

2016 Carbon Neutral Action Report

Executive Summary

Northern Health is pleased to submit our 2016 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 2016-2017 fiscal year, Northern Health implemented energy conservation projects at two facilities, with expected overall energy savings of 3% annually.

Significant opportunities have been identified through a pre-feasibility energy study conducted in late 2016 at the University Hospital of Northern BC in Prince George. Savings from the anticipated projects over a two-year period indicate overall energy savings of up to 25% for the hospital, which represents 6% of the entire energy use for the organization.

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

Projects have been done at more than twenty facilities over the last eight years, including remote sites such as the one in Dease Lake. Savings from a boiler project completed in 2015 at that facility have been verified as reducing actual propane consumption (and thus GHG emissions) by 50%.

As we move forward into 2017 and beyond, we're continuing our efforts to identify the best available opportunities to reduce carbon emissions. 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

2016 Greenhouse Gas Emissions

Heating, lighting, ventilation and other building operations necessary to maintain a healthy patient and workplace environment resulted in the emission of 20,027 tonnes of carbon and carbon equivalents into the atmosphere.

Paper consumption resulted in an additional release of 349 tonnes of carbon equivalent emissions.

Fleet vehicles resulted in an additional release of 729 tonnes of carbon equivalent emissions.

In total, Northern Health had a measured carbon footprint of 21,105 tonnes for the delivery of quality healthcare in the most challenging climate in the Province.

Offsets Applied to Become Carbon Neutral in 2016

NHA's total carbon footprint for 2016 was 21,105 tonnes, 21,081 of which are offsettable. Northern Health purchased 21,081 tonnes of carbon offsets to counter the emissions identified above, thereby achieving carbon neutrality in accordance with government legislation

Twenty-four tonnes CO₂e of emissions resulting from the combustion of bio-fuel were reported as part of our emissions profile in 2016. 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 2016 to reduce carbon emissions from its operations. This is a strategic process which began in 2008, with additional opportunities already identified through 2018-2019 which will utilize the annual Carbon Neutral Capital Program funding.

Actions Taken to Reduce Greenhouse Gas Emissions in 2016

Important initiatives in 2016 included improvements to heating boiler systems and related controls, as well as upgrading heating valve coils. These projects will result in carbon emissions reductions of 3% for the entire organization.

Plans to Continue Reducing Greenhouse Gas Emissions in 2017

In 2017-2018 and 2018-2019, Northern Health is planning for significant improvements at the University Hospital of Northern BC. The capital investment represented in these opportunities is expected to exceed \$2 million.

In the summer of 2017, replacement of end-of-life grooved couplings in the hot water loop will be done. This crucial project will ultimately reduce on-going maintenance costs, and enable the operation of the boiler system at a lower temperature, which will reduce energy use. Once the couplings are all replaced, retro-commissioning of other systems in the building can be performed, resulting in additional natural gas and electricity savings.

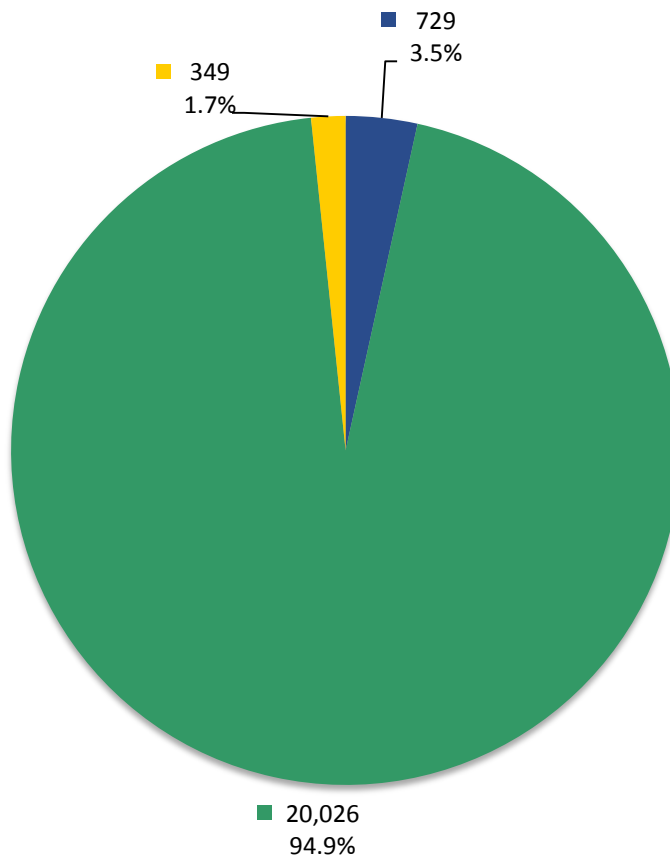
Looking at 2018-2019, there is a significant heat recovery opportunity, which will see large reductions in natural gas consumption – 20,000 GJ or more are indicated.

Funding for these opportunities is being provided through the Carbon Neutral Capital Program. Carbon emissions are anticipated to be reduced by 6% once these opportunities are fully implemented by the end of 2018-2019.

Capital investments made at facilities to improve energy performance over the last eight years are resulting in annual cost savings of more than \$1 million. These projects have helped reduce our overall carbon emissions by 15% since 2011, even despite an increase in the total floor area that Northern Health operates.

Northern Health continues to receive support from our utility partners at FortisBC and BC Hydro, who provide funding for personnel, programs and projects. In addition, in 2016, we expanded our capacity to manage facilities through the hiring of two additional managers to work alongside the Director of Facility Maintenance, Energy and Environmental Sustainability.

Northern Health Authority Greenhouse Gas Emissions by Source for the 2016 Calendar Year (tCO₂e*)



Total Emissions: 21,105

- 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 16, 2017 9:33 AM)

Total offsets required: **21,081**. Total offset investment: **\$527,025**. Emissions which do not require offsets: **24** **

*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

Part One (external)

Contact Name(s):

Ken Van Aalst; Keith Hebert

Organization Name:

Northern Health Authority

Please select your sector:

- Health Authority or Affiliate

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

- Conducted an energy audit/study of building(s) in the organization's portfolio
- Performed energy retrofits of the organization's buildings.: Two facilities had energy conservation projects implemented

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

Northern Health is continuing to have energy studies carried out at selected facilities in order to identify energy conservation projects, and has high level plans for the next two fiscal years.

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

Yes

If yes, please describe briefly:

Northern Health has had a BC Hydro partially funded Energy Manager and a FortisBC fully funded Energy Specialist for the previous seven years.

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

(No response)

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

n/a

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

(No response)

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

n/a

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)