

# 2013 Carbon Neutral Action Report

## Providence Health Care



**Executive Summary**  
**Dianne Doyle**  
*President*

I am pleased to present the 2013 Providence Health Care (PHC) Carbon Neutral Action Report (CNAR).

At PHC, we believe an ethically responsible organization is one that lives its deeply held values. One of our six organizational values is stewardship, which we define as having accountability for the well-being of our community. An important way we put this value into action is by preserving natural and environmental resources.

PHC firmly believes that environmental stewardship starts with taking responsibility for the carbon footprint our operations and facilities produce.

In 2013 PHC had a carbon footprint of 11,781 eCO<sub>2</sub>t, which was offset at a cost of \$309,251.

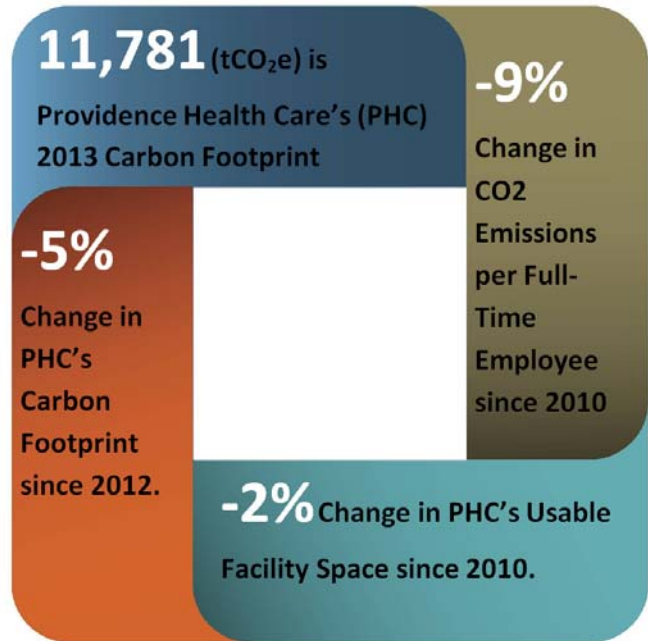
In 2014 we will continue to learn and implement even better ways to reduce our environmental footprint while doing our part to improve human and environmental well-being.



### Providence Health Care GHG Emissions and Offsets for 2013 (tCO<sub>2</sub>e)

GHG Emissions created in calendar year 2013	
Total Emissions	11,748
Total Emissions for Offsets	11,743
Adjustments to GHG Emissions Reported in Previous	
Total Emissions	38
Total Emissions for Offsets	38
Credit owing from PCT at end of 2012 reporting year	
Credit Owing	0
<b>Total Emissions for Offsets for the 2013 Reporting Year:</b>	<b>11,781</b>

Table 1



# Our CO<sub>2</sub> Footprint

## 2013 GREENHOUSE GAS EMISSIONS BREAKDOWN AND OFFSETS APPLIED TO BECOME CARBON NEUTRAL

Providence Health Care (PHC) reports their organizational carbon footprint in accordance with the Greenhouse Gas Reduction Targets Act (GGRTA) and the Carbon Neutral Government Regulation (CNGR) under guidance from the B.C. Climate Action Secretariat (CAS).

CAS provides guidance on which greenhouse gas (GHG) emissions are considered in scope in accordance with the legislation (see side bar). In non-technical terms, the main sources of GHG emissions can be grouped in three categories:

1. Stationary Emissions (Buildings)
  - a. Direct fuel combustion
  - b. Indirect (purchased electricity)
  - c. Fugitive emissions (HFC's)
2. Mobile Emissions (Fleet Vehicles)
3. Supplies (Paper)

Over 95% of PHC's carbon footprint is related to the energy consumed by its

owned and leased buildings. The majority of emissions from these buildings are related to fossil fuel use for heating.

