

NORTHERN HEALTH

2021

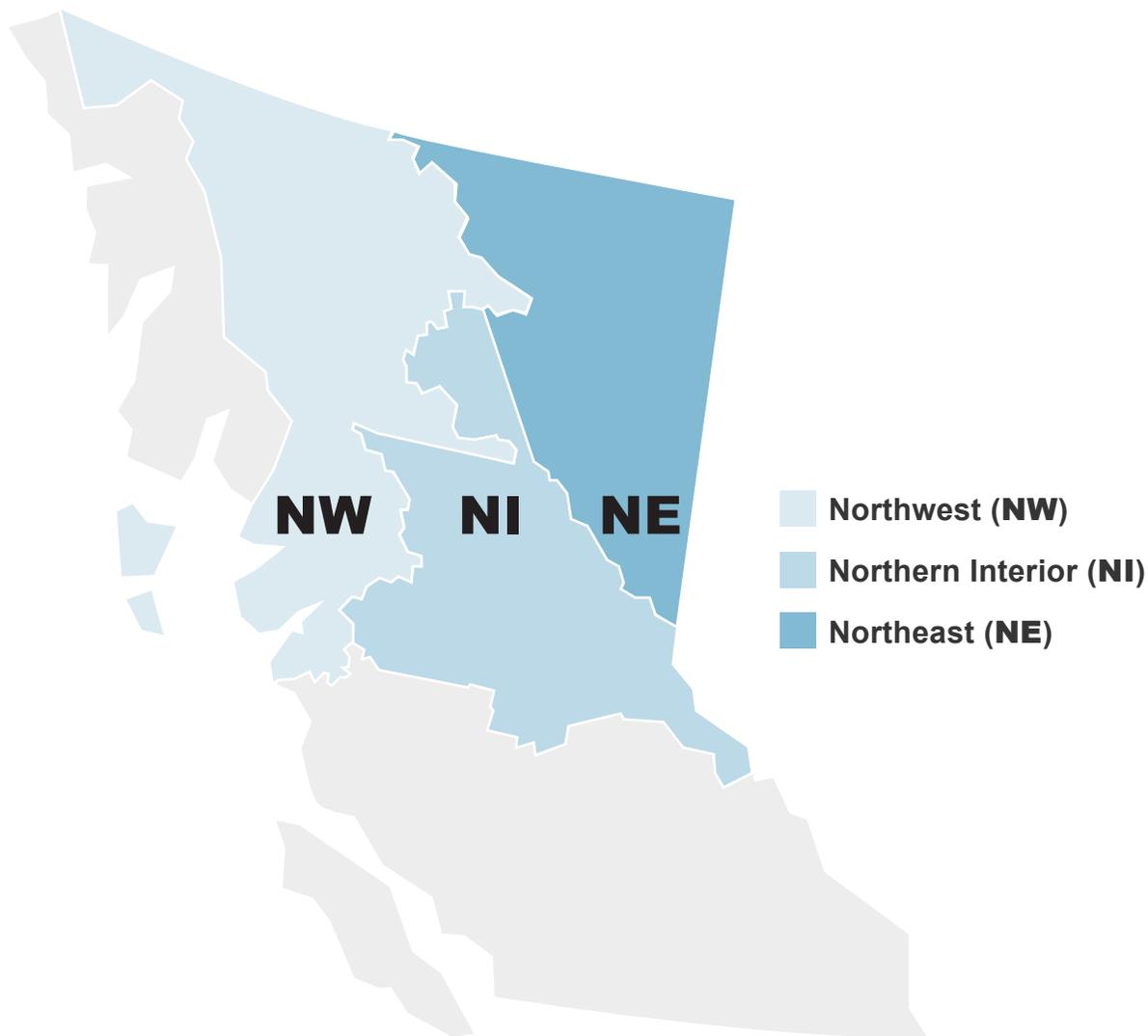
# Climate Change Accountability Report



**northern health**  
*the northern way of caring*

# NORTHERN HEALTH REGION

We acknowledge with respect and gratitude that this report was produced on the territory of the Lheidli T'enneh First Nation, part of the Dakelh peoples', and that the Northern Health region is shaped by 54 First Nation territories.



## DECLARATION STATEMENT

The Climate Change Accountability Report for the period of January 1, 2021 to December 31, 2021 summarizes Northern Health's carbon emission profile from building, fleet and paper, the total offsets required to meet net-zero, our 2021 actions that contributed to reducing our carbon emissions, and our plan forward to continue to reduce our carbon emissions.

