). The GWP of carbon dioxide (CO₂) from both anthropogenic and biogenic sources is 1; methane (CH₄) is 25, and nitrous oxide (N₂O) is 298. The Totals for tCO₂e are shown here rounded to the nearest whole metric tonne as only whole tonnes of tCO₂e can be purchased for offsets.

2. Estimated data has been calculated based on the methods described in the Methodology Document.

3. Reported data refers to consumption which has been directly billed to the organization.

4. The tCO₂e value from the "Total for Offsets" line represents the quantity of offset purchases required to become carbon neutral.

Executive sign-off:

Andrea Graff

07/07/17

Signature

Date

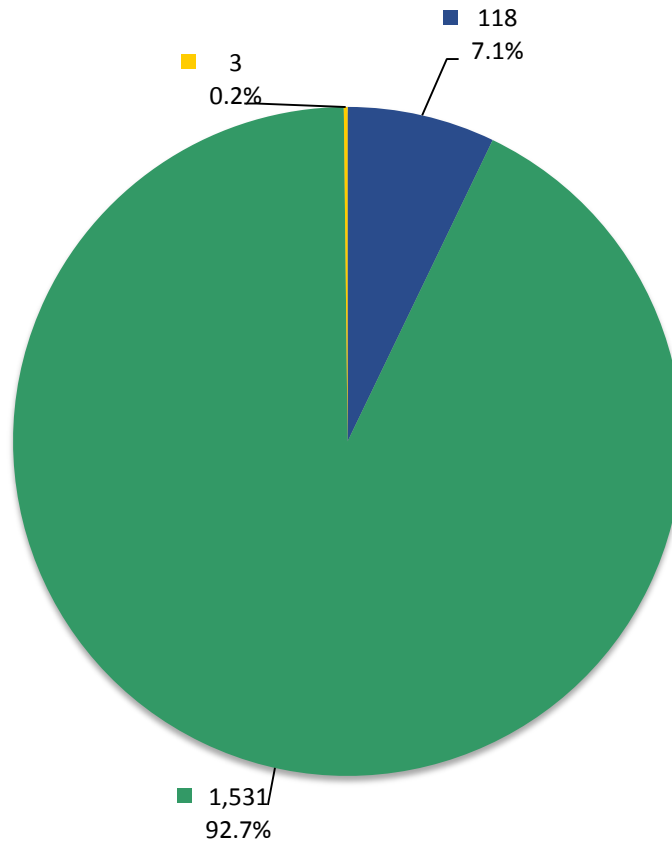
Andrea Graff

VP Finance : Corporate Services

Name (please print)

Title

Northern Lights College Greenhouse Gas Emissions by Source for the 2016 Calendar Year (tCO₂e*)



Total Emissions: 1,652

- 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 2016 (Generated May 15, 2017 4:27 PM)

Total offsets required: **1,648**. Total offset investment: **\$41,200**. Emissions which do not require offsets: **4** **

*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.

2016 Carbon Neutral Action Report Survey

Page 2

Part One (external)

Contact Name(s):

Cathy Vreeling

Organization Name:

Northern Lights College

Please select your sector:

- Post-Secondary Institution

1) Stationary Sources (Buildings, Power Generators): Fuel Combustion, Electricity use, Fugitive Emissions.

During 2016, did your organization take any of the following actions to support emissions reductions from buildings?

Select all that apply

- Performed energy retrofits of the organization's buildings.: 3 buildings
- Built, or are building new LEED Gold or other "Green" buildings.: We are in the process of building a new "Trades" building

Briefly describe your organization's plans to continue reducing emissions from its stationary sources in future years.

Ensure lighting LED lighting upgrades continue in all buildings on all Campus's. Continue to replace older end of life water fixtures (faucets, urinals and toilets) with more efficient models. Continue to look at new ways of improving all of the Facilities and Fleet on our Campus's to help lessen out Carbon Footprint.

During 2016, did your organization participate in utility-sponsored energy demand management program(s) (e.g. BC Hydro's Energy Management (Manager))?

No

If yes, please describe briefly:

(No response)

2) Mobile Sources (Vehicles, Off-road/Portable Equipment): Fuel Combustion.

During 2016, did your organization take any of the following actions to support emission reductions from its mobile sources?

Select all that apply

-
- Replaced existing vehicles with more fuel efficient vehicles (gas/diesel).: 2
 - Took steps to drive less than previous years.
-

Briefly describe your organization's plans to continue reducing emissions from its mobile sources in future years.

By continuously upgrading our video conferencing on each Campus, we are eliminating some travel for meetings. Replace aging fleet with more fuel efficient vehicles. Implementing a regular schedule for fleet maintenance, to ensure vehicles are maintained to avoid costly repairs and reduce pollution.

3) Supplies (Paper):

During 2016, did your organization take any of the following actions to support emissions reductions from paper supplies?

Select all that apply

-
- Other actions? Please describe briefly.: We try and use no less than 30% recycled content paper or must be "FSC Certified"
-

Briefly describe your organization's plans to continue reducing emissions associated with its office paper use in future years.

Focusing more on "paperless" department and encouraging black and white printing over colour and 2 sided printing.

4) Other Sustainability Actions:

Business Travel:

During 2016, did your organization take any of the following actions to support emissions reductions from business travel?

Select all that apply

(No response)

Education Awareness:

During 2016, did your organization have any of the following programs or initiatives to support sustainability education and awareness?

Select all that apply

-
- Green, Sustainability or Climate Action Team
-

Other Sustainability Actions:

During 2016, did your organization have any of the following programs or initiatives to support sustainability?

Select all that apply

(No response)