

Provincial Health Services Authority's 2018 Carbon Neutral Action Report



Declaration Statement

This Carbon Neutral Action Report for the period 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 emissions and our plans to continue reducing emissions in 2019 and beyond.

In 2010 Vancouver Coastal Health, Fraser Health, Providence Health Care and Provincial Health Services Authority consolidated their efforts towards environmental sustainability to create the GreenCare Community. By June 30, 2019 Provincial Health Services Authority's final Carbon Neutral Action Report will be posted to our website at bcgreencare.ca

Retirement of Offsets

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

The cover photo is a rendering of an outdoor space that will serve Sunny Hill Health Centre for Children in its new location on the BC Children's and BC Women's Hospitals campus in Vancouver, BC. The Sunny Hill relocation is a major component of the Phase 3 Redevelopment project.

Executive Summary



Executive Summary

Carl Roy, President & Chief Executive Officer

I am pleased to present the ninth annual Carbon Neutral Action Report, which highlights the Provincial Health Services Authority's (PHSA) actions to reduce our carbon footprint, and link environmental sustainability to public health and wellness.

Over the years, we have worked to raise environmental awareness amongst our staff, patients and the communities we serve. These efforts have reduced PHSA's operational impact on the natural environment while reducing operational costs too.

In 2018, PHSA had a carbon footprint of 19,341 tonnes of carbon dioxide equivalent (tCO₂e), which was offset at a total cost of \$507,701. This represents a 19.4 per cent decrease relative to the 2007 base reporting year carbon footprint for PHSA. This decrease is even more significant given that we assumed responsibility for added services, programs and staff during this period.

In 2018, PHSA completed four projects, with a total estimated savings of 290,089 kWh of electricity and 7,280 GJ of gas, which equates to greenhouse gas reduction of 370 tCO₂e. The largest of the completed projects for 2018 was the passive heat recovery project within the BC Children's Hospital and BC Women's Hospital buildings. These efforts also yielded a \$165,419 incentive rebate from FortisBC, which is being reinvested into an energy conservation project that will further reduce PHSA's operational footprint

I want to recognize PHSA's energy management team, who work closely with our facilities maintenance and operations teams to reduce emissions, in addition to all of our staff who support these efforts. This ultimately adds to the health and wellness of our patients, employees and the communities we serve.



Date: May 31, 2019

Carl Roy
President & Chief Executive Officer
Provincial Health Services Authority

Our CO₂ Footprint

2018 GREENHOUSE GAS EMISSIONS BREAKDOWN AND OFFSETS APPLIED TO BECOME CARBON NEUTRAL

PHSA reports its organizational carbon footprint based on guidelines provided by the Carbon Neutral Government Regulation (CNGR) and the Climate Action Secretariat (CAS).

The CAS developed reporting guidance based on the GHG Protocol Corporate Standard. Based on these guidelines, PHSA's carbon footprint is comprised of six different greenhouse gases, which are converted into a common metric of tonnes of carbon dioxide equivalent (tCO₂e). In scope carbon emissions are grouped in three main categories:

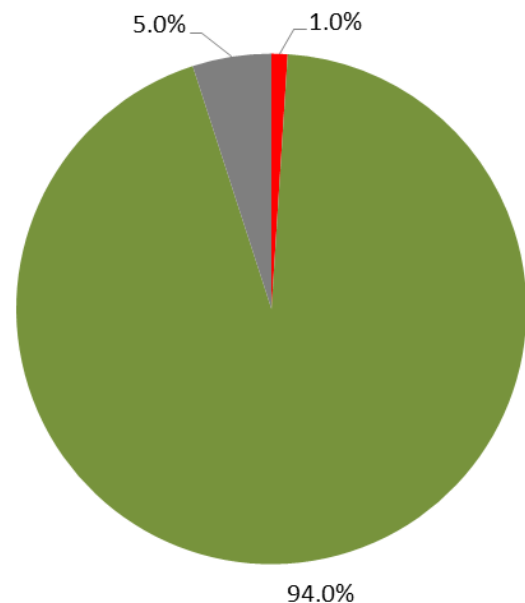
1. Stationary Fuel Combustion
2. Mobile Fleet Combustion
3. Supplies (Paper)

PHSA's 2018 carbon footprint offset was 19,341 tonnes of carbon dioxide equivalent (tCO₂e). That represents a 19.4 per cent decrease in PHSA's carbon footprint since 2007.