### Providence Health Care

PHC's 2013 Carbon footprint is 11,781 tCO<sub>2</sub>e, a 5% decrease compared to 2012.

Emissions per PHC full-time employee (FTE) was 2.41 tCO<sub>2</sub>e in 2013, which is a decrease of 9% since 2010.

To become carbon neutral in 2013, PHC purchased carbon offsets from the Pacific Carbon Trust at a total cost of \$309,251.

### CHANGES TO FACILITY SQUARE FOOTAGE AND WEATHER ADJUSTMENT

PHC's useable facility space has decreased 2% since 2010, despite a 13% increase in full time equivalent staff needed to serve a growing population and associated demand for health care services. As such, with increased intensity of use in the buildings it is not surprising that total emissions have increased almost 4% since 2010.

The carbon emissions reported are not adjusted for annual variations in weather. Adjustment for weather would result in 2013 emissions per unit of floor space being slightly below that of 2010.

### Definition and Implications

In accordance with CNGR, the Climate Action Secretariat of British Columbia has outlined the types and sources of emissions that are in scope and which are out of scope.

All Health Authorities are required to report emissions from buildings (direct combustion, indirect purchased electricity, & fugitive emissions from HFC's), fleet, and paper.

### In Scope

Six Green House Gases are in scope for measuring & reporting:

Carbon Dioxide - CO<sub>2</sub>  
Methane - CH<sub>4</sub>  
Nitrous Oxide - N<sub>2</sub>O  
Sulphur Hexafluoride - SF<sub>6</sub>  
Per fluorocarbons - PFCs  
Hydro fluorocarbons - HFCs

### Out of Scope

All other GHG gases are considered out of scope

# Actions Taken To Reduce Our CO<sub>2</sub> Footprint

## 2013 LIST OF ACTIONS TAKEN TO REDUCE CO<sub>2</sub> FOOTPRINT

### Stationary Fuel Combustion, Electricity (Buildings)

PHC completed 1 energy savings project in 2013:

- New LED Lighting at the Corp. Office (1125 Howe Street).

This project is projected to achieve a total **estimated savings of 93,000 kWh of electricity, 2.3 (tCO<sub>2</sub>e) of carbon and the cost avoidance of \$6,000 / year.**

### Mobile Fleet Combustion (Fleet and other vehicles)

BUILDINGS, FTE AND WEATHER		2010	2011	2012	2013
Distinct PHC Buildings		35	39	37	40
	% Owned	94%	93%	93%	91%
	% Leased	6%	7%	7%	9%
Usable Square Meters		182,161	182,994	176,186	179,222
Full-Time Employee Equivalents *		4,311	4,627	5,026	4,882
Weather (summarized in Heating Degree Days) <sup>1</sup>		2,853	2,963	2,874	2,828

<sup>1</sup> Building energy consumption is influenced by climate conditions. Vancouver has a climate which predominately requires heating to satisfy internal building temperatures. Heating Degree Days (HDD's) is a measurement designed to reflect the demand for energy needed to heat a building.

**Table 2**

Our Carbon Footprint (in tCO <sub>2</sub> e)		2010	2011 <sup>2</sup>	2012	2013
CO <sub>2</sub>	Mobile Fuel Combustion (Fleet & other mobile equipment)	15	21	47	46.61
	Stationary Fuel Combustion & Electricity (Buildings)	11,266	11,886	12,056	11441.39
	Supplies (Paper)	70	72	271	260.33
	Emissions Which Do Not Require Offsets <sup>1</sup>	0	-4	-7	-5
	Total Carbon Footprint (tCO <sub>2</sub> e)	11,351	11,979	12,374	11,748
	Adjustments / Corrections To Previous Year's Data			16	38
<b>Carbon Footprint (needing offsetting) in tCO<sub>2</sub>e</b>		<b>11,351</b>	<b>11,975</b>	<b>12,383</b>	<b>11,781</b>
\$	Purchased Carbon Offsets <sup>4</sup>	\$ 283,775	\$ 299,375	\$ 309,575	\$ 294,525
	<b>Purchased Carbon Offsets +HST / GST</b>	<b>\$ 317,819</b>	<b>\$ 335,300</b>	<b>\$ 325,054</b>	<b>\$ 309,251</b>
KPI	Emissions per Full-Time Employee	2.63	2.59	2.46	2.41
	Emissions per Meter Square Facility Space	0.06	0.07	0.07	0.07

