



How you want to be treated.

2011 Carbon Neutral ACTION REPORT



A document from the department of
Lower Mainland Facilities Management
Energy & Environmental Sustainability
the home of GreenCare



EXECUTIVE SUMMARY

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Dianne Doyle

President and Chief Executive Officer

Providence Health Care is proud to provide our 2011 Carbon Neutral Action Report and disclose we are carbon neutral for a second year in a row.

This carbon neutrality was achieved by applying an energy & environmental conservation focus to our facilities and processes. This focus is a foundational element to our long-term sustainability.

In 2011, Providence Health Care achieved success in several key areas, most notably we:

- **Reduced our energy consumption** by 679,375 kWh through 6 projects
- **Reduced waste** by implementing recycling programs at all acute and residential care sites.
- **Increased staff engagement** through an online *Cut the Carbon Community*.
- **Decreased staff commuting**, via single occupancy vehicles, through a *Clean Commuter Challenge*.

We look forward to a continued reduction of our carbon footprint in 2012, through 13 energy conservation projects currently in progress.



Peter Goldthorpe

*VP Capital Projects, Real Estate & Facilities
Lower Mainland Facilities Management*

Within Facilities Management, we know the design and construction of buildings to support the delivery of health care services involves substantial resources, technology and materials. It also requires decades of further investment related to maintenance and remodeling. The environmental impact and resulting carbon footprint are significant.

We're taking responsibility to reduce this environmental impact. Facilities Management is working to support sustainability through effective site planning, energy efficiency, water efficiency, material flow reduction, toxics reduction, better land use, and life cycle analysis. We're also encouraging staff and clients to live in an environmentally sound way that expresses a modest level of consumption and ecological impact.

We have a lot of work to do, but becoming better stewards of the environment is worth it. The Carbon Neutral Action Report is an important part of this quest.

ABOUT PROVIDENCE

Providence Health Care is one of the largest faith-based (Catholic) health care organizations in Canada

Serving British Columbia for over 115 years

Providence Health Care (PHC) owns and/or operates three hospitals, 3 residential care facilities, 1 hospice and 1 assisted living facility in Vancouver and has been serving British Columbian's for over 115 years. Our sites provide over 550 acute care, 600 residential, 75 rehabilitation, and 12 hospice beds. In addition, PHC has 60 assisted living units and oversees the operation of 7 community dialysis clinics in the Lower Mainland.

Operating eight Vancouver health facilities

PHC is a party to the Master Agreement between the Denominational Health Care Facilities Association and the Province. This agreement provides PHC the right to own, manage, operate and conduct the affairs of its health facilities and to plan and deliver health related services in collaboration with other health bodies. Our facilities include:

- **St. Paul's Hospital** - Located in downtown Vancouver, this acute care, teaching, academic and research hospital has over 450 beds.
- **Mount Saint Joseph Hospital** - A community hospital located on the east side of Vancouver with 101 acute care and 100 residential care beds.
- **Holy Family Hospital** - A provincial referral centre providing specialized rehabilitation for older adults and residential care. Located in South Vancouver, it offers 75 inpatient rehabilitation beds, a range of outpatient rehab services and 142 residential care beds.
- **Brock Fahrni** - An extended care facility situated on the Children's and Women's Campus and home to 150 residents.
- **Langara** - A residential care facility that's home to 199 residents and 20 neuropsychiatry beds.
- **Honorita Conway at St. Vincent's Heather** - A 60 unit residence for seniors who live independently with assistance, with 8 independent living apartments. It's part of a larger planned development for a Campus of Care located in Vancouver.
- **Youville Residence** - A multi-level care facility that's home to 42 residents and 38 acute older adult mental health beds.
- **Marion Hospice** - A 12-bed facility for the care of the terminally ill located in the Windermere Care Centre in Vancouver.



Quick Facts

\$700 million

Operating budget 2010/11

6,000 staff

Including 4,650 full-time equivalents

2 FTE for projects

To reduce our footprint

1 FTE to measure

Our energy/carbon use

1,200 physicians

Plus 1,600 volunteers

0 small vehicles

In our fleet (forklifts, gators etc)

4 medium vehicles

(Cars, maintenance trucks etc.)

0 large vehicles

(Buses, transport trucks)

Funding sources

Providence Health care receives its operating and capital funding through Vancouver Coastal Health. It also receives funding designated for provincial programs from the Provincial Health Services Authority.