Over 90 per cent of PHSA's in-scope emissions are attributed to the building portfolio, and over 90 per cent of those emissions are associated with natural gas consumption. CAS administers the Carbon Neutral Capital Program (CNCP), through which PHSA has access to capital funding that is used to implement capital projects to reduce GHG emissions. These projects are focused on natural gas reduction in buildings.

To become carbon neutral in 2018, PHSA purchased carbon offsets at a total cost of \$507,701.

2018 PHSA Emission by Source



- Mobile Fuel Combustion (Fleet & other mobile equipment)
- Stationary Fuel Combustion & Electricity (Buildings)
- Supplies (Paper)

CHANGES TO PROVINCIAL HEALTH SERVICES AUTHORITY'S PORTFOLIO

PHSA's useable facility space has increased 8.7 per cent since the 2007 base reporting year, which is largely due to the construction of the Teck Acute Care Centre. During the same period, the number of staff (measured in full time equivalents) has increased by 125 per cent. PHSA has controlled increases in facility space to accommodate increased staff by seeking opportunities to optimize existing space use while maintaining safety and efficiency.

| Provincial Health Services Authority | | | | | | | | |
|--|-----------------|---------|---------|---------|---------|---------|---------|---------|
| BUILDINGS, FTE AND WEATHER | | 2007 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| Distinct PHSA Buildings | | n/a | 68 | 74 | 73 | 76 | 74 | 74 |
| | % Owned | n/a | 69% | 69% | 69% | 68% | 73% | 72% |
| | % Leased | n/a | 31% | 31% | 31% | 32% | 27% | 28% |
| Usable Square Meters¹ | | 388,990 | 355,437 | 358,082 | 358,455 | 358,995 | 418,631 | 422,796 |
| Full-Time Employee Equivalents² | | 6,391 | 9,333 | 12,285 | 12,668 | 13,175 | 13,780 | 14,383 |
| Weather (summarized in Heating Degree Days)³ | | 2,870 | 2,820 | 2,627 | 2,489 | 2,537 | 2,922 | 2,720 |

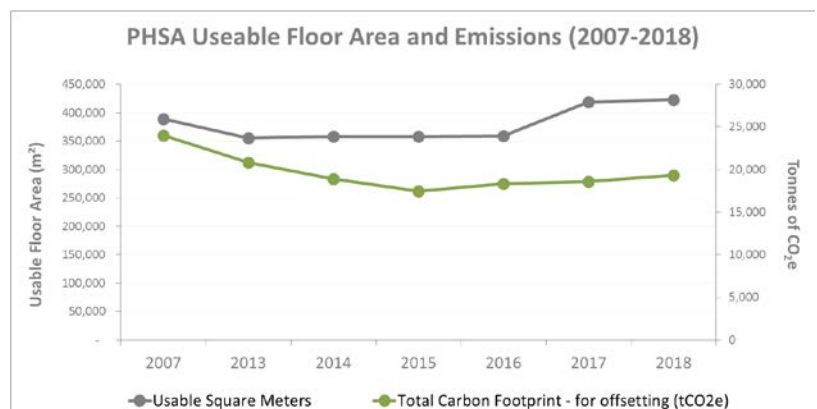
¹ Usable area excludes roof tops, interstitial spaces, and parking areas.

² Full-Time Employee data was provided by the Ministry of Health.

³ Heating Degree Days (HDD's) are based on YVR Airport data from Environment Canada and are intended to reflect the demand for heating. Although PHSA's facilities are located across BC, the majority of buildings in the metro Vancouver area, so HDD's for Vancouver were used.

Overall since 2007, PHSA's carbon footprint has decreased while usable floor area and staff have increased. As of 2018, emissions per full-time equivalent (1.34 tCO₂e/FTE) have decreased by 64 per cent since 2007, and emissions per unit of floor area (0.05 tCO₂e/m²) have decreased 26 per cent since 2007.

