



Interior Health

2018 Carbon Neutral Action Report



Interior Health
Every person matters

2018 CARBON NEUTRAL ACTION REPORT |

Message from the CEO

At Interior Health (IH), we understand the connection between environmental health and public health – and that our shared commitment to a healthier environment ensures that patients and their families, health-care providers, and communities continue to thrive. This means incorporating environmentally-conscious practices in our operations. To do this, we have been fostering a culture that supports changes in behaviours and processes, which helps to minimize the impact our operations have on the environment.

Although there is still much to do, we are making progress on our energy use by reducing our waste and our reliance on transportation to move patients, care providers, and supplies. We have programs and initiatives underway that have shown a way forward. We continue to build strategic partnerships and opportunities to help us succeed and adapt to current and future challenges. Our partnerships with utility providers and our supply chain help us to improve our energy use and the products we use. As well, we collaborate with government ministries to develop strong policies through B.C.'s new climate plan to support changes in organizations like ours.

I am pleased to share with you our 2018 Carbon Neutral Action Report, which takes stock of our progress and some of the projects that are making an impact across our organization. We know our responsibility to the environment is a journey, not a fixed destination, and we look forward to continuing to make positive changes on behalf of our patients, clients, employees, and communities. A healthy environment helps to improve the well-being of those we serve, now and into the future.



Susan Brown, President and Chief Executive Officer



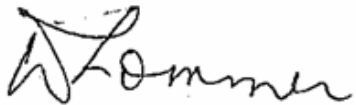
Message from the Executive Sponsor

Our role in meeting the health-care needs of our communities includes efficient stewardship of the environment. We recognize we have a role to lower our environmental footprint to both protect the world around us, as well as human health.

Interior Health tracks, measures, and reports on our environmental impact, so that we can continually examine how to improve and then share our learnings. In 2018, we began to take a more proactive approach in identifying and understanding climate risks to our organization, recognizing that annual average temperatures are expected to increase in British Columbia in years to come.

With energy used in our buildings accounting for almost 95 per cent of our greenhouse gas emissions profile, the quest for improvement is ongoing. We are always looking for opportunities to ensure our capital upgrades consider energy and environmental impacts, and that these upgrades are as energy efficient as possible. Responsible management of our facilities – which includes implementing energy use and carbon intensity improvements, improving our supply chain, and encouraging leadership and employee engagement – continue to be a focus across IH.

We are proud of the ongoing improvements we are making across our operations. This report emphasizes our commitment to environmental stewardship and our greenhouse gas reduction achievements toward a more sustainable future.



Donna Lommer, Vice President, Support Services & Chief Financial Officer



Declaration Statement

The Interior Health (IH) Carbon Neutral Action Report for the period of January 1 to December 31, 2018 summarizes our emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2018 to reduce our greenhouse gas (GHG) emissions, and our plans to continue reducing emissions in 2018 and beyond.

By June 30, 2019, the IH Carbon Neutral Action Report will be posted on our public website at www.interiorhealth.ca.

Following the emissions overview section, a detailed report provides additional information on emissions and actions taken to reduce emissions from our facilities.

2018 Total IH Emissions and Offsets Summary

GHG Emissions created in Calendar Year tCO ₂ e*	
Total Emissions*	41822
Total Offsets*	41772
Adjustments to GHG Emissions Reported in Prior Years	
Total Emissions*	- 3
Total Offsets*	- 3
Grand Total Offsets for the 2018 Reporting Year (from SMARTTool Homepage):	
Grand Total Offsets*	41769



May 27, 2019

Susan Brown, President and CEO

The logic behind carbon offsetting

A carbon offset represents a reduction in GHG emissions that can be used to compensate for, or offset, emissions from other sources.

Through the Carbon Neutral Government, B.C. invests in carbon offset projects and each offset project reduces or sequesters GHGs.

Offsetting is all about balance; because our atmosphere is like an ocean of gases, a reduction in carbon emissions at any one location benefits the whole system.

Retirement of Offsets: In accordance with the requirements of the *Greenhouse Gas Reductions Targets Act* and the Carbon Neutral Government Regulation, Interior 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 the past calendar years. The Organization hereby agrees that, in exchange for the Ministry of Environment ensuring that these offsets are retired on the Organization's behalf, the Organization will pay 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.

**tonnes in carbon dioxide equivalent*

About this report

The Carbon Neutral Action Report is an annual report in which Interior Health, as a Public Sector Organization (PSO), discloses details related to our achievement of carbon neutrality and captures how we measure our climate impact as well as our efforts to improve. We are always striving to improve because legislation requires us to do so, but also because this commitment aligns with our vision, mission and values.

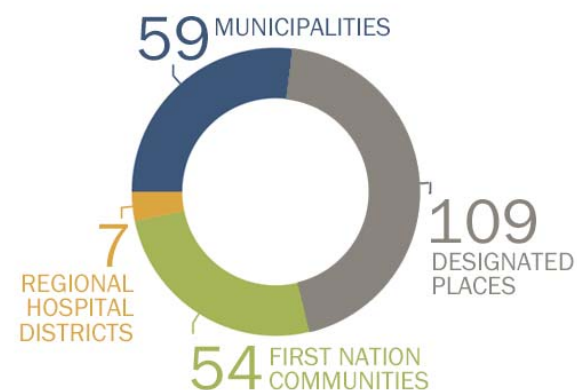
Interior Health

Who We Serve

Interior Health (IH) was established as one of the five geographically-based health authorities in 2001 by the Government of British Columbia. It is responsible for ensuring publicly-funded health services are provided to over 750,000 residents of the southern interior region of B.C. IH covers a very large and geographically diverse area of over 215,000 square kilometres, with some of the more rural, remote areas of the province and also some of the fastest growing urban centres.