CHANGES IN OUR OPERATIONS

We created a new Energy & Environmental Sustainability group dedicated to reducing the environmental impact of all the Lower Mainland health authorities

“The key to achieving carbon neutrality and sustainable health care is a balance among environmental conservation, improved public health and fiscal responsibility.”

Mary Procter, VP Finance & Planning
Providence Health Care

Four health authorities are working together

Beginning in 2010, the following four health organizations began formally working together to manage and deliver administrative and clinical support services:

- **Providence Health Care** (PHC)
- **Fraser Health Authority** (FH)
- **Provincial Health Services Authority** (PHSA)
- **Vancouver Coastal Health** (VCH)

This partnership allows us to consolidate operations across the four health organizations for greater efficiency, so our health care dollars can be effectively focused on patient care.

Facilities Management was one of the ten administrative and clinical services areas consolidated. Now, the Lower Mainland Facilities Management team has a mandate that includes 27 acute care hospitals and 50 residential care facilities, which serve over 2.5 million British Columbians living in 37 municipalities and regional districts.

Coordinating our sustainability work

Consolidation enabled the creation of an Energy & Environmental Sustainability (EES) group in 2010 within the Lower Mainland Facilities Management department. This has presented new opportunities to coordinate our environmental and sustainability work across Providence Health Care, FH, PHSA and VCH for greater impact.



Building Space Change

	2010	2011
Distinct PHC Buildings	29	33
% Owned	94	92
% Leased	6	8
Usable Square Meters	182,161	183,000
Full-time Employee Equivalents	4,311	4,650

% based on floor areas

ENERGY AND ENVIRONMENTAL SUSTAINABILITY

We consider energy and environmental sustainability as important components of organizational, human and environmental health

Reducing our environmental impact

Our new Energy & Environmental Sustainability group includes Energy Managers and Sustainability Managers tasked with reducing the waste and environmental impact of our health organizations.

It's the goal of this EES group to unite all four organizations in their commitment to reduce health care's impact on the environment, while increasing the health and wellbeing of British Columbians by maintaining the important link between health and the environment.

Increasing our staff's enviroengagement

An increased focus is on engaging our staff and work communities to take action to reduce the organizations' environmental impact and carbon footprint.

PHC has endorsed an Environmental Sustainability Policy, along with the other Lower Mainland health organizations, that includes a Vision Statement and Sustainability Conservation Goals.

Creating a conscious work culture

Our vision is to promote an environmentally conscious culture that's actively aware and engaged in creating sustainable solutions for healthy lives and a healthy community.



GreenCare is the brand name for all the environmental sustainability activities across the Lower Mainland health organizations. This includes work done through our EES group, our Green+Leaders staff champions, our recycling program, and through our online staff engagement forum Cut the Carbon Community.

10 Focus Areas

Our EES group aims to create greater sustainability in ten key areas of focus:

1. Chemicals & Toxics
2. Energy
3. Finance
4. Green Built Systems
5. Land & Food
6. Materials
7. People
8. Sustainability & Carbon Reporting
9. Travel
10. Water

Our Sustainability Goals

	2015	2020
Energy Reduction	10%	20%
Green House Gas Reduction	15%	33%
Water Reduction	7%	10%
Alternate Commute Increase	10%	20%
Waste Diversion (Recycling) *	70%	80%
Staff Engagement in GreenCare	40%	75%

Targets use a 2009 baseline, except Green House Gas Emissions which uses 2007.
* Goals aligned to Metro Vancouver targets

2011 GREEN HOUSE GAS EMISSIONS

Providence Health Care is committed to government targets for the reduction of Greenhouse Gas Emissions

“There are major health benefits from low carbon lifestyles, which can reduce obesity, heart and lung disease, diabetes and stress.”

Prof. Anthony Costello, Institute for Global Health

Our Goal: An 18% drop in GHG emissions by 2016

As a government funded organization PHC must abide by the Provincial Government of British Columbia's *Greenhouse Gas Reduction Targets Act* (Bill 44), passed in 2007.

Under the Act, our Green House Gas emissions are to be reduced below our 2007 levels as follows:

- **6% by 2012**
- **18% by 2016**
- **33% by 2020**
- **80% by 2050**



The Act also laid the foundation for the *Emission Offsets Regulation* and the *Carbon Neutral Government Regulation*, both enacted in December 2008, which guides PHC.

Our 2011 carbon footprint: 11,975 tCO2e

PHC has calculated our 2011 carbon footprint, in accordance with the Greenhouse Gas Reduction Targets Act (as reported in SMARTTool), to be 11,975 tonnes. This represents a 5.5% increase over our 2010 footprint.

