

2019 Carbon Neutral Action Report

Executive Summary

Northern Health is pleased to submit our 2019 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 2019-2020 fiscal year, Northern Health began implementation of energy conservation projects at St. John Hospital in Vanderhoof. Once fully implemented in 2020-2021, GHG emissions for this facility are anticipated to fall by 50%.

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

While the winter heating season demand was similar to previous winter, Northern Health was able to reduce natural gas use by approximately 1% through conservation projects.

Energy conservation projects for the next 24 months have been identified, and should result in a combined reduction of natural gas usage by more than 2% overall.

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

This Carbon Neutral Action Report for the period January 1, 2019 to December 31, 2019 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2019 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2020 and beyond.

Impact of COVID19 on Carbon Reporting

Due to COVID19, the following was announced on March 31, 2020:

“Under my authority as the Director for the purposes of the Act, and under the authority delegated to me in Section 6 of the Carbon Neutral Government Regulation, I hereby direct that all ministries and Public Sector Organizations covered by the Carbon Neutral Government requirement shall use their 2018 GHG emissions as a temporary estimate for their actual 2019 GHG emissions, for the purposes of the 2019 Carbon Neutral Action Reports and 2019 Carbon Neutral Government reporting required under the Climate Change Accountability Act”. Neil Dobson, Executive Director, Clean BC Implementation Climate Action Secretariat (CAS). In effect, that 2019 carbon reporting and offset purchases will be as 2018 declared final results for 2019 with adjustments to be made in 2020.

2019 Greenhouse Gas Emissions

In 2019, as in 2018, 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.

Emissions and Offset Summary Table

Northern Health Authority GHG Emissions and Offsets for 2019	
Total Emissions (tCO ₂ e)	22,542
Total BioCO ₂	30
Total Offsets (tCO ₂ e)	22,512
Offset Investment (\$25 per tCO ₂ e)	\$562,800

Offsets Applied to Become Carbon Neutral in 2019

NHA's total carbon footprint for 2019 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.

Thirty tonnes CO₂e of emissions resulting from the combustion of bio-fuel were reported as part of our emissions profile in 2019. 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 2019 to reduce carbon emissions from its operations. This is a strategic process which began in 2008, with additional opportunities already identified through 2021-2022.

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 2019

During the 2019-2020 fiscal year, Northern Health began implementation of energy conservation projects at St. John Hospital in Vanderhoof. The renewal of the heating plant will include: a new heat recovery coil on the main exhaust ducts; a new low temperature heating loop to new low temperature reheat coils and five new condensing boilers.

Plans to Continue Reducing Greenhouse Gas Emissions in 2020

During 2020, we will begin Phase Two work at St. John Hospital in Vanderhoof. This will include a new air to water heat pump and various new pumps, piping and duct work.

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 *Climate Change Accountability Act* and Carbon Neutral Government Regulation, **Northern Health Authority** is responsible for arranging for the retirement of the offsets obligation reported above for the 2019 calendar year, together with any adjustments reported for past calendar years (if applicable). 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.

Confirmation number: 00C4CEB4

Submitted date: 2020-06-29 10:04:25 Pacific Daylight Time

Carbon Neutral Action Report Survey - 2019

Public sector organizations (PSOs) are required to complete this survey, in addition to a Carbon Neutral Action Report (CNAR) as mandated by BC's [Climate Change Accountability Act](#) and the [Carbon Neutral Government Regulation](#).

Due to the COVID-19 pandemic, the following [Directive](#) was issued on March 31, 2020. Certain deadlines were also extended for the 2019 reporting year (see below).

March 31, 2020 Directive:

Under my authority as the Director for the purposes of the Act, and under the authority delegated to me in Section 6 of the Carbon Neutral Government Regulation, I hereby direct that all ministries and Public Sector Organizations covered by the Carbon Neutral Government requirement shall use their 2018 GHG emissions as a temporary estimate for their actual 2019 GHG emissions, for the purposes of the 2019 Carbon Neutral Action Reports and 2019 Carbon Neutral Government reporting required under the Climate Change Accountability Act.