The carbon emissions reported are not adjusted for changes in weather. Heating Degree Days (HDDs) is a metric designed to reflect the demand for energy required to heat a building. Emissions per HDD is a metric intended to summarize overall efficiency of delivering heating. PHSA's 2018 emissions per HDD (7.1 tCO₂e/HDD) are 15 per cent lower than the baseline year.



| Provincial Health Service Authority | | | | | | | | |
|---|---|---------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Our Carbon Footprint (in tCO ₂ e) | | 2007 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| Mobile Fuel Combustion (Fleet & other mobile equipment) | | 189 | 153 | 159 | 159 | 417 | 189 | 180 |
| Stationary Fuel Combustion & Electricity (Buildings) | | 22,930 | 19,893 | 17,933 | 16,426 | 17,027 | 17,442 | 18,472 |
| Supplies (Paper) | | 891 | 771 | 828 | 882 | 893 | 927 | 703 |
| Total Carbon Footprint (tCO₂e) | | 24,010 | 20,818 | 18,921 | 17,468 | 18,338 | 18,558 | 19,355 |
| Total BioCO ₂ Emissions (No Offsets Required) ^{1,2} | | -9 | -10 | -9 | -10 | -16 | -9 | -14 |
| Total Carbon Footprint (tCO₂e) | | 24,002 | 20,808 | 18,912 | 17,458 | 18,322 | 18,549 | 19,341 |
| Adjustments / Corrections | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Carbon Footprint - for offsetting (tCO₂e) | | 24,002 | 20,808 | 18,912 | 17,458 | 18,322 | 18,549 | 19,341 |
| \$ | Purchased Carbon Offsets | \$ - | \$ 538,025 | \$ 472,625 | \$ 436,700 | \$ 458,050 | \$ 463,725 | \$ 483,525 |
| | Purchased Carbon Offsets +HST / GST ³ | \$ - | \$ 564,926 | \$ 496,256 | \$ 458,535 | \$ 480,953 | \$ 486,911 | \$ 507,701 |
| KPI's | Emissions per Full-Time Employee (tCO ₂ e/FTE) | 3.76 | 2.23 | 2.03 | 1.38 | 1.39 | 1.35 | 1.34 |
| | Emissions per Facility Space (tCO ₂ e/m ²) | 0.06 | 0.06 | 0.05 | 0.05 | 0.05 | 0.04 | 0.05 |
| | Emissions per Heating Degree Day (tCO ₂ e/HDD) | 8.4 | 7.4 | 7.2 | 7.0 | 7.2 | 6.3 | 7.1 |

¹ As outlined in the Carbon Neutral Government Regulation of the Climate change Accountability Act, some emissions do not require offsets.

² It was estimated that Fugitive Emissions from cooling equipment comprise less than 0.01% of PHSA's total emissions and for this reason, emissions from this source have been deemed out-of-scope and have not been included in our total greenhouse gas emissions profile.

Actions to Reduce Our CO₂ Footprint

2018 ACTIONS TAKEN TO REDUCE CO₂ FOOTPRINT

Stationary Emissions (Buildings)

In 2018, PHSA completed four projects, with a total estimated savings of 290,089 kWh of electricity and 7,280 GJ of gas, which equates to GHG reduction of 370 tonnes of carbon (tCO₂e). These projects included the following:

- **C&W Genset HP Block Heaters:** Heat pump block heaters were installed on the five largest generator sets on BC Children's and BC Women's campus (C&W campus). This reduces the annual electricity costs required to keep the back-up generators at the temperature required for a reliable start.
- **C&W 1982 Buildings Heat Recovery:** A CNCP-funded passive heat recovery project was completed in the BC Children's and BC Women's buildings (also referred to as the 1982 buildings) on C&W campus.
- **BC Cancer's Vancouver Centre Optimization:** An optimization project at the BC Cancer's Vancouver Centre consisting mainly of controls optimization measures was completed.
- **Fraser Valley Cancer Centre Pharmacy Renovation:** A renovation of the Pharmacy within the BC Cancer's Fraser Valley Centre was completed, which included a boiler replacement.

In addition, four other energy savings projects were in progress at PHSA during 2018, with estimated savings once complete of 197,120 kWh of electricity, and 16,146 GJ of gas, which equates to GHG reduction of 810 tCO₂e. These projects include the following:

- **C&W Phase 3 Redevelopment:** A number of energy and carbon reduction strategies are being implemented as a CNCP-funded change order to the C&W Phase 3 Redevelopment Project. Construction is underway, with completion targeted for July 2019. The scope includes implementing portions of an innovative Thermal Gradient Header approach that is planned for expansion across the entire campus over time.
- **CFRI Heat Recovery:** An innovative CNCP-funded heat recovery project is in the design stage at Child and Family Research Institute block at C&W campus. This project is another installation of the Thermal Gradient Header approach.
- **BC Cancer Research Centre Optimization:** The investigation phase of an optimization project at the BC Cancer Research Centre was initiated, which will utilize advancements in software for fault detection and building controls optimization to improve energy efficiency.
- **BC Cancer's Vancouver Island Centre Optimization:** The implementation phase of an optimization project at the BC Cancer's Vancouver Island Centre consisting mainly of controls optimization measures was initiated.