Our Carbon Footprint (in tCO2e)

	2010	2011
Mobile Fuel Combustion (Fleet & other mobile equipment)	15	21
Stationary Fuel Combustion & Electricity (Buildings)	11,266	11,886
Supplies (Paper)	70	72
Emissions Which Do Not Require Offsets*	0	-4
Total Carbon Footprint (tCO2e)	11,351	11,975
Emissions per Full-Time Employee	2.63	2.58
Emissions per Meter Square Facility Space	.062	.065

*As outlined in the Carbon Neutral Government Regulation of the Greenhouse Gas Reductions Targets Act, some emissions do not require offsets.

It was estimated that Fugitive Emissions from cooling equipment do not comprise more than 0.01% of Providence Health Care'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.

CARBON OFFSETS



In 2011
we were
carbon
neutral
for the
second year
in a row

Providence Health Care purchased \$299,375 of carbon offsets to become carbon neutral in 2011

Offsets applied to be carbon neutral in 2011

Providence Health Care was carbon neutral in 2011. We achieved this through our commitment to reduce energy, paper, travel and CO2 emissions, and by purchasing offsets.

The offsets, for in-scope emissions, were purchased from the Pacific Carbon Trust and amounted to \$299,375.

Weather increased our total GHG emissions

Although our in-scope emissions were reduced by mechanical and electrical retrofits, policy development, and behavior change programs, our total carbon footprint increased in 2011.

This increase was primarily due to weather conditions. Carbon emissions from buildings are based upon actual energy use data and not adjusted for weather. Weather variances will cause fluctuations in energy usage and ultimately the CO2 footprint from year to year.

In 2011, the Heating Degree Days were 13% higher than 2010. Because some fuel consumption is weather dependent, this resulted in a 7% increase in PHC's 2011 energy consumption.



Our Carbon Offsets

	2010	2011
Carbon Footprint in tCO2e	11,351	11,975
Purchased Carbon Offsets	\$283,767	\$299,375
Purchased Carbon Offsets + HST	\$317,819	\$335,300

Purchased carbon offsets for 2011 include payment credits and space adjustments from 2010

EMISSIONS REDUCTION ACTIVITIES 2011

Providence Health Care continued to take strides to reduce our carbon footprint. In 2011 we undertook multiple projects, including the following highlights



Energy Saved

Providence Health Care completed 6 energy projects in 2 PHC facilities this year which led to annual savings for us...and the environment.

679,375 kWh

Electricity saved

7,629 GJ

Natural gas saved

401 tCO₂e

Greenhouse gas reduction

ENERGY: We improved efficiency

- **We initiated 6 energy retrofit projects in 2 PHC facilities this year:** Mount Saint Joseph Hospital and Brock Fahrni.
- **We conducted annual updates of the Building Energy Performance Index (BEPI – ekWh/m²/yr)** for all PHC-owned buildings.
- **Real-time pulse meters were implemented** at St. Paul's Hospital, Mount Saint Joseph Hospital and Holy Family Hospital. During 2012, additional real-time pulse metering systems will be implemented at 3 additional sites should funding be available for Direct Digital Control (DDC) systems in those facilities.
- **We completed lighting retrofits** at Mount Saint Joseph Hospital and Brock Fahrni.
- **A BC Hydro Continuous Optimization Program (COP) was initiated** at Mount Saint Joseph Hospital.
- **We initiated a boiler and domestic hot water tank upgrade** at Mount Saint Joseph Hospital.
- **We initiated DDC upgrades** at Mount Saint Joseph Hospital and Brock Fahrni.

TRAVEL: We facilitated greener commutes

- **We subjected all vehicles to stringent annual AirCare testing** that optimized fuel efficiency standards.
- **Staff were encouraged to carpool or take transit** to meetings where possible.
- **Green+Leaders ran a sustainable transportation campaign** to encourage walking, cycling or public transit for work commutes.
- **We launched a 4 week Clean Commuter Campaign** in tandem with Bike to Work Week.