<sup>1</sup> It was estimated that Fugitive Emissions from cooling equipment comprise less than 0.01% of Providence Health's total emissions and an ongoing effort to collect or estimate emissions from this source would be disproportionately onerous. 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.

<sup>2</sup> Carbon Footprint adjusted for 2011 in 2012, due to building data corrections from the Climate Action Secretariat.

<sup>3</sup> As outlined in the Carbon Neutral Government Regulation of the Greenhouse Gas Reductions Target Act, some emissions do not require offsets.

<sup>4</sup> Purchased Carbon Offsets for 2012 include Carbon Footprint adjustment for 2011, due to building data corrections from the Climate Action Secretariat.

**Table 3**

PHC installed 52 electric vehicle charging stations at St. Paul's Hospital, which is located downtown Vancouver on the West End.

A record 95 PHC staff participated in the 2013 Clean Commuter Challenge (CCC), which is a campaign to get staff out of there single occupancy vehicle commuting.

### Supplies (Paper)

The Green + Leaders (G+L) behaviour change program recruited 3 new PHC volunteers in the fall of 2013. This brings the overall program total to nearly 300 volunteers across the lower mainland Health Authorities.

As part of the G+L paper/waste reduction campaign volunteers were supplied with Paperless Meeting Toolkits to encourage their colleagues to reduce paper use.

PHC continues to support the GreenCare Community (GCC) website, which provides tips and toolkits on using less paper, such as promoting paperless meetings.

### Actions That Fall Outside the Scope of the Carbon Neutral Government Regulations

In addition to specific projects mentioned previously, PHC also did the following:

- Encouraged the use of the internally organized Jack Bell shuttle when traveling between various sites.
- Developed a staff engagement strategy to improve communication with Facilities Maintenance and Operations (FMO) staff with a focus on understanding the barriers to ongoing optimization of existing equipment and systems.
- Initiated the development of an engagement and integration strategy with Facilities Strategic Planning and Capital Project teams to embed energy conservation principles in their process and projects.
- Continued to promote energy conservation and GHG emissions reduction through staff focused awareness and behaviour change programs, such as Green + Leaders, GreenCare Community website and the BC Hydro Workplace Conservation Agreement program.
- Engaging with Strategic Planners and Capital Project Managers to ensure that energy conservation is embedded in their process and projects scopes.
- Engaging with our external key stakeholders, such as utility partners, to identify capital incentive energy reduction projects.
- Engaging and educating our staff via the existing Green + Leaders program, GreenCare Community and the BC Hydro Workplace Conservation Agreement.
- Building partnerships with our P3 partners to help them identify energy conservation opportunities.
- Building partnerships with Cities and Municipalities to investigate District Energy Systems opportunities with alternative energy solutions.
- Investigating renewable/clean cost effective energy solutions.

## FUTURE WORK TO REDUCE THE ORGANIZATION'S CO<sub>2</sub> FOOTPRINT

In **2014** PHC plans to continue reducing GHG emissions and Energy use by:

- Implementing GHG / Energy reduction retrofit projects
- Engaging with site Operations staff and external Consultants to identify GHG/Energy opportunities.

## SUCCESS STORY

### Energy Management

Success in energy management builds over time and is contingent upon collaboration between various different people and departments within the health organizations.

Energy Management includes progressively looking for opportunities install or retrofit to more energy efficient lighting within PHC facilities.