Neil Dobson, Executive Director, Clean BC Implementation
Climate Action Secretariat

Although 2018 emissions data will be used as a placeholder for 2019, **all other (qualitative) components of the CNAR and CNAR Survey are to be completed with information from 2019 (e.g., actions taken or planned to reduce emissions)**. The only change to the survey is that the deadline was extended by one month to June 30, 2020.

This survey is divided into two parts:

Part 1 - Will be made public on the Climate Action Secretariat (CAS) [website](#) after June 30, 2020; however, it will not be appended directly to each individual PSO CNAR as was done in previous years. This section collects details about actions taken or planned to reduce emissions and is intended to supplement the legislative requirements in your CNAR.

Part 2 - Will NOT be made public. Information you provide in this section is important and will be used internally to help CAS staff with planning for emissions reduction and climate change adaptation initiatives. Although not required, PSOs are highly encouraged to complete Part 2.

Note: Survey progress can be saved at any time by clicking the "Save and continue later" button at the bottom of each page. A new window will open and you will be asked to provide your name and email. An email will be sent to you from Carbon.Neutral@gov.bc.ca with the subject line: "Questionnaire Link", which will include a hyperlink for the "Project: Carbon Neutral Action Report Survey – Broader Public Sector 2019". You can then continue responding at another time or email the hyperlink to a colleague to complete remaining section(s).

May 29, 2020	<ul style="list-style-type: none">The final, signed version of the CNAR (or Small Emitters Form) must be submitted by email to: Carbon.Neutral@gov.bc.ca
June 30, 2020*	<ul style="list-style-type: none">Ministry of Environment and Climate Change Strategy must post a final CNAR for each organization on the BC Government's CNG website and each PSO is encouraged to post the report on their website.The CNAR Survey (optional for Small Emitters) must be completed and submitted online. *Deadline extended from May 29, 2020.<u>All offset invoice payments must be submitted to CAS.</u>
Sept 30, 2020*	<ul style="list-style-type: none">Clean Government Reporting Tool (CGRT) Data Entry must be completed for the 2019 reporting year.

	*Deadline extended from April 30, 2020.
Oct 15, 2020*	<ul style="list-style-type: none"> • Self-Certification checklist must be completed, signed and submitted by email to: Carbon.Neutral@gov.bc.ca. *Deadline extended from May 15, 2020.

*See the [Carbon Neutral Government – Program Requirements website](#) for more information on program requirements, timelines and templates.

PART 1 - Included as part of your public CNAR report.

Reminder that Part 1 will be made public on the CAS [website](#).

Contact Name:
<i>Ken Van Aalst</i>
Contact Email:
<i>kenvanaalst@northernhealth.ca</i>
Organization Name:
<i>Northern Health Authority</i>
Role – Please select the best category for your current role with your organization. If more than one individual completed the survey, multiple categories may be selected:
<i>Facilities/Operations Manager/Coordinator</i>
Please select your sector:
<i>Health (H)</i>

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

Actions taken by your organization in 2019 to support emissions reductions from buildings

Do you have a strategy to reduce emissions from stationary sources?
<i>Yes</i>

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

Over the medium-term term (1-5 years)
<i>Northern Health has a Strategic Energy Management Plan which is updated annually. In addition, Capital Planning directors and other energy team members meet quarterly to review progress and ongoing commitments to reduce greenhouse gas emissions through energy conservation projects. Ongoing and additional projects are being identified for implementation during the next 12-36 months.</i>
Over the long term (6-10 years)
<i>Northern Health's energy team members are networked with the broader energy management community of professionals within BC and Canada community and are looking for new opportunities and technologies which will help further reduce energy use at facilities.</i>

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

Energy audits may be simple pre-screening assessments or they can be exhaustive reviews of a facility mechanical system. Both are used to identify opportunities to retrofit older less efficient equipment and/or systems with newer systems that use less energy and create fewer GHG emissions. Northern Health has energy studies done on an annual basis so that projects are identified and ready for implementation when funding is available.