Other initiatives taken to reduce emissions from buildings:

- PHSA's energy management team made further refinements to GreenCare's **Energy and Environmental Sustainability Design Guidelines** for new construction and major renovation projects intended to ensure that new buildings are built to the highest standard of energy efficiency within financial constraints.
- The energy management team continued with an **engagement strategy** with facilities maintenance and operations, focused initially at C&W campus, with plans to expand to all major owned sites over time. The focus is to identify reduction opportunities.

Mobile Fleet Combustion (fleet and other vehicles)

In 2018, PHSA continued to improve, promote and establish alternative transportation opportunities for PHSA staff.

- PHSA has **sixteen** (15-120v; 1-240v) **electric vehicle-charging stations** across two core sites.
- PHSA partners with Vancouver Coastal Health and Providence Health Care to provide a **shuttle service** between sites and continues to operate a staff shuttle between BC Children's and BC Women's Hospitals campus, staff off-site parking lot and King Edward Station
- PHSA has **753 bike parking stalls** which enable and encourage active transportation by bicycle

Supplies (Paper)

Initiatives to reduce paper consumption include:

- As part of the Green+Leader program, a **paper/waste reduction campaign** supports volunteers with **Paperless Meeting Toolkits** to encourage their colleagues to reduce paper use.
- PHSA **encourages teleconferencing** for meetings using web-conferencing hardware and software available at various sites.

Actions that fall outside the scope of the Carbon Neutral Government Regulations:

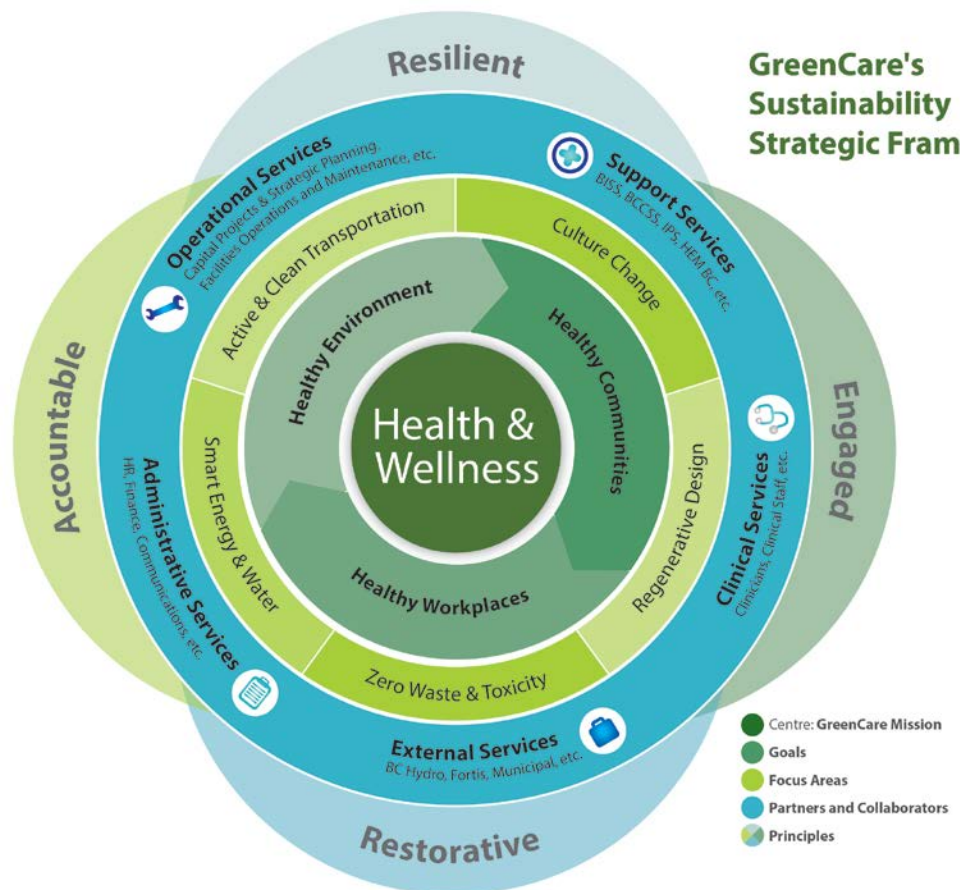
- PHSA provided **training, resources, toolkits and recognition** to support the Green+Leader program and various green teams in PHSA.
- The **Green+Leaders** behaviour change program recruited **eight new volunteers** for PHSA in 2018, making a total of **76 active staff volunteers** across PHSA, and a total of 155 PHSA staff trained since the program began in 2007.
- PHSA has at least four active "**green committees**" or green teams, which are led by Green+Leaders at those sites; these committees explore and implement a broader variety of sustainability initiatives going beyond the Green+Leaders toolkits
- PHSA continues to support the **GreenCare Community** website, which provides tips and toolkits on using less paper, as well as other environmental sustainability initiatives linked to health and wellness. PHSA had **1,089 staff registered** on the site as of 2018
- **Education and awareness** communication via the GreenCare Community is supplemented by stories published in PHSA news and various internal communication channels; these efforts continue to champion behaviour change and celebrate environmental sustainability successes.
- PHSA supports professional development through workshops and educational sessions sponsored by **BC Hydro** and **Fortis BC**
- PHSA offers in-person staff education on **waste management processes** in collaboration with Business Initiatives and Support Services (BISS)¹. In 2018, 67 staff were trained.
- PHSA also offers a **Waste Management Basics Learning Module** online. In 2018, 474 staff completed the training.