What We Do

IH is responsible for providing services spanning population health, Aboriginal health and well-being, primary health care and chronic disease management, home and community care, long-term care, mental health, substance use, and acute care services. As well, we are responsible for clinical and administrative support services, including diagnostic services, information management/ information technology, research and education, and public communication.



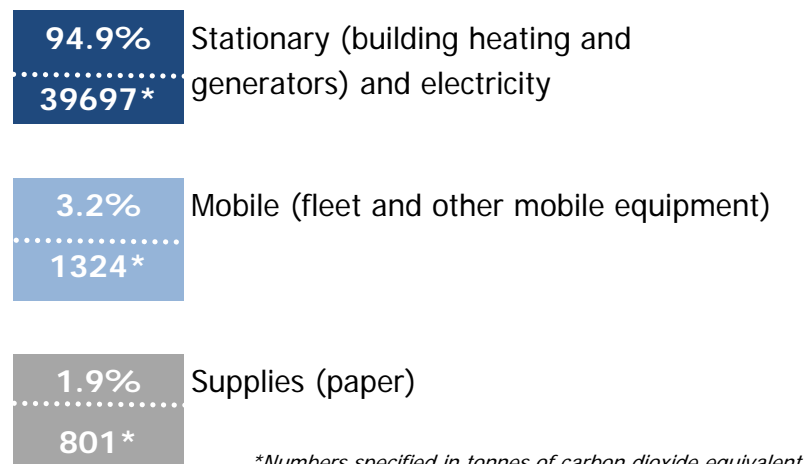
Our CO₂ Footprint

Each year, IH reports on its greenhouse gas emissions from operations to achieve the government's carbon neutral commitment. B.C. public sector organizations participate in the provincial government carbon neutral program under the *Climate Change Accountability Act* through the B.C. Climate Action Secretariat. Reportable emissions are based on three categories:

1. buildings energy use (stationary combustion and purchased energy);
2. fleet emissions (mobile combustion); and
3. paper use (supplies).

GHG Emissions by Source

The following greenhouse gas emissions have been quantified using the BC Provincial Government's SMARTTool Reporting Framework.



**Numbers specified in tonnes of carbon dioxide equivalent*

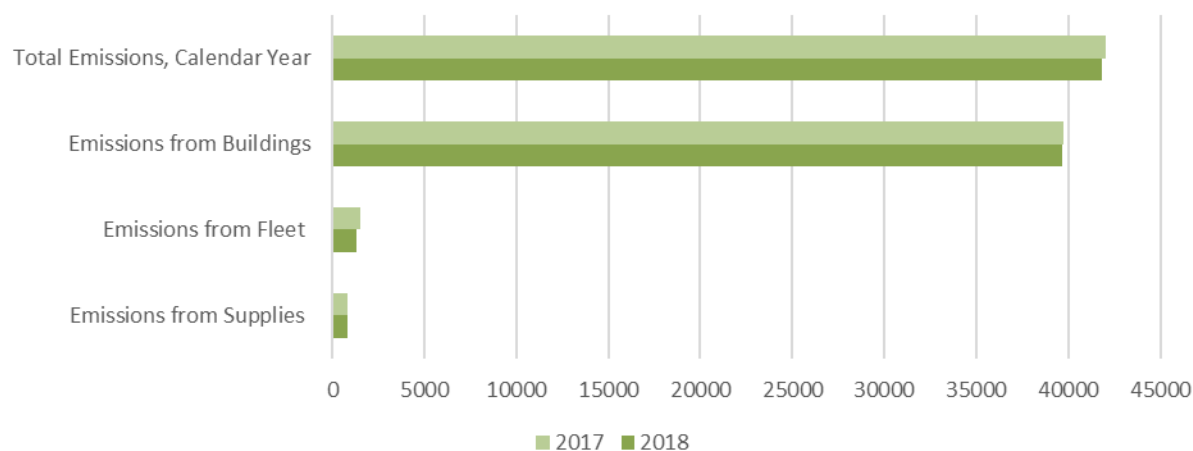
Total Emissions	2017*	2018*	% Change
Emissions from Buildings	39707	39697	decrease of 0.05%
Emissions from Fleet	1508	1324	decrease of 12%
Emissions from Supplies	795	801	increase of 0.7%
Total Emissions, Calendar Year	42011	41822	decrease of 0.4%
Total for Offsets	41955	41772	decrease of 0.4%

** tonnes in carbon dioxide equivalent*

Our Current CO₂ Footprint

In 2018, IH's total carbon emissions were 41822 tonnes of carbon dioxide equivalent (tCO₂e). Of the 41822 tCO₂e*, 50 tCO₂e were considered offset exempt. To become carbon neutral in 2018, IH purchased carbon offsets for 41772 tCO₂e at a total cost of \$1,044,300.

Reportable Sources: Total GHG Emissions - 2017 & 2018



Total GHG emissions and offsets decreased 0.4% in 2018 compared to 2017

In 2018, we reduced our emissions and offsets because:

- Energy conservation projects were implemented—significant savings were observed in a number of our sites where we implemented energy conservation projects with funding received from the Carbon Neutral Capital Program, and;
- Equipment loads and associated heating inefficiencies were reduced—we changed our laundry operations, reducing direct heating loads and overall temperatures in our heating plants, creating significant reductions in our largest sites.