Green Buildings

Construction projects on new or existing facilities are built to sustainability standards: LEED (Leadership in Energy and Environmental Design) for new builds, and BOMA BEST (Building Environmental Standards) for existing buildings. We then register the buildings for certification. Our current status is:

- **The 9A Mental Health Unit at St. Paul's Hospital is LEED-certified.** Certified 11/9/2006.
- **We're seeking a Silver-LEED certification for one project,** the BC Centre for Excellence West Wing Renovation. Registered May 9, 2011.
- **One leased facility has been rated a BOMA BEST Level 1,** 520 West 6th Avenue (Corporate), rated 10/01/2011.
- **We have a BOMA BEST Go Green rating,** for 1190 Hornby Street, our Main Administrative Leased building.

In 2011 we applied for LEED Silver status for our BC Center for Excellence West Wing Renovation

DESIGN: We use green standards

- **Continued the commitment to investigate the use of Evidence-Based Design and LEAN principles** in new construction and major renovation projects.
- **All new buildings will be built and registered to LEED Gold standards.**

WASTE: We recycled and reduced

- **Completed implementation of recycling programs** at all acute and residential care sites.
- **EcoLogo-certified represented 70% of paper consumables** purchased in 2011 by ARAMARK, PHC's contracted housekeeping services provider. An additional 10% of paper products have a recycled content of 80% or higher.
- **Rechargeable batteries are now used in pagers,** instead of disposable, for our ARAMARK staff.



One Less Tonne

During 2011, as part of our new Cut the Carbon Community at c3community.ca, we ran a One Less Tonne challenge and asked Lower Mainland staff at Providence Health Care, Fraser Health, the Provincial Health Services Authority, and Vancouver Coastal Health to commit to taking actions to reduce their personal carbon footprint.

Here's what they committed to for the year:

524 tCO₂e

Green House Gas Reduction

5,939 GJ

Energy Saved

936,400 kWh

Power saved

\$153,446

Cost savings

BEHAVIOUR: We engaged staff

- **Over 2,300 Lower Mainland staff, including 182 Providence Health Care employees, signed up for our new Cut the Carbon Community website and campaign, launched in 2011.** They committed to take actions that would reduce over 500 tonnes of carbon emissions through this Fortis-sponsored site.
- **We launched a Green+Leaders program** and recruited PHC staff volunteers. They champion and run behavior change campaigns at their hospitals, care facilities and offices focusing on:
 - **waste and paper reduction**
 - **energy reduction, and**
 - **sustainable transportation**
- **We encouraged staff to change their behavior** by hosting Energy Fairs, and other Energy and Sustainability awareness sessions, all rolled out as part of our BC Hydro Workplace Conservation Agreement.
- **Staff have access to real-time power usage** for each acute/rehab hospital through our online Cut the Carbon Community and our partnership with Pulse Energy. This builds awareness of the success of initiatives and retrofits.
- **We ran energy awareness campaigns** to encourage staff to use stairs where feasible to save energy and encourage personal fitness.
- **Alternative/green travel to meetings was encouraged**, as well as video conferencing and other virtual attendance/presentations.
- **Staff shuttle services were provided to employees** travelling between PHC sites and Vancouver-sites owned by Vancouver Coastal Health.

Our C3community.ca is for staff engagement

The screenshot shows the C3community.ca dashboard. At the top, it says 'GreenCare Cut the Carbon Community' and 'A community effort brought to you by FORTIS BC'. The user is logged in as 'EnviroWoman' and has a score of 1710. A message says 'Congratulations, you just earned 10 points and now have 1710 points in your C3 score.' There is a section titled 'Why join the Clean Commuter Challenge?' with an illustration of people on bicycles. Below this, there are buttons for 'invite colleagues to C3' and 'Track your invites'. The dashboard also shows '2479 MEMBERS AND GROWING!' and 'C3 members by health authority or organization: FH: 767, PHC: 200, PHSA: 462, VCH: 1050'.

EMISSION REDUCTION GOALS 2012–14

Our plans to continue reducing greenhouse gases 2012–2014

The four Lower Mainland health organizations, Providence Health Care, Fraser Health, the Provincial Health Services Authority, and Vancouver Coastal Health will continue to coordinate, collaborate and integrate energy and environmental initiatives within all our operational clinical and non-clinical work.

As part of those efforts, the following is a list of tasks to be achieved by Providence Health Care in 2012.