¹ For more information, please contact BISS Hazardous Waste Coordinator, Teri Guimond, teri.guimond@phsa.ca

FUTURE ACTIONS TO REDUCE CO₂ FOOTPRINT

PHSA's plans to continue reducing GHG emissions and energy in the following ways:

- **Optimize our existing buildings:** Planning and implementing GHG and energy reduction projects in our existing building portfolio by utilizing the Carbon Neutral Capital Program (CNCP) as our primary funding source.
- **Efficient new construction:** Implementing project-specific energy and carbon performance targets to ensure that our new buildings are as energy and carbon efficient as possible.
- **Systemic change:** Implementing standards, guidelines, and processes to embed energy management principles further into standard operations.
- **Behaviour change:** Engaging and educating our staff, via the existing Green+Leaders program, GreenCare Community and the BC Hydro and FortisBC engagement programs.
- **Innovation and demonstration:** Leveraging the innovative Green Revolving Fund approach that has been initiated for PHSA to support ongoing investment in energy conservation through utility cost avoidance achieved through conservation. In addition, taking small steps now (such as learning about new technologies) to pave the way for larger innovations when an appropriate opportunity arises.
- **Align with our core mandate:** Working with GreenCare's refreshed Strategic Framework; PHSA will strive to advance health care practices that respect environmental stewardship, noting that the environmental impact from health care facilities, operations and services influence the health of populations and patients we serve. PHSA will engage in a collaborative approach to create a sustainable and environmentally responsible health care system, which continues to advance health and wellness in its broadest sense.



Feature Project

Integrating projects, systems, & teams at BC Children's and Women's Hospitals

Numerous concurrent projects have been underway at the BC Children's Hospital and BC Women's Hospital Oak Street campus since the Redevelopment Project began. A vast array of health care stakeholders as well as design and construction professionals play a role in these combined projects. Efforts have been made to ensure effective coordination and collaboration between all of the projects, and the PHSA's Energy Management team has acted as an integrating force given their involvement in most of the major projects. In 2018, there were several examples of where these efforts to integrate and collaborate paid off.

As part of an analysis of options to achieve the carbon reduction targets, a consulting team was hired to develop a site-wide strategy for carbon reduction. This team included TC Thermenex Ltd., whose innovative Thermal Gradient Header approach allows integration of heating and cooling system to enable significant reuse of waste heat across the campus. Their approach proved to be the most cost effective of the carbon reduction options explored. The results of this analysis provided an integrated and holistic vision and approach to energy and carbon management across the entire site. This vision is now being implemented in phases.