Our CO₂ Footprint—Through the Years

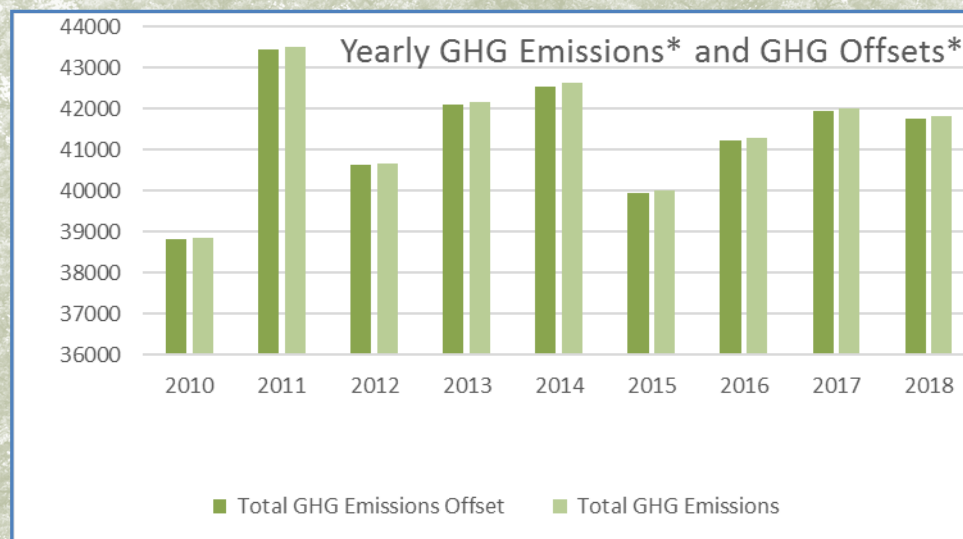
2010- First year of reporting with new software; Very mild climate in 2010. Opening of UBC Clinical Academic Campus (Kelowna General Hospital).

2018—Significant savings observed in a number of sites with energy conservation projects implemented in years past. Reduction in equipment loads and associated heating inefficiencies.

2017- Overall floor space at Vernon Jubilee Hospital increased by 4% compared to 2016, with more floors opening. Overall colder temperatures in 2017 compared to 2016.

2016- Opening of the Clinical Services Building at Royal Inland Hospital, adding 5,200 square meters. Opening of Interior Heart and Surgical Centre at Kelowna General Hospital, adding over 14,000 square meters. December 2016 significantly colder than December 2015, increased use of natural gas with higher GHG conversion factors.

2011- Opening of Vernon Jubilee Hospital and additional 21,460 square meters added. Cooler than normal temperatures across BC in winter.



2015—Milder weather in 2015 compared to 2014. Propane use eliminated at Queen Victoria Hospital in Revelstoke. Implementation of a number of building automation systems. Reduced number of facilities due to lease amalgamations. Results from energy efficiency projects realized.

2012- Opening of Dr. Walter Anderson Building and Centennial Building at Kelowna General Hospital—over 7850 square meters added. Deconstruction of Pandosy Building. Significant energy efficiency upgrades in the Kootenays and South Okanagan facilities. Very mild winter temperatures with less heating load than 2012.

2013- initiation of 10 energy retrofit projects along with boiler combustion analyses to identify boiler management improvements in subsequent years.

2014- More leased spaces reported in 2014 compared to 2013. 2014 was warmer compared to 30-year average requiring more energy to cool facilities. Slight increase in full-time employees (indirect link to energy consumption).

First B.C. health-care facility to install a biomass boiler

Lillooet and District Hospital

Combustion of propane creates a higher level of greenhouse gas emission potential compared to natural gas.

To continue reducing our emissions, IH secured funding to replace an end-of-life propane boiler with a wood pellet biomass boiler.

*380 tCO2 equivalent per year emissions savings
\$124,000 operating savings
6,200 GJ of propane combustion offset by switching
to wood pellets*



Actions to Reduce Our CO2 Footprint

Energy

Penticton Regional Hospital

Investing in energy efficiency early in a new building's life cycle is key. Supported by Fortis BC through a new construction pilot program, the new patient care tower in Penticton enabled a number of energy efficient opportunities.

The tower includes a heat recovery chiller, which allows recovered heat to be redirected to various heating applications, saving energy while maintaining thermal comfort conditions. As well, condensing boilers have been installed, achieving high efficiency by condensing water vapour in the exhaust gases and recovering latent heat, which otherwise would have been wasted. Additionally, a thermal wheel (or heat recovery wheel) will recover other heat energy; and the building envelope ensures energy is not wasted through installation of high performance windows along with added wall and roof insulation.

360 tCO2 equivalent per year emissions savings

\$215,000 per year energy cost savings

1,600,000 kWh per year electrical savings and

7,200 GJ per year natural gas savings

22% more efficient compared to the ASHRAE 90.1 standard

1st combined Fortis BC (gas and electricity) New Construction project



Actions Taken to Reduce our CO2 Footprint

Energy

Cottonwoods Care Centre – Kelowna

Standard energy efficiency measures are not always sufficient for our specialized buildings. With support from Fortis BC (electrical and gas divisions), a number of facility-wide optimization projects were implemented to include:

- control upgrades enabling temperature setbacks and fan shutdowns;
- variable frequency drive installations to reduce fan energy use and hot and cold water temperature resets to reduce loads on boilers and chillers;
- LED upgrades of existing T8, CFL and halogen lamps; and
- a new building automation system with an integrated fault detection feature in the software to provide better feedback to staff to ensure improved maintenance and energy efficiency.

