

2013 Carbon Neutral Action Report

Fraser Health Authority



Executive Summary

Dr. Nigel Murray

President and Chief Executive Officer

I am proud to introduce our 2013 Carbon Neutral Action Report. In accordance with the greenhouse gas reporting scope given to Fraser Health by the British Columbia Climate Action Secretariat, Fraser Health has now achieved carbon neutrality for four consecutive years.

In 2013 Fraser Health's adjusted carbon footprint offset was 39,754 tonnes of carbon dioxide equivalent (tCO₂e), which means we have been responsible for offsetting over 150,000 tonnes of CO₂ gas over the last four years, while achieving carbon neutrality.

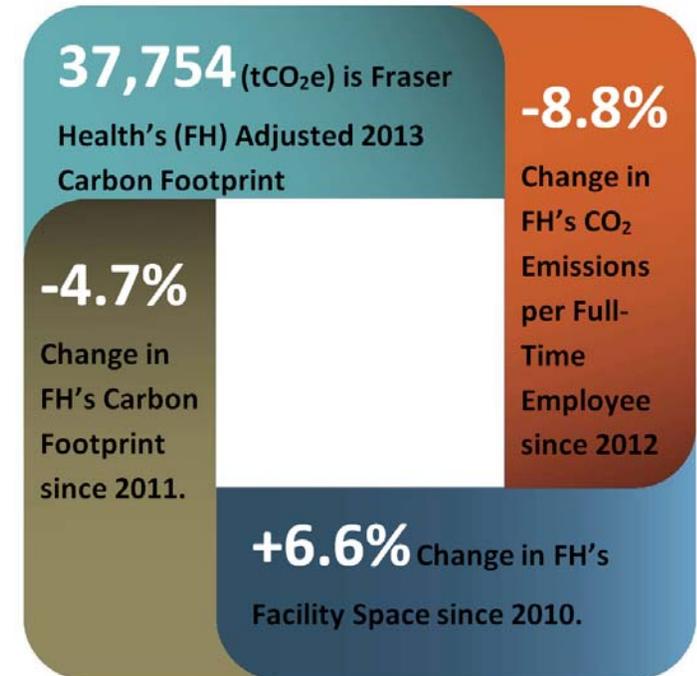
Fraser Health serves a growing population which will naturally need more services and facility space; resulting in an increased carbon footprint. To combat this, we have implemented various initiatives, including nine energy conservation projects. These nine projects have potential energy savings of 3.8 equivalent gigawatt hours (eGWh), resulting in a greenhouse gas reduction of 479 tCO₂e and a cost avoidance of \$175,000.

FH is committed to reducing its carbon and environmental footprint in 2014. A further 16 energy conservation projects will be implemented across Fraser Health. This will result in a further reduction of 5eGWh and associated savings.

I would like to congratulate everyone that was involved in helping to reduce our environmental footprint. Our communities are healthier because of this work.

| Fraser Health's GHG Emissions and Offsets for 2013 (tCO ₂ e) | |
|--|--------|
| GHG Emissions created in calendar year 2013 | |
| Total Emissions | 40,073 |
| Total Emissions for Offsets | 40,055 |
| Adjustments to GHG Emissions Reported in Previous Years | |
| Total Emissions | -301 |
| Total Emissions for Offsets | -301 |
| Credit owing from PCT at end of 2012 reporting year | |
| Credit Owing | 0 |
| Total Emissions for Offsets for the 2013 Reporting Year (from Offset Invoice): | 39,754 |

TABLE 1



Our CO₂ Footprint

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

Fraser Health reports the organizational carbon footprint based on guidelines provided by the British Columbia's Climate Action Secretariat (CAS).

CAS uses various elements of reporting, based on the GHG Protocol Corporate Standard, which has classified carbon reporting into three scopes. Of these three scopes and various elements within each, CAS has determined Fraser Health's carbon footprint to comprise of six different greenhouse gases, which are converted to tonnes of carbon dioxide equivalent (tCO₂e). These gases are categorized in three main categories:

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

Fraser Health

Fraser Health's 2013 Carbon adjusted Footprint offset was 39,754 tonnes of carbon dioxide equivalent (tCO₂e?). That represents a 6.2% increase in the carbon footprint offset since 2010. Over 96% of Fraser Health's in-scope emissions are attributed to our building portfolio.

To become carbon neutral in 2013, Fraser Health purchased carbon offsets from the Pacific Carbon Trust at a total cost of \$1,043,543.

CHANGES TO FH PORTFOLIO AND WEATHER ADJUSTMENT

Fraser Health continues to grow and offer more services to a growing lower mainland population. Fraser Health's "useable" facility space and FTEs has grown by 7% since 2010.

The vast majority of Fraser Health's carbon footprint is related to the energy consumption from its owned and leased buildings. Natural gas is the predominant fossil fuel used for space heating, hot water and process loads. The carbon emissions associated with our Natural Gas use is approximately 90% of the total building emissions.