One success story at PHC from 2013, in relation to Carbon Neutral Actions, is the LED Lighting that was installed at 1125



Howe Street as part of a tenant improvement project within that site / building.

Some events prior the project at 1125 Howe Street that led towards this success as outlined to show the full trajectory. A previous tenant improvement project at 1795 Willingdon Avenue that was managed by the same Project Manager (Rob Kolen) had been allocated a specific budget for energy conservation measures, due to a proactive approach of the Lower Mainland Facilities Management Executive Sponsor (Alan Grossert). As a result, PHC's new Energy Manager (Alex Hutton) collaborated with Rob Kolen to explore some potential energy conservation measures, some of which were successfully implemented.

PHC took over an additional two floors within the 1125 Howe building and needed to substantially upgrade the interiors prior to moving in. When Rob took on the role of Project Manager for the tenant improvement project he proactively engaged the Energy Manager to explore possible opportunities.

### Energy saving features

A more energy efficient lighting strategy was implemented which included linear LED

lighting resulting in estimated annual energy savings of 94,000 kWh, a reduction of 2 tCO<sub>2</sub>e carbon, and \$6,000/year in avoided energy costs. The overall project was completed on time and on budget.

The \$26,000 incentive from BC Hydro (anticipated to be received within weeks, pending the final site visit) will be used to support future energy conservation projects.

The benefits of these collaborative connections did not stop there. Rob and Alex have also collaborated on an LED Demonstration project within the 520 West 6<sup>th</sup> Ave office (where many LMFM staff are located) in order to showcase and test the application of pendant style linear LED lighting. ●



# 2013 Carbon Neutral Action Report (CNAR) - Part 2 ACTIONS

Created Thursday, May 29, 2014

Updated Friday, May 30, 2014

<https://fluidsurveys.com/surveys/cas-z/2013-cnar-form-bps-actions/30b66360d59549f23b054684f9b28e24/>

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## Page 1

Please complete the following sections of the 2013 Carbon Neutral Action Report form. Save your work frequently to prevent it from being lost. You can also save a copy for your own use as either a WORD or PDF file using the buttons at the bottom of each page.

This is Part 2 of the Carbon Neutral Action Report form. This section reports on actions taken to reduce emissions during the 2013 calendar year. This information will be included in your final Carbon Neutral Action Report posted on the Ministry of Environment website.

When the form is complete press the submit button on the last page to automatically submit the information to the Climate Action Secretariat (CAS). Do not press submit before you are ready – this may result in a loss of work.

In addition to completing this survey (Part 1 2), you are required to submit your completed Overview (Executive Summary) and Self-Certification Checklist. The 2013 Overview template was included in the email sent and can also be found on the LiveSmart leaders Community.

Please ensure you meet the following reporting deadlines:

A DRAFT 2013 CNAR is due to CAS by March 31, 2014. The draft is comprised of the Overview ONLY (no executive sign-off required).

The FINAL 2013 CNAR is due to CAS by May 30, 2014. The final 2013 CNAR includes Part 1 Part 2 survey form and Overview.

The Self-Certification Checklist is due to CAS by May 15, 2014.

For more information about the Carbon Neutral Government process, please refer to *Becoming Carbon Neutral 2013*, or should you have any questions please contact [climateactionsecretariat@gov.bc.ca](mailto:climateactionsecretariat@gov.bc.ca).

Organization Name

Providence Health Care

**Actions Taken to Reduce Emissions**

1) Stationary Fuel Combustion, Electricity (Buildings):

Indicate which actions were taken in 2013:

Performed energy retrofits on existing buildings

Yes

Built or are building new LEED Gold or other "Green" buildings.

Yes

Undertook an evaluation of overall building energy use.