155 tCO2 equivalent per year emissions savings
\$70,000 per year energy cost savings
3,100 GJ per year natural gas and 688,000 kWh per year electricity savings
Fortis BC incentives totalling \$96,000

Actions Taken to Reduce our CO2 Footprint

Energy

Optimizing Technology – Saving Energy through Infrastructure Changes

Adding more information technology hardware to ensure our IMIT infrastructure remains responsive and robust usually means more energy use. Even though the number of data servers increased by 10 per cent annually at our data centres, energy use in the same building decreased by 6 per cent since 2014. The initiative involved using a number of approaches and technologies, including: server virtualization technology, which also reduces power use; converging server infrastructure, which means less space and less equipment, thereby lowering energy use; and ensuring the right equipment was used to meet the needs.

**Energy consumption decrease of 6% since 2014
despite increased number of servers.**

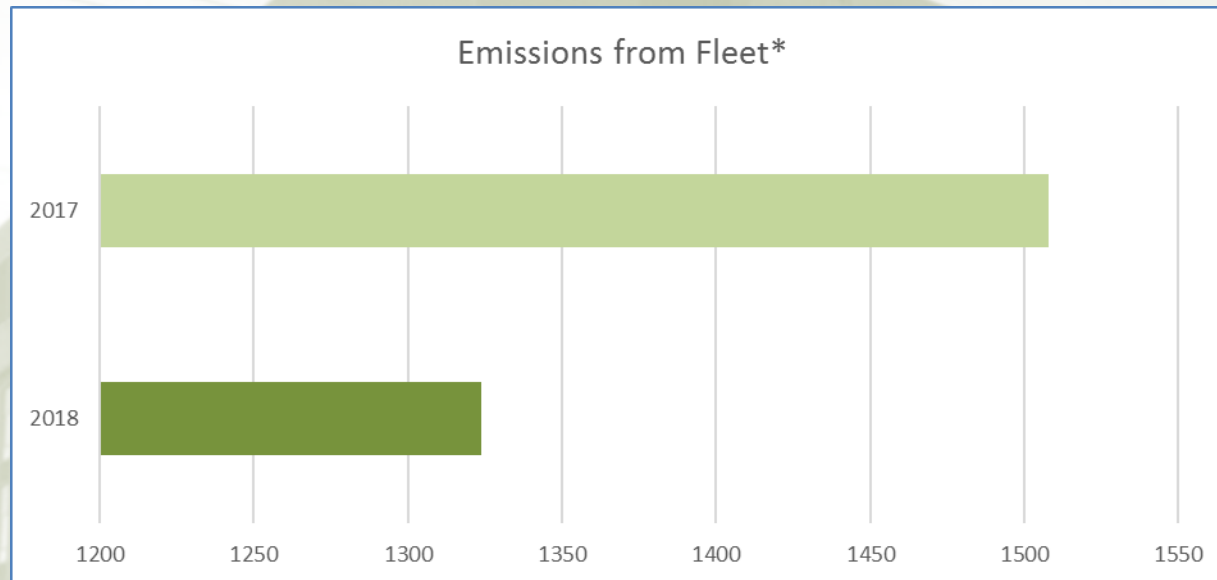
Energy Efficiency Recognition

Fortis BC recognized IH for our long-term commitment and leadership in energy efficiency. IH has optimized many of its facilities with LED lighting, new heating and hot water boiler controls, heating and cooling systems upgrades, as well as new building management control panels.



Actions to Reduce Our CO2 Footprint

Fleet



**tonnes in carbon dioxide equivalent*



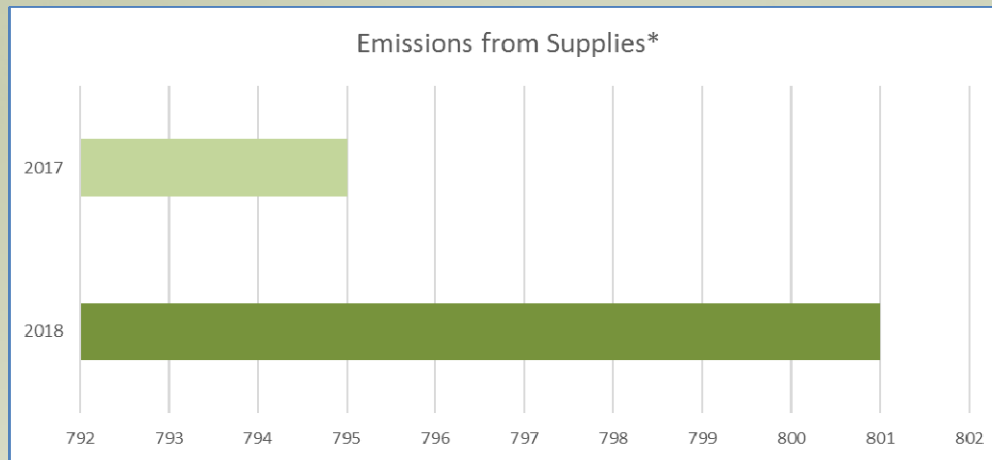
12% decrease in fleet emissions in 2018 compared to 2017

With our expansive service delivery area, fleet vehicles are used to deliver services. Compared with other transportation methods, such as air, it is a lower carbon option. Often, web technologies such as Skype for Business, the Telehealth platform, and WebEx are promoted as a means to reduce fleet vehicle use whenever possible.

To support a low-carbon economy, IH is exploring the feasibility of incorporating zero-emission vehicles, such as electric vehicles, in the future fleet. When realized, switching to electric vehicles will contribute to reducing the emissions from our fleet vehicles. Program management exercises include an annual review to identify any under-utilized vehicles appropriate for relocation or removal from the fleet inventory. As well, employees are encouraged to carpool as much as possible when using fleet vehicles.