# CONTENTS

- EXECUTIVE SUMMARY ..... 1
- RETIREMENT OF OFFSETS ..... 2
  - Table 1. Northern Health 2021 Emissions and Offset Summary Table ..... 2
- 2021 GREENHOUSE GAS EMISSIONS ..... 3
  - Figure 1. 2021 Northern Health GHG Emissions by Source. .... 3
- GREENHOUSE GAS REDUCTION ACTIONS ..... 4
  - Commitment ..... 4
  - Situational Analysis ..... 4
  - Actions ..... 5
    - Buildings ..... 5
    - Vehicle Fleet ..... 6
    - Procurement ..... 6
    - Waste ..... 6
- GREENHOUSE GAS REDUCTION PLANS ..... 7
  - Plans ..... 7
    - Buildings ..... 7
    - Vehicle Fleet ..... 7
    - Waste ..... 8
  - Other Sustainability Plans ..... 8
- NORTHERN HEALTH LEADERSHIP IN CLIMATE ACTION ..... 9
  - Climate Risk Management ..... 9
  - Figure 2. Adapted from WHO Operational Framework for Building Climate Resilient Health Systems. .... 9
- RESOURCES ..... 11

# EXECUTIVE SUMMARY



Many new conversations happened in 2021. Northern Health continued to adapt to the COVID-19 pandemic and started to plan for future management of pandemic response. We caught up with postponed surgeries and forged ahead with projects that were put on hold. The historical heat dome event at the end of June 2021 and the catastrophic November flooding that hit southern BC fueled conversations on what we were doing to respond to what the BC Government acknowledges as a climate crisis. In the Energy & Environmental Sustainability portfolio, more communication happened this year bridging conversations between population and public health, clinical operations, facilities, capital planning, finance, business development, and support services.

The focus of this Climate Change Accountability Report (CCAR) is to report on measurable actions that Northern Health is taking to reduce carbon emissions from buildings, paper, and fleet. In 2021, Northern Health released just over 22,000 tonnes of carbon emissions from our buildings, fleet, and paper consumption. This was an 11% reduction from 2020. We will pay \$560,000 in carbon offsets to meet our carbon neutrality obligations. In 2021, we initiated five major capital energy projects and a dozen small energy projects that will reduce carbon emissions by over 220 tonnes.

While Northern Health is making considerable progress in reducing carbon emissions, we recognize that this is only a portion of the actions needed to mitigate climate impact as fugitive emissions and embodied carbon should also be considered. Additionally, we acknowledge beyond the scope of this CCAR, the work that will be needed to prepare ourselves for future climate conditions and challenges. With the launch of BC's draft Climate Preparedness Adaptation Strategy mid-2021 (BC Ministry of Environment and Climate Change Strategy, 2021), Northern Health now has a framework to align our strategic actions and evaluate our ability to respond.

We are pleased to present our 2021 CCAR to communicate and foster important conversations about how Northern Health is striving to be better stewards of climate action. We remain committed to operational actions that will help mitigate climate change impacts and sustainable actions that promote healthy environments for future populations of Northern BC.

A handwritten signature in black ink that reads "Cathy Ulrich". The signature is written in a cursive, flowing style.

May 31, 2022  
Cathy Ulrich  
President and CEO, Northern Health

# RETIREMENT OF OFFSETS

In accordance with the *Climate Change Accountability Act* [S. 6(1)] (Queen’s Printer, 2007) and the *Carbon Neutral Government Regulation* [S. 7(1)] (Queen’s Printer, 2008), Northern Health (NH) is responsible for arranging the retirement of the offset obligation reported in Table 1 for the 2021 calendar year, along with any adjustments reported for past calendar years. The Ministry of Environment and Climate Change Strategy (the Ministry) ensures that these offsets are retired on NH’s behalf, and NH remunerates the Ministry at \$25 per tonne of offsets plus GST.

Effective January 1, 2021 the Climate Action Secretariat updated the electricity intensity emission factors (BC Ministry of Environment and Climate Change Strategy, 2022) used by Public Sector Organizations to better reflect emissions from electricity that is imported from out of province. The adjustment recorded in Table 1, reflects the change to the 2020 data that was reported before the finalized change.