Yes

Please list any other actions taken to reduce emissions from Buildings:

*In addition to specific projects, we also did the following:*

- 1. Developed a strategy to improve engagement with Facilities Maintenance and Operations (FMO) staff with a focus on understanding the barriers to ongoing optimization of existing equipment and systems.*
- 2. Started developing an engagement strategy with our Strategic Planning and Capital Project teams to embed energy conservation principles in their process and the scope of each project.*
- 3. Continued to promote energy conservation and GHG emissions reduction through awareness and behaviour change programs, such as Green + Leaders, GreenCare Community website and the BC Hydro Workplace Conservation Agreement program.*

2) Mobile Fleet Combustion (Fleet and other vehicles):

Indicate which actions were taken in 2013:

Do you have a fleet?

Yes

Replaced existing vehicles with more fuel efficient vehicles (gas/diesel)

No

Replaced existing vehicles with hybrid or electric vehicles

No

Reduced the overall number of fleet vehicles

No

Took steps to drive less than last year

No

Please list any other actions taken to reduce emission from fleet:

*(No response)*

3) Supplies (Paper):

Indicate which actions were taken in 2013:

Used less paper than previous year

Yes

Used only 100% recycled paper

No

Used some recycled paper

Yes

Used alternate source paper (Bamboo, hemp, etc.)

No



Please list any other actions taken to reduce emissions from paper use:

*The Green + Leaders (G+L) behaviour change program recruited 3 more volunteers in 2013 and now there are 8 volunteers in PHC. As part of the paper/waste reduction campaign the volunteers were supplied with Paperless Meeting Toolkits to encourage their colleagues to reduce paper use.*

*In addition, our online GreenCare Community (GCC) site includes content and provides tips on using less paper, such as promoting paperless meetings.*

Actions Taken to Reduce Emissions - continued

Explain how you plan to continue minimizing emissions in 2014 and future years:

*PHC plans to continue reducing GHG emissions and Energy use by:*

- 1. Implementing GHG/Energy reduction retrofit projects in our existing building portfolio.*
- 2. Optimizing the mechanical plant and controls in our existing building portfolio.*
- 3. Engaging with site Operations staff and external Consultants to identify GHG/Energy opportunities.*
- 4. Engaging with Strategic Planners and Capital Project Managers to ensure that energy conservation is embedded in their process and projects scopes.*
- 6. Engaging with our external key stakeholders, such as utility partners, to identify capital incentive energy reduction projects.*
- 7. Engaging and educating our staff via the existing Green + Leaders program, GreenCare Community and the BC Hydro Workplace Conservation Agreement.*
- 8. Building partnerships with our P3 partners to help them identify energy conservation opportunities.*
- 9. Building partnerships with Cities and Municipalities to investigate District Energy Systems opportunities with alternative energy solutions.*
- 10. Investigating renewable/clean cost effective energy solutions.*

If you wish to list any other "sustainability actions" outside of buildings, fleet, paper and travel check "yes". This reporting is optional.

Yes

Actions to Promote Sustainability and Conservation - Optional

The following are actions that fall outside the scope of the *Carbon Neutral Government Regulation*, but which many organizations still undertake and may wish to report on. This section is optional for reporting.

Business Travel

Created a low-carbon travel policy or travel reduction goal (Low-carbon: Lowest emission of greenhouse gases per kilometre per passenger)

Yes

Virtual Meeting Technology

Installed web-conferencing software (e.g., Live Meeting, Elluminate, etc.)

Yes

Made desktop web-cameras available to staff

No

Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)

Yes

Encourage carpooling to meetings

Yes

Education and Awareness

Have created Green, Sustainability, Energy Conservation, or Climate Action Teams.

Yes

Provided resources and/or dedicated staff to support these teams

Yes

Provided behaviour change education/training for these teams (e.g., community-based social marketing)

Yes

Established a sustainability/green awards or recognition program

Yes

Support green professional development (e.g., workshops, conferences, training)

No

Planning for Climate Change

Have assessed whether extreme weather events and/or long term changes in climate will affect our organization's business areas

No

Long term changes in climate have been incorporated into our organization's decision making.