ENERGY

- **Update the Building Energy Performance Index** for all PHC owned buildings.
- **Complete 4 energy retrofit projects** by May 2012.
- **Complete a BC Hydro COP Implementation Phase** at Mount St Joseph Hospital.
- **Initiate Phase 1 of a BC Hydro COP** at Holy Family Hospital.
- **Install building DDC systems at 3 PHC facilities** to allow for implementation of BC Hydro's COP program, pending available funding,
- **Complete a boiler and domestic hot water tank upgrade** at Mount Saint Joseph Hospital.
- **Complete 3 DDC upgrades** as well as the implementation phase of a BC Hydro COP at Youville Residence, Langara, and Honoria Conway at St. Vincent's Heather.
- **Develop an Energy & Environmental Sustainability "Playbook"** describing the team and work involved in our efforts.

BEHAVIOR

- **Maintain and grow the online Cut the Carbon Community.**
- **Recruit more staff volunteers and continue to support Green+Leaders.**
- **Run Green+Leaders paper reduction campaign in 120 departments** across all four health authorities by the end of 2013.
- **Run energy reduction campaigns in 120 departments** across all four health authorities by end of 2013.

WASTE

- **Implement food services recycling and composting.**
- **Continue to enhance use of a centralized web-based MS SharePoint** and make available to all approved facilities staff across PHC, VCH, FH, and PHSA.
- **Set standard of 60% cleaning products to be Environmental Choice-certified** used by ARAMARK at all PHC sites, pending approval for use in healthcare facilities by infection control authorities.

TRAVEL

- **Expand the installation of an Office Communication System**, including web-conferencing software.
- **Develop a Commuter Strategy Plan** that promotes shower and locker room facilities, pending availability of space and funds.

BUILDING DESIGN

- **Seek certification of LEED Silver** certification for the BC Centre for Excellence West Wing Renovation.
- **Maintain and improve green leasing practices** to reduce energy consumption, and increase building efficiency, sustainability, and occupant satisfaction and comfort.

ASSURANCES AND RESOURCES

Health Authority Resources

- **Providence Health Care**
<http://www.providencehealthcare.org>
- **Fraser Health**
<http://www.fraserhealth.ca>
- **Provincial Health Services Authority**
<http://www.phsa.ca>
- **Vancouver Coastal Health**
<http://www.vch.ca/>
- **Cut the Carbon Community**
www.c3community.ca

External Resources

- **LiveSmart BC: 2010 Carbon Neutral Action Reports: Health Authorities**
http://www.livesmartbc.ca/government/carbon_neutral/health_authorities.html
- **Bill 44 - 2007; Greenhouse Gas Reduction Targets Act**
http://www.leg.bc.ca/38th3rd/1st_read/gov44-1.htm
- **Canadian Green Building Council LEED description**
<http://www.cagbc.org/>
- **ASHRAE 189.1 standard for new buildings and renovations**
<http://www.ashrae.org/resources--publications/bookstore/standard-189-1>
- **BOMA BEST Environmental Certification**
<http://www.bomabest.ca/>
- **Natural Resources Canada**
<http://www.nrcan.gc.ca/home>