**Table 1. Northern Health 2021 Emissions and Offset Summary Table**

Northern Health 2021 GHG Emissions and Offset Summary		
Total emissions	21,985	tCO <sub>2</sub> e
Total bioCO <sub>2</sub>	29	tCO <sub>2</sub> e
Total offsets	21,956	tCO <sub>2</sub> e
Offsets adjustment	379	tCO <sub>2</sub> e
Grand total offset to be retired for the 2021 reporting year	22,335	tCO <sub>2</sub> e
<b>Offset investment (\$25 per tCO<sub>2</sub>e + GST)</b>	<b>\$558,375</b>	



Photo credit: Elle Ambrosi, Nechako River.

# 2021 GREENHOUSE GAS EMISSIONS

Greenhouse gases (GHG) from various sources have been converted to metric tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e) for comparison. For this reason, GHG emissions are commonly referred to as carbon emissions. Figure 1 summarizes the breakdown of our 2021 carbon emissions by source. Our building emissions include emissions from stationary fuel combustion and electricity use. Examples of stationary fuel combustion are consumption of natural gas, propane, or diesel for space or water heating. Our total carbon emissions for 2021 was 21,956 tCO<sub>2</sub>e. Stationary fuel consumption accounted for 95% of our GHG emissions and electricity consumption contributed 3%. Vehicle fleet accounted for 4% of our GHG emissions and paper accounted for 1%.

**Figure 1. 2021 Northern Health GHG Emissions by Source.**

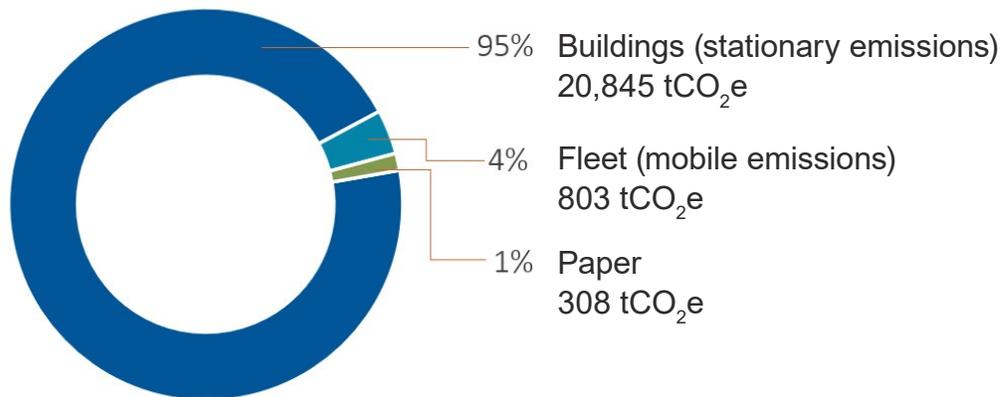


Photo credit: Ashley Ellerbeck, Hazelton.

# GREENHOUSE GAS REDUCTION ACTIONS

## COMMITMENT

Northern Health shows commitment towards greenhouse gas reduction and climate action through projects, programs, and allocation of human and fiscal resources. Each year, our Energy and Environmental Sustainability (E&ES) team collaborates across departments for a multi-disciplinary approach to our Strategic Energy Management Plan (SEMP). This SEMP details progress and actions in planning, resource allocation, and stakeholder engagement plans to work towards our carbon reduction targets. The SEMP is evaluated by a third party for its alignment in key focus areas such as commitment, situational analysis, and actions. The E&ES team also took a collaborative and multi-disciplinary approach to the development of this CCAR.

## SITUATIONAL ANALYSIS

Our organization is made up of approximately 7,000 health care professionals and support staff that provide care for about 300,000 people in the NH region. The NH region makes up almost two thirds of BC's land mass and is home to about 80 First Nations and Indigenous communities. Compared to 2020, we saw over a 10% increase in inpatient days and over a 16% increase in outpatient visits in 2021. Last year, we logged 207,800 inpatient days and 985,500 outpatient visits.