The Thermenex Thermal Gradient Header approach not only integrates heating and cooling systems, but it has also led to better integration of projects and teams. The Energy Management team hired Thermenex to consult on various ongoing projects to ensure that these projects were aligned with and able to benefit from the efficiencies of the long term vision. During one of the project discussions that ensued, Chief Engineer Zoltan Nagy-Gyorgy, was heard exclaiming something to the effect that this level of integration and collaboration was unprecedented and greatly appreciated.

This integration led to several projects adjusting their approach, most notably the Phase 3 Redevelopment Project. Implementing a significant portion of the Thermal Gradient Header began in 2018 as an extension to the Phase 3 Redevelopment Project and funded by the Carbon Neutral Capital Program (CNCP).

Project: C&W Phase 3 Redevelopment, CNCP Scope

Technology: Various strategies were employed, the most impactful of which involved an innovative approach to heat recovery.

Energy Savings: Annual savings estimated at 67 MWh of electricity and 5,306 GJ of natural gas (due to reduced steam consumption)

Operational Cost Avoidance: \$48,000 estimated energy and carbon offset cost avoidance upon completion, and enables additional savings in future.

GHG Reductions: An estimated 265 tCO₂e/year

Energy Project Cost: Incremental* cost of energy conservation features: \$1.97 million

Business Case: Most cost effective option for significant carbon reduction: \$7,425 per tonne GHG reduction based on immediate carbon reduction (more cost effective considering future reductions enabled)

Benefits/Co-Benefits: ~\$200,000 incentive anticipated from FortisBC; potential for improved occupant comfort in peak summer temperatures due to increased cooling capacity

*Incremental Project Cost refers to the additional cost required to install energy efficient equipment above the cost for the base project (in this case, the heat recovery scope added to the base Phase 3 Redevelopment scope)

Part 1: CNAR Survey

1. General Information

Name: Alex Hutton

Contact Email: alex.hutton@fraserhealth.ca

Organization Name: Provincial Health Services Authority

Sector: Health

Role - Please select your role(s) below.

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

Energy Manager: Yes

Sustainability Coordinator: No

Administrative Assistant: No

Facilities/Operations Manager/Coordinator: No

CEO/President/Exec Director: No

Treasurer/Accounting: No

Superintendent: No

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

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

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

Yes

If yes above, what are the main goals?: Reduce Energy Use Intensity by 12% by 2020, 15% by 2030

Reduce GHG Emission by 25% by 2020, 40% by 2030

Reduce GHG Emissions Intensity by 30% by 2020, 50% by 2030

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)

Provincial Health Services Authority is developing a 3 year Strategic Energy Management Plan (SEMP), complete with details of our Energy & GHG use, reduction targets and planned actions to achieve these targets. Although this is a 3 year rolling plan, the SEMP is reviewed and updated annually. Our work can be summarized within five main areas: optimizing our existing buildings; influencing new construction; behaviour change; systemic change; and innovation.

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

Our longer term strategy is currently to continue with the types of efforts described in the short term; however, we can anticipate that there may be changes in the priorities (such as increased focus on electrification) as well as the specific projects that result. We can also anticipate the specific projects may involve new and innovative technologies and strategies not currently available or ready for implementation.

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

We complete energy audits (also referred to as energy studies) on an ongoing basis in order to continue to identify project opportunities. In general, there is at least one audit underway in a given year (so about 1 out of 7 core sites) is being studied and typically a given building is not studied more than one within a 5 year period. The focus of audits has changed over time depending on various factors including availability of funding and priorities of the organization. In some cases an audit or study is high level and covering the entire building while in other cases it may focus more deeply on a specific system or piece of equipment in order to explore replacement or renewal options to inform a planned asset renewal.

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.

We implement retrofits as appropriate depending on a number of variables including: available funding, opportunities identified, synergy with non-energy retrofits, etc.

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.) (%): 10

Major retrofits (e.g., replacing windows and doors, equipment replacement such as boilers, etc.) (%): 10

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)?

We implement retro-commissioning on an ongoing basis with the goal of doing some form of retro-commissioning every 5 years at each core site. We proceed as appropriate depending on a number of variables including: available funding, opportunities identified, synergies or conflicts with other concurrent projects, etc.