Partner Resources

- **Fortis**
<http://www.fortisbc.com>
- **BC Hydro**
<http://www.bchydro.com/>

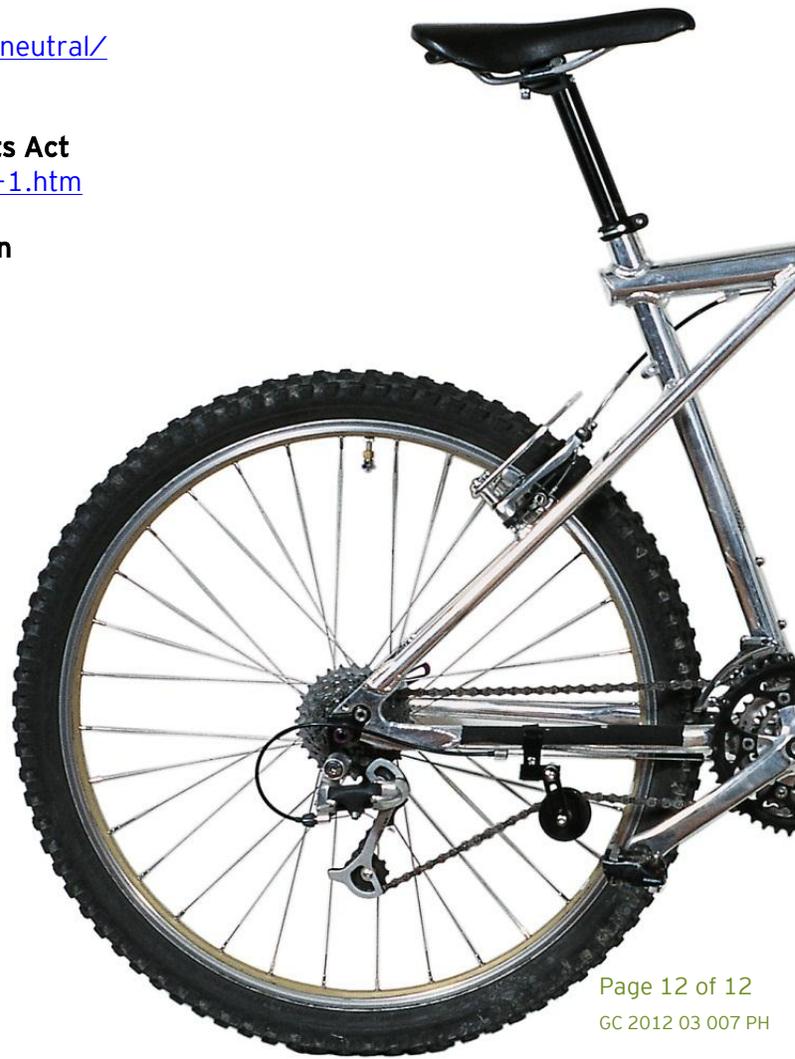
Assurance

As part of meeting the Carbon Neutral Government Regulations, all Public Sector Organizations (PSOs) are now required to annually self-certify, i.e. declare that the data entered into SMARTTool is accurate and complete.

Beginning in 2012, each year a cross section of PSOs will undergo an independent verification process.

In 2011, our Energy and Environmental Sustainability team volunteered for the Climate Action Secretariat's pilot self-certification program.

Feedback from the auditors was good, indicating the Lower Mainland Health Authorities' new process for self-certification is sound.



Providence Health Care - 2011 Carbon Neutral Action Report

Actions Towards Carbon Neutrality

The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the *Greenhouse Gas Reduction Targets Act*.

Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)	Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Mobile Fuel Combustion (Fleet and other mobile equipment)						
Vehicle fuel efficiency						
Perform regular fleet maintenance specifically to improve fuel-efficiency	Ongoing/In Progress	100 % of vehicles are subject to regular maintenance for fuel efficiency	Fleet of four (4) vehicles used by PHC sites are maintained regularly by PHC to ensure vehicle safety and optimize fuel efficiency. All vehicles are subjected to stringent annual AirCare testing, a motor vehicle inspection/maintenance (IM) program implemented in BC in 1992, that requires all vehicles to undergo emissions testing prior to licence renewal.	No Change	1992	No End Date (Continuous)
Behaviour change program						
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Completed in 2011	100 City of Vancouver has had an Anti-idling by-law since 2006. Anti-idling signage is in place at all buildings air intake areas and in receiving dock areas. Delivery vehicles drivers and taxi drivers are requested to shut off engines at all public entrances	Ongoing enforcement of anti-idling	Continue enforcement of anti-idling	2006	No End Date (Continuous)
Promote alternatives to fleet vehicle travel where possible (e.g., bicycles, public transit, walking)	Ongoing/In Progress		Used the Cut the Carbon Community website to promote traveling and commuting carbon reduced or carbon neutral.	Further promotion of the inter site shuttle.	2010	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)						
Planning/management						
Reduce office space (square meters) per employee	Ongoing/In Progress	20 is the current average rentable square meters per employee	1-There is ongoing consolidation of under-utilized leased facilities to reduce energy utilities consumptions, the organization's carbon footprint, square footage footprint and leasing costs 2- A 10,530 square foot floor in a leased facility was converted in 2011 to an open office to accommodate over 100 employees from VCH, PHC, PHSA, and FH health authorities facilities management to maximize space usage, increase efficiency and reduce utilities consumption.	Continue consolidation of under-utilized leased facilities and reducing leased space inventory	2010	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	10 % of buildings have a real time metering system installed	Real-time Pulse metering system was implemented in 6 PHC buildings in 2011.	Additional Real-time Pulse metering system will be implemented in 3 additional PHC facilities should funding be available to install DDC systems in those facilities.	2009	No End Date (Continuous)
Owned buildings						