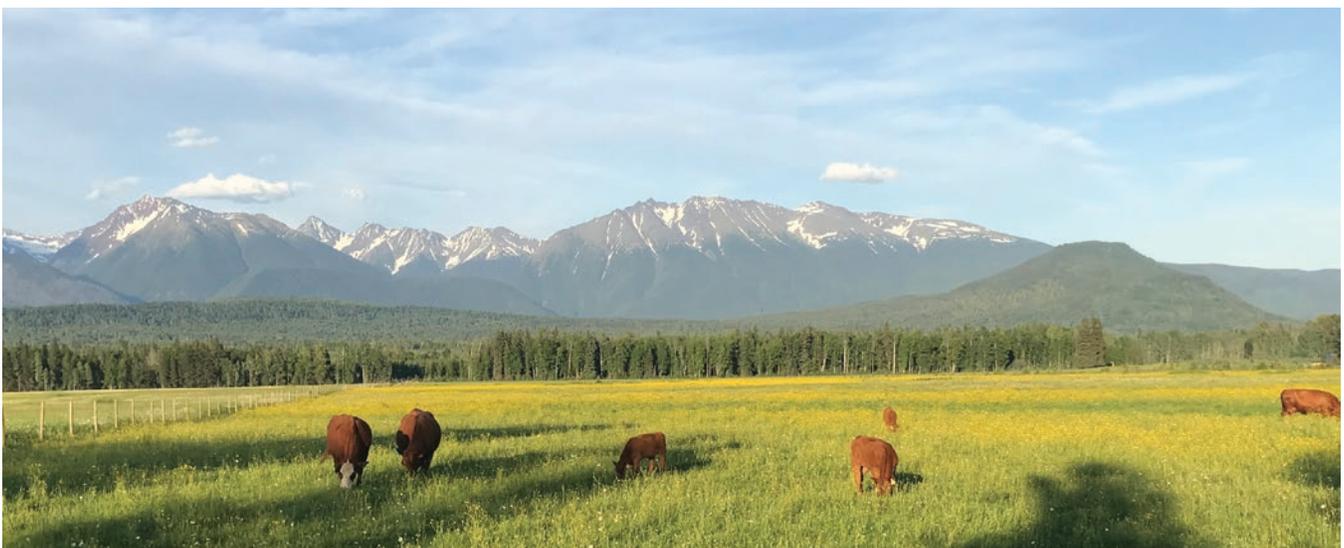


Photo credit: Yvonne de Boer, Kispiox Valley.

## ACTIONS

Three large sources of carbon emissions from our operations are from our buildings, our fleet, and our paper consumption. Focusing on these three sources of carbon emissions for emission reduction actions, will have the largest impact on our operating carbon footprint. As mentioned in our Commitment section above, our SEMP details our actions in more depth, as this CCAR serves as a high-level summary.

### Buildings

Northern Health currently owns and operates over 300,000 m<sup>2</sup> of clinic, acute care, and long-term care floor space. In 2021, we wrapped up six major capital energy projects and initiated another five major capital energy projects under the provincial Carbon Neutral Capital Program (CNCP). The six projects that were completed are estimated to save just under 400 tCO<sub>2</sub>e per year and the five projects that were initiated are estimated to save over 220 tCO<sub>2</sub>e per year. Examples of major capital energy projects that were carried out include high efficiency boiler upgrades, heat recovery, ventilation upgrades, and improvements to heating and ventilation controls.

In 2021, approximately 10% of our sites received minor energy retrofits such as controls improvements, lighting upgrades to LEDs, and introducing additives to heating systems to help transfer heat more efficiently. Approximately 8% of our sites received major or deep retrofits under the above mentioned CNCP program.

For new construction, NH has collaborated with the other health authorities and the Ministry of Health Capital Services Branch to publish two new chapters in the Health Capital Policy



Haida Gwaii Hospital and Health Centre.

Manual in 2021. Chapter 11 is titled Environmental Sustainability and LEED Gold Certification and addresses such requirements for new healthcare construction. Chapter 12 is titled Carbon Neutral and Climate Resilient Health Care Facilities and addresses such requirements of new healthcare builds. To help support Chapter 12, NH collaborated with the other health authorities to develop Climate Resilience Guidelines for BC Health Facility Planning and Design. No new buildings were completed in 2021, so there are no updates to our LEED Gold portfolio.

## Vehicle Fleet

Our fleet size increased by 13% as a response to external logistic and transportation business changes in Northern BC. During the COVID-19 pandemic, we had difficulties coordinating with many local ground carriers, which prompted Northern Health to establish an internal logistics department. Although we are reporting a 15% increase in fleet emissions for 2021 (803 tCO<sub>2</sub>e compared to 696 tCO<sub>2</sub>e in 2020), our reliance on external ground carriers has dropped by roughly 20%. It is speculated that the 2021 increase in fleet usage is largely attributable to a change in NH's logistics structure rather than increased staff travel, as many remote work and virtual meeting arrangements continued in 2021.

Our fleet now contains about 240 vehicles, one of which is fully electric. Fleet emissions contribute to just under 4% of our total carbon emissions.