Actions to Reduce Our CO2 Footprint

Supplies



0.7% increase in emissions from our paper use in 2018 compared to 2017

IH continues to work with our supply chain to identify cost-effective alternative paper sources, such as sugar sheet or wheat sheet. Departments responsible for corporate printing have made the switch to sugar and wheat sheet paper particularly for printing brochures, forms, and business cards. The move toward electronic platforms also continues across IH, which is expected to further reduce paper use and identify efficiencies in processes. Simpler actions like duplex-printing, paperless meetings, and technology use (e.g., WebEx, Skype for Business, and other on-line platforms) contribute to minimizing paper use as well. Paper use accounts for a small fraction of our overall emissions, but projects which reduce paper use are always explored and encouraged.



Since 2014, printing of our corporate business cards, brochures, forms, etc. using a combination of sugar sheet and wheat sheet paper has saved the equivalent of 4262 trees or the same as 254 tCO₂e*.

**tonnes in carbon dioxide equivalent*

Actions to Reduce Our CO2 Footprint

Recycling and Waste Diversion

Wherever possible, if the commercial and municipal recycling infrastructure exists, we recycle multiple waste streams – plastics, refundable bottles, paper, cardboard, and yard waste. Organics (or food waste) is recycled at two sites and Styrofoam in some select facilities.

Spotlight on Shuswap Lake Hospital – Salmon Arm

When patients are admitted for surgery at Shuswap Lake Hospital, they need a receptacle to store their clothes and belongings. Previously, plastic bags were used, but were not recyclable. A cost-benefit analysis was completed and a decision was made to switch to paper bags. Since the initiative was advertised, multiple other departments across IH facilities have conducted similar analysis in order to decide if their departments can also make the switch.

In 2018, we diverted approximately 36% of our materials at owned sites from the landfill, similar to 2017.

In 2018, we recycled slightly more batteries than in 2017 – the equivalent of 1,047 kg of used batteries and 38 cell phones.

Actions to Reduce Our CO2 Footprint

Moving sustainability forward

By embedding sustainability principles and practices into our every day, we are improving our environmental footprint and financial health, as well as focusing our resources where they are needed most – on patient and client care. Our philosophy toward environmental sustainability at IH is that everyone has a role to play in making a positive impact on our environmental footprint.

For that reason, we continue to encourage our Sustainability Associates program to bring forward grassroots ideas for making changes at the local level.

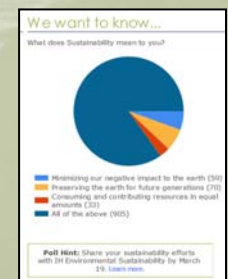
Climate change adaptation planning

In an effort to build capacity and knowledge across departments, IH conducted a vulnerability assessment at one site to understand risks and their impacts resulting from future predicted climate such as changing temperatures and extreme heat, forest fires, flooding, and changes to precipitation.



Communicating with our employees

Regular articles in our employee newsletter and employee polls to gauge perspectives and interests are some ways we are ensuring our organization moves forward together on environmental sustainability.



Actions to Reduce Our CO2 Footprint

Improving Lab Specimen Shipping – Reusable

The Laboratory Quality Team initially sought to improve their shipping system to ensure patient samples reach testing facilities quickly. During the process improvements, this team also made the switch to reusable totes.

Program areas leading the way

Local Food – First Health Authority in BC

Improving Services for Families
Buying local helps prevent GHG emissions from food transport. Interior Health is the first health authority in BC to meet a goal of 30 per cent of local food served in our facilities.

Other Options to Fleet Cars to Deliver Services

Client outreach using City of Kelowna's Bike Share Program – reduces fleet vehicle use and provides flexibility to staff to reach clients resulting in better client relationships.

Actions to Reduce our CO2 Footprint

More actions making a difference

Saying goodbye to waste

Simple solutions, which are usually process improvements initiated by staff throughout our organization, identify ideas for reducing our waste. A group of staff at one facility put a process in place to inventory wound care supplies to limit unnecessary ordering, thereby **reducing waste sent to landfill** because a product expired.



Less food waste to the landfill—at the Community Health & Services in Kelowna, employees diverted over 50 metric tonnes of organics (food waste) from the landfill. This diversion is equivalent to the same greenhouse gas emissions emitted by the trash of 50 homes in one year.



Lean@Work – Growing Expertise in LEAN Management

LEAN usually helps the environment without intending to because more efficient use means **less energy and raw materials being consumed, less material emitted to air and water, and less solid/hazardous waste generated.**



Participation in 2018 Bike to Work Week

One employee changed things up and swam to work instead of biking – 25 minutes one-way without traffic, **just him and the fish.**