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

Northern Health is typically having audits or studies done at between 5% and 10% of the major facilities - facilities which use at least 3,000 GJ of natural gas or the equivalent in propane per year.

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

The focus for projects and capital is on greenhouse gas emission reduction so this relates mostly to natural gas projects.

In 2019, NH focused on condensing boilers at one site [St. John Hospital Vanderhoof].

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

2019 – 3.6% deep retrofit

*2.9% St. John Hospital Vanderhoof
0.7% Northern Haida Gwaii Hospital*

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

Minor retrofits done in 2019 include:

- Building sealing – caulking around doors, windows and other building features*
- added roofing insulation*
- minor lighting upgrades*

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

Major retrofits done in 2019 include:

- new condensing natural gas boilers*

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.)

Deep retrofits done in 2019 include:

- re-heat and pre-heat coil replacement*
- heat pump for heat recovery*
- replaced roof*

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

Re-commissioning requires studies so NH is enrolling in BC Hydro's continuous optimization (CO) program. With the aid of the CO program incentives, NH will engage consultants to do recommissioning studies and develop energy conservation measures (ECMs) on 16 of their larger facilities in a phased manner over multiple years. Two hospitals and one long-term care facility will be studied in 2020/21 and if successful, additional 13 sites will be studied.

The ECM's developed through the studies will be implemented if less than two year payback.

What % on average of your building portfolio do you recommission each year?

In 2019, NH was not active in recommissioning.

Do you keep records of Refrigerant gases1 category and refilling volumes?

[1] Fugitive emissions from stationary cooling equipment are attributed to the leakage and loss of HFC and PFC based coolants from air conditioning and commercial type refrigeration systems. Coolant loss can occur during the manufacturing, operation, and disposal of such equipment. Gases that may be reported via CGRT include HFC R-134, HFC R-134a, HFC R-404a, HFC R-407c, HFC R-410a.

No

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

Decommissioning of stationary cooling equipment requires of the decommissioning agent that collection of coolants results in proper disposal.

How many newly constructed buildings received at least LEED Gold certification in 2019?

There were no newly constructed buildings in NH 2019.

How many newly constructed buildings did not receive LEED Gold certification?

Not applicable.

Please explain why LEED Gold certification was not obtained for those new buildings.

Not applicable.

Other actions? Please describe briefly:

Not applicable.

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

Actions taken by your organization in 2019 to support emissions reductions from mobile sources?

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

Yes

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

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

*Due to cold climate, extended winter and long distance transportation needs, electric vehicles are not suited to NH fleet requirements. As cost, battery and range concerns are mitigated, electric vehicles will be considered, but probably unlikely to make a large impact in the medium term.
Testing of electric vehicles in moderate climate regions and with seasonal operations, experience and performance may allow for earlier electric vehicle transition into the fleet.*

Over the long term (6-10 years)

As drivability (cold and distance) and reliability (range and battery life) issues are overcome, electric vehicles will find a place in NH fleet requirements. After medium-term testing to ensure these reliability and safety issues can be reliably met with no risk to staff, EVs will become part of the NH GHG reduction strategy for fleet transportation.

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

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

1

"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

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

EV's do not perform well in the North due to the cold reducing the battery life and vehicle range. NH will not put staff at risk.

Actions taken by your organization in 2019 to support emissions reductions from mobile sources? (Continued)

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?

As defined as Level 2 stations only your organization's fleet vehicles may use

0

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

As defined as Level 3 stations only your organization's fleet vehicles may use

0

How many EV charging station(s) did you install in 2019 in each category:

Level 2?

0

Level 3?

0

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

As defined in the previous section

0

How many level 3 stations (if any) were installed specifically for your fleet vehicles?
As defined in the previous section

0

Please indicate the total number of the vehicles in the following vehicle classes that are in your current fleet

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)

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

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

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