## Procurement

Provincial Health Services Authority (PHSA) is responsible for managing a large portion of the supply chain for BC health authorities. We continue to support PHSA along with the other health authorities in embedding environmental criteria in their processes for future procurements. This initiative is known as Environmentally Preferable Purchasing and our goal is to implement formal processes in our Supply Chain to weigh products and services against environmental criteria. A working group was established within PHSA in 2021 to draft an ethical and environmental procurement policy along with a Supplier Code of Conduct. A draft policy is expected to be issued in 2022 followed by an implementation plan.

## Waste

In 2020, we initiated a sharps recycling program in over a dozen of our sites. From 10 months of data collected, we have diverted 14 tonnes of plastic from the landfill by using recyclable sharps containers. Since this is our first year of implementation, we believe further education and better selection of container sizes can improve our plastic diversion volumes. Our target when launching this program was to divert 17 tonnes of plastic from landfills annually, and we are on track to meet that goal.

NH has also partnered with Daniels Health to collect data on biomedical waste. This will enable future action to reduce the amount of waste that needs to be sterilized or incinerated, both of which are energy and carbon intensive processes.

# GREENHOUSE GAS REDUCTION PLANS

## PLANS

### Buildings

Northern Health will continue to audit our buildings to identify the most impactful energy projects that will contribute to carbon emission reductions. Examples of some projects that may be considered are heat recovery projects or building control upgrades to improve heating, ventilation, and cooling efficiency. At the same time, projects will be assessed for co-benefits such as improving quality of care, occupant comfort, air quality, and climate risk adaptation and resiliency. Northern Health will also be participating in a provincial health authority wide energy modeling exercise to evaluate the capital investment needed by the BC Health Sector to meet the CleanBC carbon emission reduction targets.

For our new builds and business cases, we are working with the other health authorities and the Ministry of Health Capital Services Branch to further adapt the new Capital Policy Manual Chapters 11 Environmental Sustainability and LEED Gold Certification and 12 Carbon Neutral and Climate Resilient Health Care Facilities that were published in 2021. The purpose of these new chapters is to ensure new builds evaluate climate action criteria in their business plans and design. Northern Health will also continue collaborating with other health authorities to improve and implement the Climate Resilience Guidelines for BC Health Facility Planning and Design to help new construction projects meet the new Climate Resilient Health requirements as listed above.

### Vehicle Fleet

Options are being strategically explored to reduce the carbon emissions of our fleet and add more infrastructure to our facilities to support fleet electrification. As funding comes available, fleet assessments and charging infrastructure feasibility studies will be carried out. As fleet vehicles retire, zero emission vehicles will be considered.



Fort St. John Hospital.

## Waste

The biomedical waste data we collected with Daniels Health from 2021 will enable us to:

- Improve use of biomedical waste bins
- Reduce general waste in biomedical waste streams

It was observed that many biomedical bins slated for sterilization or incineration were half full or less. By ensuring that we select the right containers, we can improve fill rates. This helps avoid added costs and carbon emissions associated with sterilizing or incinerating partially full containers. A second opportunity for improvement is to audit the type of waste that ends up for biomedical disposal. Additional carbon and cost savings could be realized if we keep general waste from getting mixed in with biomedical waste.

## OTHER SUSTAINABILITY PLANS

Going forward, we would like to expand our Green Working Group initiatives to more regional levels. The Green Working Groups enable internal teams, including physicians, support staff and facilities maintenance to collaborate and identify opportunities to either reduce, recycle, or sustainably handle waste at our facilities. An example of an initiative that is in progress with the UHNBC Green Working Group is bringing awareness to the greenhouse gas emissions released from anesthetic gas use. Opportunities exist to manage what anesthetics are used and what alternatives exist with a consideration to environmental impact.



Photo credit: Darren Smit, Prince George.