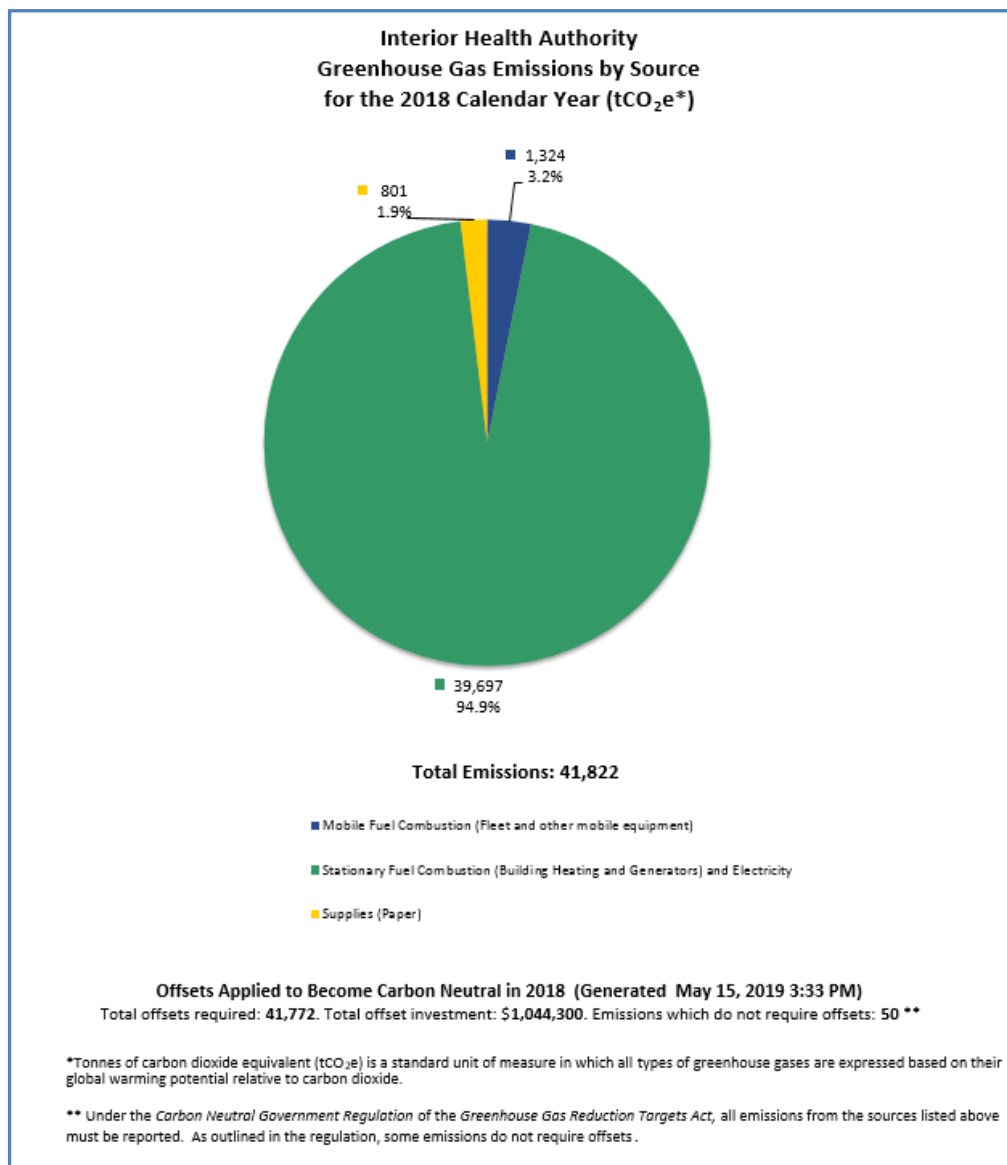


Less paper use in Vernon Jubilee Hospital's Pharmacy Department

A simple process change resulted in **less paper printed.** The VJH Pharmacy team worked with our IMIT department to create a secure inbox where clinical follow-up items are communicated to staff; it limited paper use while ensuring seamless patient care.

Emissions Source Report (SMARTTool) - May 15, 2019

The following chart is a copy of the Emissions Source Report generated from SMARTTool on May 15, 2019 and a requirement for reporting.



Carbon Neutral Action Survey

The following pages contain a copy of the Carbon Neutral Action Report survey originally submitted to the Ministry of Environment and a requirement of reporting.

CARBON NEUTRAL ACTION REPORT SURVEY – BROADER PUBLIC SECTOR 2018 X

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
☐ No

If yes above, what are the main goals?

Existing Buildings:

For existing buildings, energy conservation projects with available funding from CNCP, utility incentives, capital and operating funds are pursued. Prioritization is given to projects with the best utility cost savings, emission reductions opportunities, along with aged infrastructure replacement. The funding from CNCP represents the most significant mechanism to direct reductions. A significant factor for prioritizing the past and future CNCP projects has been the cost of fuel. Propane supplied to our facilities ranges in cost from \$18 to \$29 per GJ, which is three to four times the cost of natural gas. Combustion of propane creates a higher level of greenhouse gas emission potential compared to natural gas. At Golden and Lillooet Hospital, we have developed positive business cases to move forward with two biomass boiler projects. However, for the remaining sites with lower propane consumption the cost to convert to biomass will likely be prohibitive. Therefore, remaining propane sites have been planned as electrification opportunities.

As well, retro-commissioning existing buildings are another significant component of our plan. A pilot retro-commissioning project was completed at Boundary Hospital (Grand Forks) in 2016. The results of this pilot reduced natural gas consumption by 12.5% and electricity usage by 14%. Overall, this combined to an annual savings of \$41,300.

New Construction:

Designing and constructing our new facilities with energy efficiency is essential to ensuring low impact and low cost health care to our service population. IH is incorporating energy management principles throughout the various phases of our new construction projects. Four new construction projects have been identified as priorities: 1) Penticton Regional Hospital, 2) Royal Inland Hospital (Kamloops), 3) Kootenay Boundary Regional Hospital (Trail), 4) Cariboo Memorial Hospital (Williams Lake).

In working through these projects, IH has directed energy performance standards to support adoption of energy efficiency in the design. Our intent is to ensure new health care infrastructure is fiscally responsible, energy efficient and built to the highest standard of human & environmental health. All four new construction projects will take part in BC Hydro and FortisBC New Construction program offerings.

