

2018 Carbon Neutral Action Report

Executive Summary

Northern Health is pleased to submit our 2018 Carbon Action Neutral Report outlining the actions we have taken to address greenhouse gas emissions in this past year and our plans for the future.

During our 2018-2019 fiscal year, Northern Health continued with implementation of energy conservation projects at the University Hospital of Northern BC, with expected site-specific energy savings of up to 4% annually.

Ongoing projects are being funded through the Carbon Neutral Capital Program, with significant incentive contributions from FortisBC and BC Hydro.

In 2018, the total heating degree days were unchanged from the previous year. We were able to reduce natural gas use approximately 1% through conservation projects.

Energy conservation projects for 2019-2020 and 2020-2021 have been identified, and should result in a combined reduction of natural gas usage by more than 2% overall.

Our Energy Management team have developed opportunities to save energy at St. John Hospital in Vanderhoof, with work to be completed over the next 18 months. Site specific GHG reductions of over 50% are anticipated.

Northern Health remains committed to sustainable actions and leaving a healthy environment for the future populations of northern British Columbia.



Cathy Ulrich
President and CEO, Northern Health

2018 Greenhouse Gas Emissions

Heating, lighting, ventilation and other building operations necessary to maintain a healthy patient and workplace environment resulted in the emission of 21,445 tonnes of carbon and carbon equivalents into the atmosphere.

Paper consumption resulted in an additional release of 326 tonnes of carbon equivalent emissions.

Fleet vehicles resulted in an additional release of 771 tonnes of carbon equivalent emissions.

In total, Northern Health had a measured carbon footprint of 22,542 tonnes for the delivery of quality healthcare in the most challenging climate in the Province.

Offsets Applied to Become Carbon Neutral in 2018

NHA's total carbon footprint for 2018 was 22,542 tonnes, 22,512 of which are offsettable. Northern Health purchased 22,512 tonnes of carbon offsets to counter the emissions identified above, thereby achieving carbon neutrality in accordance with government legislation. An adjustment of six tonnes for 2017 was reported.

Thirty tonnes CO₂e of emissions resulting from the combustion of bio-fuel were reported as part of our emissions profile in 2018. However, they were not offset as they are considered carbon neutral in accordance with the government carbon accounting legislation.

Emissions Reduction Activities

Northern Health continued to implement energy conservation projects in 2018 to reduce carbon emissions from its operations. This is a strategic process which began in 2008, with additional opportunities already identified through 2020-2021.

These opportunities will utilize the annual Carbon Neutral Capital Program funding, as well as other substantial incentives from our utility partners.

Actions Taken to Reduce Greenhouse Gas Emissions in 2018

In 2018, Northern Health decoupled a portion of the domestic hot-water supply from the main heating boilers at our largest hospital in Prince George, UHNBC. This will provide savings in shoulder season and summer. In addition, boiler control upgrades, new flue dampers and a replaced economizer will add incremental savings for UHNBC, with total site-specific savings of up to 4% per year.

Plans to Continue Reducing Greenhouse Gas Emissions in 2019

During 2019, we will begin Phase I work at St. John Hospital in Vanderhoof. This will include: a new heat recovery coil on the main exhaust ducts; a new air to water heat pump; four new condensing boilers; a new low temperature heating loop to new low temperature reheat coils; and various new pumps, piping and duct work.

This work will result in site-specific GHG savings of 30%, and a greater than 1% reduction in Northern Health's natural gas usage.

Capital investments made at facilities to improve energy performance over the last ten years are resulting in annual cost avoidance of more than \$1 million. Our Energy Management team has determined that if we had not done any energy conservation projects during the previous decade, Northern Health's total GHG emissions would be up to 30% higher than they are today.

Northern Health continues to receive incentives and program support from our utility partners at FortisBC and BC Hydro, who provide funding for personnel, programs and projects. We will continue to implement projects that provide both environmental benefits, and long-term financial cost savings.

Retirement of Offsets

In accordance with the requirements of the Greenhouse Gas Reduction Targets Act and Carbon Neutral Government Regulation, Northern Health (the Organization) is responsible for arranging for the retirement of the offsets obligation reported above for the 2018 calendar year, together with any adjustments reported for past calendar years. The Organization hereby agrees that, in exchange for the Ministry of Environment and Climate Change Strategy ensuring that these offsets are retired on the Organization's behalf, the Organization will pay within 30 days, the associated invoice to be issued by the Ministry in an amount equal to \$25 per tonne of offsets retired on its behalf plus GST.