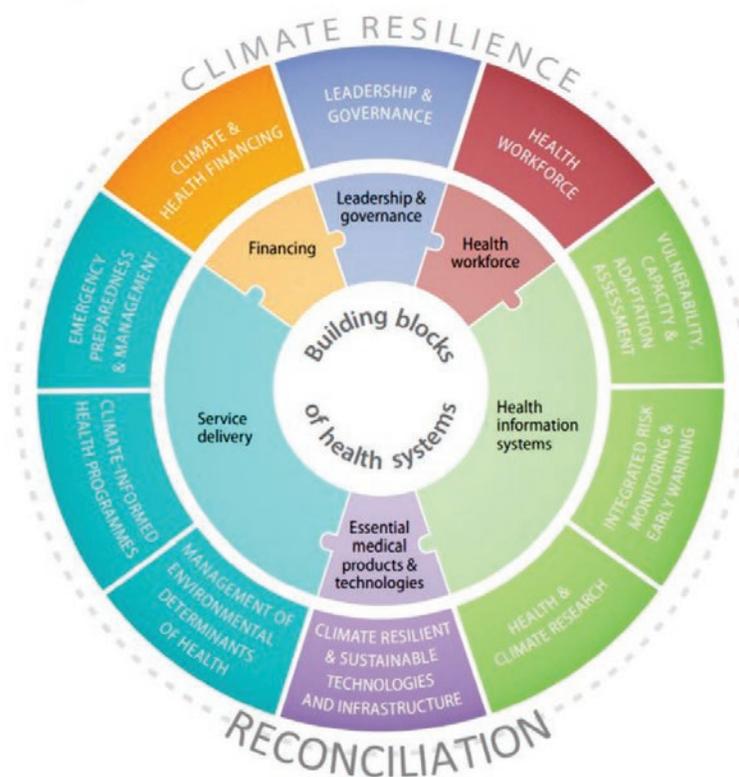
# NORTHERN HEALTH LEADERSHIP IN CLIMATE ACTION

## CLIMATE RISK MANAGEMENT

Northern Health collaborates with other BC Health Authorities and government ministries on the provincial and federal level to address climate risk to healthcare. We now have a framework to align efforts with our health sector colleagues under the launch of the BC Government draft Climate Preparedness and Adaptation Strategy (CPAS) (BC Ministry of Environment and Climate Change Strategy, 2021). Health sector phase 1 work under the CPAS consisted of a Baselines Assessment and has been completed. This assessment surveyed health organization across BC in areas identified by the WHO framework for building resilient health systems as shown in Figure 2 (World Health Organization, 2015). Northern Health's Energy and Environmental team and Population and Public Health team worked together to align Northern Health priorities when responding to this survey.

Health sector Phase 2 work under the CPAS proposes budget development and identifying key focus areas.

**Figure 2. Adapted from WHO Operational Framework for Building Climate Resilient Health Systems.**



Other initiatives undertaken by Northern Health in response to climate risk management include:

- UNBC Health Promotion Course Student Projects, which includes a climate change website review, extreme heat messaging for rural communities, and a pilot community survey regarding climate resiliency.
- XDI pilot collaboration between health authorities and the Ministry of Health to model and assign climate risk values to assets.
- Onboarding a Climate Change and Health Internship Student with the Pacific Institute for Climate Solutions.
- Applying for seed funding which seeks to inform future research and strategic planning for NH to begin targeted climate change adaptation supported by researchers at the PHSA and UNBC.
- Inclusion of a climate change section in our NH Environmental Scan.
- Increased Climate Change communications and presentations to NH Population and Public Health
- Participation with the BC Health and Smoke Exposure Coordination Committee
- Collaboration with other health authorities and the Ministry of Health Capital Services Branch to update the Health Capital Policy Manual to include chapters on:
  - Environmental Sustainability and LEED Gold
  - Carbon Neutral and Climate Resilient Health
- Collaboration with other health authorities to develop the Climate Resilience Guidelines for BC Health Facility Planning and Design to help new construction projects meet the new Climate Resilient Health requirements as listed above.

# RESOURCES

BC Ministry of Environment and Climate Change Strategy. (2022). **Electricity emission intensity factors for grid-connected entities**. Retrieved from <https://www2.gov.bc.ca/gov/content/environment/climate-change/industry/reporting/quantify/electricity>

BC Ministry of Environment and Climate Change Strategy. (2021). **Climate preparedness and adaptation**. Retrieved from <https://www2.gov.bc.ca/gov/content/environment/climate-change/adaptation>

Queen's Printer. (2008). **Carbon Neutral Government Regulation**. Retrieved from BC Laws: [https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/392\\_2008#section7](https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/392_2008#section7)

Queen's Printer. (2007). **Climate Change Accountability Act**. Retrieved from BC Laws: [https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/07042\\_01](https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/07042_01)

World Health Organization. (2015). **Operational framework for building climate resilient health systems**. Retrieved from World Health Organization <https://www.who.int/publications/item/9789241565073>



Photo credit: Elle Ambrossi, Dawson Creek.



**northern health**  
*the northern way of caring*



#HealthyNorth

[northernhealth.ca](http://northernhealth.ca)



**northern health**  
*the northern way of caring*



#HealthyNorth

[northernhealth.ca](http://northernhealth.ca)