No

Actions to Promote Sustainability and Conservation - Optional (continued)

Staff Awareness and Education

Provided education to staff about the science of climate change

Yes

Provided education to staff about the conservation of water, energy, and raw materials

Yes

Provided green tips on staff website or in newsletters

Yes

Alternate Work/Commuting Options

Allow for telework/working from home

No

Staff have the option of a compressed work week

No

Commuting by foot, bicycle, carpool or public transit is encouraged

Yes

Shower or locker facilities are provided for staff/students who commute by foot or by bicycle

Yes

Secure bicycle storage is provided

Yes

Other Sustainability Actions

Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models

Yes

Put in place a potable water management strategy to reduce potable water demand of building-level uses such as cooling tower equipment, toilet fixtures, etc. and landscape features

Yes



Have put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities

Yes

Have implemented a hazardous waste reduction and disposal strategy (Hazardous Waste: E.g., electronics including computer parts and monitors, batteries, paints, fluorescent bulbs)

Yes

Have incorporated minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.)

No

Established green standards for goods that are replaced infrequently and/or may require capital funds to purchase (e.g., office furniture, carpeting, etc.)

No

Incorporated lifecycle costing into new construction or renovations

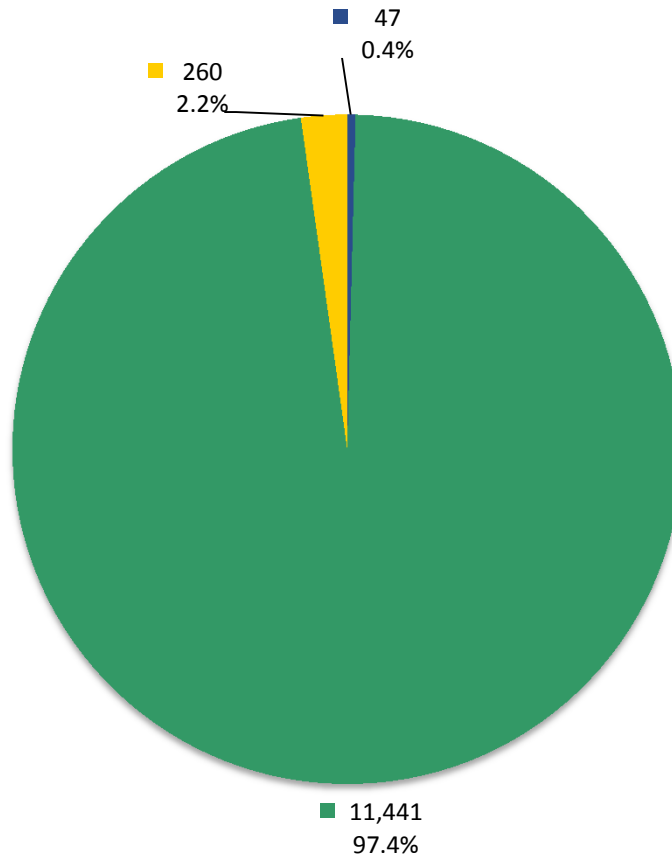
Yes

Please list and other sustainability actions you wish to report not included in the previous list.

*Other sustainability actions include:*

- 1. Completion of an Environmental Accountability Report, including goals and targets for 10 strategic focus areas*
- 2. Employment of a dedicated Transport Demand Coordinator*
- 3. Installation of electric vehicle charging stations*
- 4. Continuation of roll out of the Recycling Program*

## Providence Health Care Greenhouse Gas Emissions by Source for the 2013 Calendar Year (tCO<sub>2</sub>e\*)



**Total Emissions: 11,748**

- 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 2013 (Generated May 26, 2014 10:19 AM)**

Total offsets required: **11,743**. Total offset investment: **\$293,575**. Emissions which do not require offsets: **5** \*\*

\*Tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e) 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.