Engagement

Effecting change through creating a culture around energy conservation is essential to an effective program on energy management of our buildings (stationary sources). The goal of our engagement strategy is to ensure all key stakeholders (internal & external) are both informed and engaged in energy conservation. In addition, our focus for growth in engagement includes the following three objectives for 2019:

- Creation of a formal engagement program for Plant Managers.
- Integrate staff engagement through BC Hydro's Energy Wise Network and in collaboration with IH Sustainability Associates.
- Improve Energy and Environmental Sustainability program direction through Senior Leadership questionnaires.

In order to achieve sustained energy savings in our facilities, our Plant Managers will be engaged in the process of continuous optimization of our building controls and technology. This engagement occurs through quarterly energy meetings with each Plant Manager to both share critical energy information and better understand the unique opportunities at each facility. The goal of providing this information is to help Plant Managers both respond to energy variations and see the benefits of energy project implementations. In an effort to build our program awareness and support, IH has hired a public health consulting firm to interview members of Senior Leadership. This initiative will help better inform the future direction both Energy and Environmental Sustainability programs. Currently this process is in the initiation phase, though valuable feedback is already shaping the directive of the IH Energy Management program. Our staff engagement on buildings energy management is structured around BC Hydro's Energy Wise Network, which exists to support organization wide awareness around energy conservation. One campaign already planned will include a series of energy education webinars for Plant Service staff. As well, IH also has a team of Sustainability Associates that work within different departments across the organization, and for any energy related campaigns, this team will be leveraged to promote energy conservation in our buildings stock.

Innovation & Demonstration

Innovation is the final initiative in our plan to support sustainability and energy conservation. Innovation drives change internally, but also beyond our organization to demonstrate the value of new and emerging technologies. In 2018 IH commissioned the first biomass boiler for operation within a BC Health Authority. The boiler plant will service the heating needs for Lillooet Hospital and Health Centre and was operational in the winter 2018. Next, a second biomass plant is in development at Golden and District Hospital. Additionally, a third biomass project is under consideration to link a long-term care facility to an existing biomass fuel district energy system in Enderby. As well, at Lytton Health Centre an abandoned water well system will be commissioned for a geo-exchange connection to a series of water-to-water heat pumps. This project will utilize renewable energy to significantly reduce our propane consumption and associated emissions. The expectation is that the project will start in the summer of 2019 with completion expected in spring 2020. Looking forward to F20-21, IH is evaluating the implementation of a solar wall at Cariboo Memorial Hospital (CMH) to pre-heat incoming air into the building HVAC. This opportunity is estimated to offset natural gas use by 19.7%, and would tie into a potential future NetZero facility. As part of the business case development for the future expansion at CMH our IH Capital Planning team is working with the Ministry of Health to review the option of developing to NetZero standard.

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)

Over the next five years IH plans to utilize this funding to reduce energy and emissions through both demand side management (DSM) programs and electrification programs. In alignment with the BC Climate Leadership Plan, our dual focus will be to conserve natural gas through FortisBC programs and target electrification in collaboration with the EfficiencyBC provincial program facilitated by BC Hydro. Targeted sites for natural gas conservation are based on energy use intensity, overall consumption, and FCI (measure of infrastructure age). Targeted sites for electrification are based on prioritizing our highest fuel cost sites (propane) as our first opportunity in the launch of electrification incentives. A prioritized plan of 5-year projects able to benefit from CNCP projects has been established.

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

N/A

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

Energy audits are utilized to develop and support IH's plan to reducing emissions. In general, our approach is to continue to conduct energy audits on the highest priority sites related to opportunities to reduce emissions or when aligned to major infrastructure upgrades.

I. What % on average of your building portfolio has an energy audit completed each year (if any)?: 15

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

Implementing the most cost effective improvements that meet departmental and program requirements over the facility's useful life.

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.) (%):

25

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

20

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.) (%):

10

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

IH has executed the re-commissioning of one medium sized facility in the Kootenay-Boundary region. Results were encouraging and payback was positive. IH is considering a new program which will dedicate resources to the re-commissioning of HVAC systems in facilities across the Interior. As well, IH has P3 agreements in place at four major facilities. The Project Agreements (PA) utilized by IH and their partners (Project Co) have specific provisions for re-commissioning the facilities and require submission of Project Co's plan to manage this deliverable on an annual basis. There are also incentives within the PA for our Partners to look for ongoing energy savings and way to reduces IH's energy consumption

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

1

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

- ☒ Yes
☐ No

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

- ☐ Yes
☒ 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:

1

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

0

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

Receiving LEED gold certification takes some time. Please see the comments regarding Penticton Regional Hospital below and expected certification in 2020.

Our buildings are designed to very high efficient energy requirements and there is some concern that with LEED gold certification, that facility designers are chasing points to obtain certification and that it is not the most appropriate standard for healthcare facilities.

h) Other actions? Please describe briefly.

LEED Certification in 2018 - Clinical Services Building at Royal Inland Hospital.

Note: Royal Inland Hospital (Hillside building) was the first Healthcare facility to receive LEED Gold (2006) and VJH Polson tower received LEED Gold (2012).

Other LEED Gold certified buildings at Kelowna General Hospital include the Clinical Academic Campus (2010), the Centennial Building (2012), and the Dr. Walter Anderson Building (2012). KGH IHSC (2017).

Penticton Regional Hospital was designed and constructed to meet LEED Gold standards, and we are expecting to receive the Gold certification in 2020. The new Patient Care Tower at Royal Inland Hospital is also being designed to meet LEED Gold requirements.