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 - CO₂
Methane - CH₄
Nitrous Oxide - N₂O
Sulphur Hexafluoride - SF₆
Per fluorocarbons - PFCs
Hydro fluorocarbons - HFCs

Out of Scope

All other GHG gases are considered out of scope

The carbon emissions reported are not adjusted for changes in climate temperatures. Adjustment for temperatures would have an effect on the total emission and reduce the emissions per m² of usable floor space in 2013 to level slightly below that of 2010

Actions Taken To Reduce Our CO₂ Footprint

2013 LIST OF ACTIONS TAKEN TO REDUCE CO₂ FOOTPRINT

Stationary Fuel Combustion, Electricity (Buildings)

- Various energy retrofits have

| BUILDINGS, FTE AND WEATHER | 2010 | 2011 | 2012 | 2013 |
|--|-------------|-------------|-------------|-------------|
| Distinct FHA Buildings | 132 | 143 | 149 | 150 |
| % Owned | 82% | 82% | 82% | 82% |
| % Leased | 18% | 18% | 18% | 18% |
| Usable Square Meters | 667,654 | 677,965 | 686,512 | 711,701 |
| Full-Time Employee Equivalents | 13,626 | 14,900 | 13,660 | 14,539 |
| Weather (summarized in Heating Degree Days) ¹ | 2,617 | 2,982 | 2,855 | 2,823 |

¹ 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 tCO₂e) | | 2010 | 2011² | 2012² | 2013 |
|--|---|---------------|-------------------------|-------------------------|---------------|
| CO₂ | Mobile Fuel Combustion (Fleet & other mobile equipment) | 126 | 139 | 96 | 126 |
| | Stationary Fuel Combustion & Electricity (Buildings) | 36,233 | 40,501 | 40,190 | 38,626 |
| | Supplies (Paper) | 1,056 | 1,081 | 1,065 | 1,320 |
| | Emissions Which Do Not Require Offsets ¹ | 0 | -11 | -11 | -17 |
| | Total Carbon Footprint (tCO ₂ e) | 37,424 | 41,721 | 41,351 | 40,055 |
| | Adjustments / Corrections To Previous Year's Data | 0 | 0 | 0 | -301 |
| Carbon Footprint (needing offsetting) in tCO₂e | | 37,424 | 41,710 | 41,340 | 39,754 |
| \$ | Purchased Carbon Offsets ² | \$ 933,720 | \$ 980,975 | \$ 1,052,650 | \$ 993,850 |
| | Purchased Carbon Offsets +HST / GST | \$ 1,045,947 | \$ 1,098,692 | \$ 1,105,283 | \$ 1,043,543 |
| KPI | Emissions per Full-Time Employee | 2.75 | 2.80 | 3.03 | 2.76 |
| | Emissions per Meter Square Facility Space | 0.056 | 0.062 | 0.060 | 0.056 |

¹ Biomass Emissions that do not require offset.

² Carbon Footprint adjusted in 2010, 2011 and 2012 and correction applied in 2013.

TABLE 3

been carried out in 2013. Resulting in energy savings of 13,735 GJ (3.84 eGWh) and GHG savings of 479 tCO₂e.

- Over 40 optimization energy conservation measures implemented at Royal Columbian, Burnaby and Delta Hospitals as part of the BC Hydro Continuous Optimization program.
- Developed a strategy to improve engagement with Facilities Maintenance and Operations (FMO) staff with a focus on understanding the energy building use, identifying reduction opportunities and the optimization of existing equipment/plant.
- 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 awareness and behaviour change programs, such as Green + Leaders, GreenCare Community website and the BC

Hydro Workplace Conservation Agreement program.

Mobile Fleet Combustion (Fleet and other vehicles)

- 44 Electric Vehicle charging stations installed across 6 core FH sites.
- A record 98 FH 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 13 more volunteers in the fall of 2013 and now there are 68 volunteers in FHA. As part of the paper/waste reduction campaign the volunteers were supplied with Paperless Meeting Toolkits to encourage their colleagues to reduce paper use.
- Our online GreenCare Community (GCC) site 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

- Virtual Meeting Technology has been implemented at various sites
- Installed web-conferencing software
- Encouraged alternative travel to meetings
- Education and Awareness Communication / stories published in various internal communication channels / newsletters
- Supported green teams by implementing a Green+Leaders program to support individual staff members, who join the program, with resources and training.
- Provided resources and a dedicated staff to support the Green+Leaders program and various green teams
- Maintained a sustainability / green recognition program for the Green+Leaders
- Support green professional development through workshops and educational sessions sponsored by BC Hydro

2014 WORK TO REDUCE THE ORGANIZATION'S CO₂ FOOTPRINT

FHA plans to continue reducing GHG emissions and Energy use by:

- Implementing GHG/Energy reduction retrofit projects in our existing building portfolio.

- Optimizing the mechanical plant and controls in our existing building portfolio.
- Engaging with site Operations staff and external Consultants to identify GHG/Energy opportunities.
- 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.