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Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Establish energy performance baseline for owned buildings	Ongoing/In Progress	100	% of owned buildings have an established energy performance baseline	All owned PHC buildings have a Building Energy Performance Index (BEPI - kWh/m ² /yr) for Acute, and Extended/Residential Care facilities. These can be compared to the average BEPI for same function facilities at PHC and other Health Care Authorities in BC where applicable	Building Energy Performance Index (BEPI - kWh/m ² /yr) are updated annually for all PHC owned buildings	2008	No End Date (Continuous)
Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI)	In Development	3	% of commercial interiors in owned buildings have labelling	A major renovation was initiated on the 6th floor of St Paul's Hospital. Completion will be in June/July 2012. This is targeted for a LEED CI Silver certification. Project has been registered with the CAGBC and awaiting certification	No other LEED CI project is currently planned	2011	No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress	0	% of owned buildings are certified LEED NC Gold or LEED NC Platinum	None for 2011	All new constructed facilities and major renovations are mandated to meet LEED NC Gold standards.	2010	No End Date (Continuous)
Incorporate integrated design process into new construction or during renovations of owned buildings	Ongoing/In Progress	100	% of buildings built or renovated since start year indicated used the integrated design process	All new construction and major renovations are mandated to incorporate Integrated Design Process and LEAN principles where appropriate and feasible	All new construction and major renovations are mandated to incorporate Integrated Design Process and LEAN principles where appropriate and feasible	2008	No End Date (Continuous)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Ongoing/In Progress	100		A refrigerant management strategy that incorporates a refrigerant leak detection and monitoring, leak repair, system retirement and retrofitting, and appropriate bleeding of banned refrigerants is in place in all PHC owned facilities	Maintain practice	2005	No End Date (Continuous)
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	46	% of owned buildings have undergone energy retrofits since start year indicated	A total of six (6) energy retrofit projects were initiated at PHC facilities in 2011 for a total projected savings of an estimated 649,000 kWh of Electricity, 7,629 GJ of Natural Gas and a reduction of 400 tCO ₂ e of GHG. Two (2) projects were completed in 2011 for an annual estimated savings of 163,000 kWh and a reduction of 4.2 tCO ₂ e of GHG. The balance of projects will be completed by May 2012.	<ol style="list-style-type: none"> 1. Complete four (4) energy retrofit projects, currently in progress, by May 2012 for an estimated annual savings of 486,000 kWh of electricity, 7,629 GJ of natural gas and a reduction 396 tCO₂e of GHG 2. Initiate a BC Hydro Continuous Optimization program at one PHC facility (Holy Family Hospital) in 2012. Investigation phase to be completed in November/December 2013 and the Implementation of energy savings measures to be completed by December 2014 or early 2015. 3. Pending available funding, install building DDC systems at 3 PHC facilities to allow for the implementation of BC hydro's Continuous Optimization Programs (COP). 	2010	No End Date (Continuous)
Retrofitting owned buildings							