I. What % on average of your building portfolio do you recommission each year?: 10

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

No

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

No

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

When the requirement to report on GHG emissions was initiated, we did some analysis to estimate the impact of refrigerant gases. At that time, it was estimated that Fugitive Emissions from cooling equipment comprise less than 0.01% of PHSA's total emissions and for this reason, emissions from this source have been deemed out-of-scope and have not been included in our total greenhouse gas emissions profile. We have had some discussions recently about the possibility of starting to gather information on refrigerant gases, but have not moved forward yet. These discussions were triggered by exploration of some options for centralized anesthetic gas recovery systems.

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.

Not applicable

h) Other actions? Please describe briefly.

Other actions taken are outlined within the Carbon Neutral Action Report Overview.

B. Mobile Sources (Vehicles, Off-road/portable Equipment): Fuel Combustion:**3. Actions taken by your organization in 2018 to support emissions reductions from mobile sources.****a) Do you have a strategy to reduce emissions from mobile sources?**

No

I. If yes, what are its goals?

The person who was responsible for Active and Clean Transportation left PHSA and has not been replaced, so the plans are unclear.

PHSA has sixteen (15-120v; 1-240v) electric vehicle-charging stations across two core sites.

PHSA partners with Vancouver Coastal Health and Providence Health Care to provide a shuttle service between sites and continues to operate a staff shuttle between BC Children's and BC Women's Hospitals campus, staff off-site parking lot and King Edward Station

PHSA has 423 bike parking stalls which enable and encourage active transportation by bicycle

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)**

1. Fleet vehicles to be replaced by more fuel efficient model or disposed of, as and when required.
2. Established and successful staff / patient shuttle routes will be continued for the foreseeable future.

PHSA continues to support active and clean transportation through electric vehicle-charging stations, shuttle service between sites, and bike parking stalls and facilities.

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

Continuing to work with Fleet Procurement and Transportation Demand Management Coordinator to improve, promote, and establish low carbon transportation opportunities. A funding application has been submitted that may result in additional EV charging stations being installed, which could potentially trigger a move towards EV fleet vehicles.

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

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

"Plug In" Electric Vehicle – PHEV (e.g., plug-in Prius, Chevy Volt): 1

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

Hydrogen fuel cell vehicle : 0

Natural gas/propane: 0

Gas/diesel vehicle: 0

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

N/A

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

level 2: 16

level 3: 0

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

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

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

level 2: 0

level 3: 0

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

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

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

Not aware of any at this time

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): 0

“Plug In” Electric Vehicle – PHEV -- (e.g., plug-in Prius, Chevy Volt) : 1

Hybrid vehicles – HEV – (e.g., non “Plug In”- older Toyota Prius, Toyota Camry hybrid): 1

Hydrogen fuel cell vehicles: 0

Natural gas/propane: 0

Gas/diesel: 14

b) Light duty trucks (LDTs)

Electric Vehicles – EV : 0

“Plug In” Electric Vehicle – PHEV: 0

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

Hydrogen fuel cell vehicles: 0

Natural Gas/propane: 0

Gas/diesel: 27

c) Heavy duty vehicles (HDV)

Electric Vehicles – EV : 0

"Plug In" Electric Vehicle – PHEV : 0

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

Hydrogen fuel cell vehicles: 0

Natural Gas/propane: 0

Gas/diesel: 7

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

How much do you budget per LDV?: 25000

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

How much do you budget per LDT?: 30000

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

How much do you plan to spend per HDV?: 50000

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

C. Office Paper: Indicate which actions your PSO took in 2018:**6. Actions taken by your organization in 2018 to support emissions reductions from paper supplies.****a) Do you have an Office Paper strategy?**

No

I. If yes, what are its goals?

N/A

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

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

We plan to develop a paper strategy and awareness campaign through the Green+Leaders staff engagement behaviour change program.

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

We plan to continue to collaborate closely with PHSA Supply Chain to advance discussions regarding systemic procurement changes that include environmentally preferable purchasing

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

Yes

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

No

e) Other actions, please specify.

Through the Green+Leaders staff engagement and behaviour change program, volunteers were supplied with paperless meeting toolkits to encourage their colleagues to reduce paper use.

There are 108 trained Green+Leaders within Providence Health Care.

We plan to continue to raise awareness of the importance of emissions reductions from paper supplies through the Green+Leaders behaviour change program. More specifically, we plan to explore a paper strategy and associated campaign to encourage staff to take action and reduce paper consumption in healthcare.