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Save

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?**

- ☒ Yes
☐ No

I. If yes, what are its goals?

IH replaces vehicles with more fuel efficient vehicles of similar size and model at end of life. In 2018 we completed a feasibility study to determine costing and appropriateness of electric-vehicles in our fleet.

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)**

IH will continue to replace vehicles with fuel efficient models when they reach end of life. Fleet utilization reviews will continue on an annual basis to ensure optimal usage, strategic placement within the health authority and budget management. IH will be developing an implementation strategy to pilot electric vehicles as part of the fleet program.

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):	<input type="text" value="0"/>
"Plug In" Electric Vehicle – PHEV (e.g., plug-in Prius, Chevy Volt):	<input type="text" value="0"/>
Hybrid vehicle – HEV – non "Plug In"- (e.g., Toyota Highlander Hybrid):	<input type="text" value="0"/>
Hydrogen fuel cell vehicle :	<input type="text" value="0"/>
Natural gas/propane:	<input type="text" value="0"/>
Gas/diesel vehicle:	<input type="text" value="29"/>

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

Hydrogen vehicles are not utilized within IH as there is only 1 public fuel station, which is located outside the service area in Surrey.

There are currently 8 hybrids in our fleet; however, new hybrids have not been purchased in the last few years due to the terrain within the service area.

The health authority is completing a feasibility analysis of electric vehicles for a pilot project. Infrastructure within the region continues to be a constraint.

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

level 2:	<input type="text" value="0"/>
level 3:	<input type="text" value="0"/>
How many level 2 stations (if any) are specifically for your fleet vehicles:	<input type="text" value="0"/>
How many level 3 stations (if any) are specifically for your fleet vehicles:	<input type="text" value="0"/>

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

level 2:	<input type="text" value="0"/>
level 3:	<input type="text" value="0"/>
How many level 2 stations (if any) were installed specifically for your fleet vehicles:	<input type="text" value="0"/>
How many level 3 stations (if any) were installed specifically for your fleet vehicles:	<input type="text" value="0"/>

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

Twenty three (23) level 2 chargers have been added to the PRH tower which will go live in Spring 2019. As well, we are investigating installing four (4) level 2 charging stations as part of a future pilot for electric vehicles in fleet.

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):	<input type="text" value="0"/>
"Plug In" Electric Vehicle – PHEV -- (e.g., plug-in Prius, Chevy Volt) :	<input type="text" value="0"/>
Hybrid vehicles – HEV – (e.g., non "Plug In"- older Toyota Prius, Toyota Camry hybrid):	<input type="text" value="0"/>
Hydrogen fuel cell vehicles:	<input type="text" value="0"/>
Natural gas/propane:	<input type="text" value="0"/>
Gas/diesel:	<input type="text" value="35"/>

b) Light duty trucks (LDTs)

Electric Vehicles – EV :	<input type="text" value="0"/>
"Plug In" Electric Vehicle – PHEV:	<input type="text" value="0"/>
Hybrid vehicles – HEV – (e.g., non "Plug In"- older Ford Escape Hybrid, older Chevrolet Silverado pickup hybrid etc):	<input type="text" value="8"/>
Hydrogen fuel cell vehicles:	<input type="text" value="0"/>
Natural Gas/propane:	<input type="text" value="0"/>
Gas/diesel:	<input type="text" value="186"/>

c) Heavy duty vehicles (HDV)

Electric Vehicles – EV :	<input type="text" value="0"/>
"Plug In" Electric Vehicle – PHEV :	<input type="text" value="0"/>
Hybrid vehicles – HEV – (e.g., non "Plug In"):	<input type="text" value="0"/>
Hydrogen fuel cell vehicles:	<input type="text" value="0"/>
Natural Gas/propane:	<input type="text" value="0"/>
Gas/diesel:	<input type="text" value="25"/>

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

How much do you budget per LDV?:	<input type="text" value="200"/>
How many LDVs do you plan to procure annually over the next 5 years?:	<input type="text" value="10"/>
How much do you budget per LDT?:	<input type="text" value="300"/>
How many LDTs do you plan to replace annually over the next 5 years?:	<input type="text" value="100"/>
How much do you plan to spend per HDV?:	<input type="text" value="500"/>
How many HDVs do you plan to replace annually over the next 5 years?:	<input type="text" value="25"/>

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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?

- ☐ Yes
☒ No

I. If yes, what are its goals?

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)

- Continue conversations with our Supply Chain to emphasize importance of future long-term contracts including alternative paper options (i.e. sugar sheet, wheat sheet, hemp) at competitive price to 50% or 100% post-consumer paper.
- Continue conversations with Supply Chain to emphasize importance of future long-term contracts offering higher percentage of recycled paper (i.e. 50%, 100%) at a lower cost option than 0% recycled paper.
- Continue working with Supply Chain to require existing suppliers to include informative product descriptions and to clearly state percentages of recycled content in paper descriptions.
- Conduct a second analysis of paper use to identify opportunities.

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

N/A

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

- ☒ Yes
☐ No

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

- ☒ Yes
☐ No

e) Other actions, please specify.

Numerous electronic records projects are underway in IH to lower paper use through digitization. For example, a physician quality improvement project to identify an efficient system to review lab results daily resulted in new functionality developed in a major system, enabling review of results on-line and limiting routine printing of patient testing results. It is estimated that for one department, there is a cost avoidance of approximately \$6000 per year in print costs (paper and ink). Paper use is estimated to be reduced by 700 pages every 9 hours. This functionality will be rolled out across other departments in the future, and over time, we are expecting less paper use from this project and other projects in development.

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