Part 1: CNAR Survey

1. General Information

Name: Keith Hebert

Contact Email: keith.hebert@northernhealth.ca

Organization Name: Northern Health Authority

Sector: Health

Role - Please select your role(s) below.

If more than one individual completed the survey, multiple categories may be selected:

Energy Manager: No

Sustainability Coordinator: No

Administrative Assistant: No

Facilities/Operations Manager/Coordinator: No

CEO/President/Exec Director: No

Treasurer/Accounting: No

Superintendent: No

Other - Please Specify: Energy Specialist

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

1. Actions taken by your organization in 2018 to support emissions reductions from buildings.

a) Do you have a strategy to reduce emissions from stationary sources?

Yes

If yes above, what are the main goals?: Northern Health implements energy conservation projects each fiscal year with an emphasis on reducing natural gas and/or propane use. In this way, both cost savings and GHG reductions are achieved.

b) Whether you have a strategy or not (1.a), briefly describe your organization's plans to continue reducing emissions from stationary sources:

I. Over the medium-term term (1-5 years)

Northern Health will continue to utilize funding from the Carbon Neutral Capital Program, in addition to incentives provided by our utility partners and through specific provincial and/or federal incentive programs.

II. Over the long term (6-10 years)

Northern Health will continue to advocate for capital budget to be included for energy efficiency in all new facility builds, as well as for significant budget to be made available to enhance energy performance at existing sites.

c) Please describe your strategy's goals (if any) related to [energy audits](#).

Northern Health aims to have sufficient projects available for implementation in any future twenty-four month period, subject to available funds. In any given fiscal year, 1-5 energy audits may be performed at selected facilities, and in general, these will focus on the sites with higher energy consumption per square metre of floor area.

I. What % on average of your building portfolio has an energy audit completed each year (if any)? : 4

d) Please describe your strategy's goals (if any) related to building retrofits.

Although it has become increasingly difficult over time as 'low-hanging fruit' type projects have been implemented, Northern Health tries to achieve financial paybacks from most projects within a ten year period and/or selects projects which offer the lowest paybacks possible from the available potential projects which have been identified. The focus remains on reducing natural gas and propane use, which impact GHG emissions by the greatest amount.

I. What % on average of your building portfolio is retrofitted each year in the following categories (if any) - click [here](#) for further information:

Minor retrofits (e.g., low cost, easy to implement measures including caulking, lighting, adding roof insulation, etc.) (%): 4

Major retrofits (e.g., replacing windows and doors, equipment replacement such as boilers, etc.) (%): 4

Deep retrofits (e.g., replacing roof, replacing the heating, ventilation and air-conditioning system with a renewable technology like a ground-source heat pump, etc.) (%): 2

e) Please describe your strategy's [re/retro-commissioning](#) goals (if any)?

n/a

I. What % on average of your building portfolio do you recommission each year?: 4

f) Do you keep records of Refrigerant gases category and refilling volumes?

No

I. If yes, have you included the associated emissions in your reporting?

No

II. What, if any, mitigation approaches have been considered? Please describe.

n/a

g) How many newly constructed buildings received at least LEED Gold certification in 2018 : 0

I. How many newly constructed buildings did not receive LEED Gold certification?: 0

II. Please explain why LEED Gold certification was not obtained.

n/a

h) Other actions? Please describe briefly.

n/a

B. Mobile Sources (Vehicles, Off-road/portable Equipment): Fuel Combustion:

3. Actions taken by your organization in 2018 to support emissions reductions from mobile sources.

a) Do you have a strategy to reduce emissions from mobile sources?

No

I. If yes, what are its goals?

n/a

b) Whether you have a strategy or not (3.a), briefly describe your organization's plans to continue reducing emissions from mobile sources:

I. Over the medium-term term (1-5 years)

Replaced existing vehicles with more fuel efficient vehicles at time of replacement. Tele-conferences are used when practical.