SUCCESS STORY

There have been many success stories in 2013 at Fraser Health in relation to Carbon Neutral Actions, but the one that stands out as a major success is the Continuous Optimization (C.Op.) program at Burnaby Hospital. By the time we commenced the investigation phase of the BC Hydro sponsored C.Op. program at this site, we had already seen good energy/GHG emission saving results from our pilot sites (Peace Arch and Langley Memorial Hospitals). So, it was no surprise when the engaged Consultant produced a thorough investigation report, and identified a very large number of potential Energy

Conservation Measures (ECM) for Burnaby Hospital.

The investigation phase was completed and approved in 2012 and as part of the program we had until March 2014 to implement the 29 approved ECM. In addition to these approved ECM, the Consultant with great support for the Facilities Maintenance and Operations (FMO) staff identified a number of non C.Op. measures. With awesome collaboration from the key stakeholders, including the Consultant, Contractor, FMO and the Energy Team, all the ECMs were implemented in 2013 well before the March

2014 deadline.

The annual energy and GHG emission savings from the C.Op. initiatives are estimated to be in the region of 3,500 GJ and 122 tCO₂e respectively. From reviewing our energy use database at the end of the 2013 calendar year, we virtually achieved these savings even though some of the ECMs were only implemented in the last 6 months of the calendar year!

The energy use at Burnaby Hospital has reduced by 14% since the 2007 base year and this equates to an approximate GHG emissions reduction of 562 tCO₂e.

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

Created Tuesday, March 04, 2014

Updated Thursday, May 29, 2014

<https://fluidsurveys.com/surveys/cas-z/2013-cnar-form-bps-actions/af8bd02cf3ea1151a30ce07ddd2fd790/>

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.

Organization Name

Fraser Health Authority

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:

1. Developed a strategy to improve engagement with Facilities Maintenance and Operations (FMO) staff with a focus on understanding the energy building use, identifying reduction opportunities and optimization of existing equipment/plant.

2. Started developing an engagement strategy with our Strategic Planning and Capital Project teams to embed energy conservation principles in their process and project scopes.

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

Yes

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

No further actions taken.

3) Supplies (Paper):

Indicate which actions were taken in 2013:

Used less paper than previous year

No

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 13 more volunteers in the fall of 2013 and now there are 68 volunteers in FHA. As part of the paper/waste reduction campaign the volunteers were supplied with Paperless Meeting Toolkits to encourage their colleagues to reduce paper use.

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:

FHA 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

Yes

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)

Yes

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

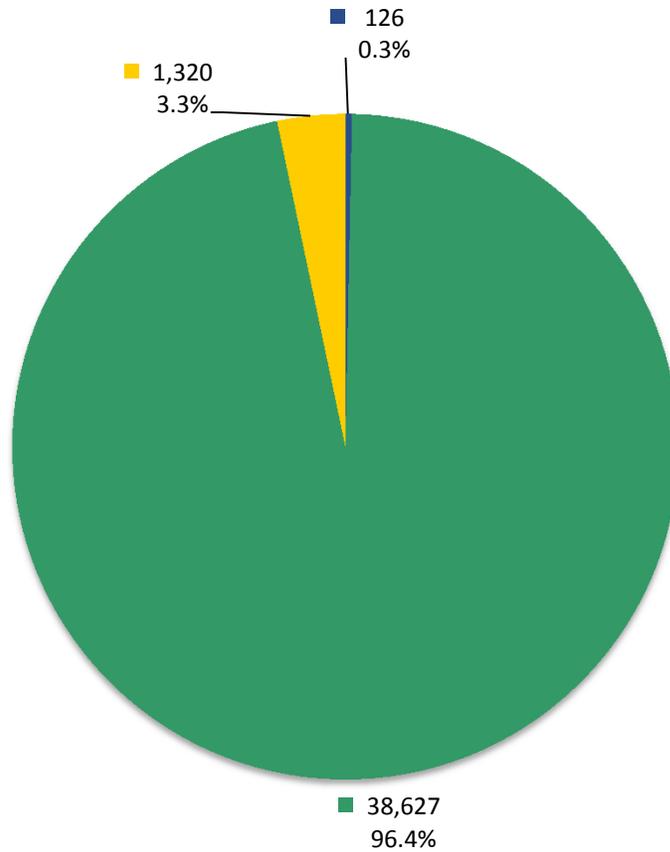
Yes

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 42 electric vehicle charging stations across the region.*
- 4. Continuation of roll out of the Recycling Program across the region.*

**Fraser Health Authority
Greenhouse Gas Emissions by Source
for the 2013 Calendar Year (tCO₂e*)**



Total Emissions: 40,073

- 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 10:01 AM)

Total offsets required: **40,055**. Total offset investment: **\$1,001,375**. Emissions which do not require offsets: **17** **

*Tonnes of carbon dioxide equivalent (tCO₂e) is a standard unit of measure in which all types of greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.

** Under the *Carbon Neutral Government Regulation of the Greenhouse Gas Reduction Targets Act*, all emissions from the sources listed above must be reported. As outlined in the regulation, some emissions do not require offsets.