II. Over the long term (6-10 years)

n/a

c) How many fleet vehicles did you purchase from the following categories:

Electric Vehicle – EV - (e.g., Nissan Leaf, Chevy Bolt): 0

"Plug In" Electric Vehicle – PHEV (e.g., plug-in Prius, Chevy Volt): 0

Hybrid vehicle – HEV – non "Plug In"- (e.g., Toyota Highlander Hybrid): 0

Hydrogen fuel cell vehicle : 0

Natural gas/propane: 0

Gas/diesel vehicle: 10

I. If you purchased new gas/diesel vehicles, can you briefly explain why vehicles from the other categories were not chosen?

Lack of charging stations coupled with high cost of vehicles. Majority of Fleet is highway driven, most Electric vehicles do not have the range to reach centre to centre safely along with quick charges. Natural Gas/Propane has not been looked at. Hydrogen fuel recharge stations are unavailable so this category was not explored. Hybrids are too expensive for budget constraints.

d) How many existing EV charging stations does your organization have in each category:

level 2: 1

level 3: 0

How many level 2 stations (if any) are specifically for your fleet vehicles: 0

How many level 3 stations (if any) are specifically for your fleet vehicles: 0

e) How many EV charging station(s) did you install in 2018 in each category:

level 2: 0

level 3: 0

How many level 2 stations (if any) were installed specifically for your fleet vehicles: 0

How many level 3 stations (if any) were installed specifically for your fleet vehicles: 0

f) Other actions, please describe briefly (e.g. charging station feasibility studies, electrical panel upgrades, etc.)

n/a

4. Please indicate the number of the vehicles in the following vehicle classes that are in your current fleet (including any purchased in 2018):

Definitions:

- Light duty vehicles (LDVs) are designated primarily for transport of passengers <13 and GVWR<3900kg
- Light duty trucks (LDTs) are designated primarily for transport of light-weight cargo or that are equipped with special features such as four-wheel drive for off-road operation (include SUVs, vans, trucks with a GVWR<3,900kg)
- Heavy duty vehicles (HDV) includes vehicles with a GVWR>3,900 kg (e.g. ¾ tonne pick-up truck, transport trucks)

a) Light duty vehicles (LDVs)

Electric Vehicles – EV - (e.g., Nissan Leaf, Chevy Bolt): 1

“Plug In” Electric Vehicle – PHEV -- (e.g., plug-in Prius, Chevy Volt) : 0

Hybrid vehicles – HEV – (e.g., non “Plug In”- older Toyota Prius, Toyota Camry hybrid): 0

Hydrogen fuel cell vehicles: 0

Natural gas/propane: 0

Gas/diesel: 68

b) Light duty trucks (LDTs)

Electric Vehicles – EV : 0

“Plug In” Electric Vehicle – PHEV: 0

Hybrid vehicles – HEV – (e.g., non “Plug In”- older Ford Escape Hybrid, older Chevrolet Silverado pickup hybrid etc): 0

Hydrogen fuel cell vehicles: 0

Natural Gas/propane: 0

Gas/diesel: 102

c) Heavy duty vehicles (HDV)

Electric Vehicles – EV : 0

“Plug In” Electric Vehicle – PHEV : 0

Hybrid vehicles – HEV – (e.g., non “Plug In”): 0

Hydrogen fuel cell vehicles: 0

Natural Gas/propane: 0

Gas/diesel: 24

5. Please indicate the number of the vehicles you plan to replace in your fleet:

How much do you budget per LDV?: 56000

How many LDVs do you plan to procure annually over the next 5 years?: 10

How much do you budget per LDT?: 130000

How many LDTs do you plan to replace annually over the next 5 years?: 30

How much do you plan to spend per HDV?: 37000

How many HDVs do you plan to replace annually over the next 5 years?: 2

C. Office Paper: Indicate which actions your PSO took in 2018:

6. Actions taken by your organization in 2018 to support emissions reductions from paper supplies.

a) Do you have an Office Paper strategy?

No

I. If yes, what are its goals?

n/a

b) Whether you have a strategy or not (6.a), briefly describe your organization's plans to continue reducing emissions from paper use:

I. Over the medium-term (1-5 years)

Northern Health continues to utilize electronic communications and has ability in most printers for scanning.

II. Over the long term (6-10 years)

As above

c) Have an awareness campaign focused on reducing office paper use

No

d) Purchased alternate source paper (bamboo, hemp, wheat, etc.)

No

e) Other actions, please specify.

n/a