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Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	33	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	1-One (1) boiler and domestic hot water tanks upgrade project at one PHC facility was initiated in 2011 and will be completed in May 2012 . Estimated annual savings of 48,926 kWh of electricity, 3,527 GJ of natural gas and a reduction of 179 tCO ₂ e in GHG. 2-One (1) BC Hydro Continuous Optimization Program (COP) was initiated in 2011 at one PHC facility and will be completed in May 2012. Estimated annual savings of 213,000 kWh of electricity, 2,734 GJ of natural gas, and a reduction 143 tCO ₂ e in GHG	1-Complete a boiler and domestic hot water tanks upgrade project at one PHC facility in May 2012 2.Complete the installation of a new building controls DDC system at one PHC facility for an estimated savings of 72,000 kWh, 611 GJ of natural gas and a savings of 33 tCO ₂ e GHG emissions reduction 3-Complete a BC Hydro Continuous Optimization (COP) Implementation Phase in mid 2012 at one PHC facility (Mount St Joseph Hospital) 4.Initiate a BC Hydro Continuous Optimization program at one PHC facility (Holy Family Hospital) in 2012. Investigation phase to be completed in November/December 2013 and the Implementation of energy savings measures to be completed by December 2014 or early 2015. BC Hydro's COP programs are designed mainly to identify and implement energy savings in Mechanical and DDC systems	2011	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	33	% of retrofits since start year indicated had lighting systems upgrades	Two (2) lighting retrofit projects were completed in 2011 for a savings of DDC upgrade projects were initiated in 2011 at two PHC facilities. These will be completed in May 2012. Estimated savings of 163169 kWh of electricity, and 4.24 tCO ₂ e reductions in GHG per annum	Pending available funding, implement lighting retrofits at four (4) PHC facilities	2011	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	33	% of retrofits since start year indicated had control system upgrades or adjustments	Two (2) DDC upgrade projects were initiated in 2011 at two PHC facilities. These will be completed in May 2012. Estimated savings of 224,000 kWh of electricity, 1,368 GJ of natural gas and 75 tCO ₂ e reductions in GHG	1. Complete two (2) Two DDC upgrade projects initiated in 2012 as well as the implementation phase of the BC hydro Continuous Optimization Program (COP) at one (1) facility. BC Hydro COP program will include mechanical retrofits as well as DDC optimization. 2. Pending the availability of funding, install DDC systems at three (3) PHC facilities that do not currently have DDC systems.	2011	No End Date (Continuous)
Leased buildings							
Develop a green lease policy that requires green features to conserve energy be included in all lease negotiations	In Development	0	% of leases negotiated since start year indicated have included green features	A Tenant Improvement Handbook, incorporating some elements of Green Lease guidelines was developed in 2007 and updated in 2009, was completed in 2011 and will apply to all Lower Mainland (VCH/PHC/PHSA/FH) new leases where applicable	Maintain and improve green leasing practices, energy consumption, buildings efficiency, sustainability, and occupant satisfaction and comfort.	2011	No End Date (Continuous)
IT power management							
Implement server virtualization	Ongoing/In Progress	70	% of servers have been virtualized since start year indicated	Updated energy study carried out by Greenhalo investigating the further potential of virtualization across the Lower Mainland Health Authorities (VCH/PHC/FH/PHSA). This study was transferred to a BC Hydro Power Smart Incentive agreement	Virtualization to commence affecting the PHC core sites	2012	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress	100	% reduction in printers, copiers, and/or fax machines since start year indicated	All new stand-alone printers, copiers, and/or fax machines have been replaced with new multi-function devices , where feasible	Maintain practice	2007	No End Date (Continuous)
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	Ongoing/In Progress	100	% of devices have auto-sleep settings applied	Auto-sleep settings are the standard configuration setting for all devices that support this functionality. All new printers, copiers, fax machines and/or MFPs (Multi-function Printers) have auto-sleep settings applied.	Maintain practice	2007	No End Date (Continuous)

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Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	100	% of computers are ENERGY STAR rated	All PC Desktops and flat screen monitors, purchased in 2011, are star ENERGY STAR models and replace energy inefficient PC Destops and CRT monitors .	Maintain practice	2011	No End Date (Continuous)
Appliances and electronic devices							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	50	% of fridges are ENERGY STAR rated	All new refrigerators purchased in 2011 were Energy Star models	Maintain practice	2011	No End Date (Continuous)
Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress			New purchases of appliances or electronic devices are ENERGY STAR rated when available.	Maintain practice	2011	No End Date (Continuous)
Behaviour change program							
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress			"Stop the Energy bleed, Turn off lights no one is using" book marks are provided by energy management staff to employees during energy fairs and other Energy Awareness sessions.	Maintain practice	2007	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress			Information provided to staff during Energy Awareness and education sessions. Also included in the Green+Leaders energy reduction campaign.	Maintain practice and awareness initiatives	2007	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Ongoing/In Progress			"Stop the Energy bleed, Turn off lights no one is using" book marks are provided by Energy and Environmental Sustainability staff to employees during energy fairs and other Energy and Sustainability awareness sessions. Energy reduction is also one of the three behaviour change campaigns in the Green+Leaders program. Launched the Cut the Carbon Community online web engagement campaign.	Maintain practice and awareness initiatives. Green+Leaders will continue running energy reduction campaigns in their departments to encourage staff to turn off lights and equipment. Will be implemented in 120 departments by end of 2013.	2007	No End Date (Continuous)
Encourage use of stairs instead of elevators	Ongoing/In Progress			Energy awareness campaigns encourage staff to use stairs where feasible to save energy and encourage personal fitness	Maintain practice and awareness initiatives. "Take the stairs" awareness is incorporated into the Green+Leaders program.	2007	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			"Stop the Energy bleed, Turn off lights no one is using" book marks are provided by Energy and Environment Sustainability staff to employees during energy fairs and other Energy and Sustainability awareness sessions. Non-wall damaging stickers to trurn off lights when not in use have been installed installed by light swtiches to encourage electricity savings. Green+Leaders ran an energy reduction campaign to promote energy conservation.	Green+Leaders will continue running energy reduction campaigns in their departments to encourage staff to turn off lights and equipment. Will be implemented in 120 departments by end of 2013.	2007	No End Date (Continuous)
Promote hot water conservation	In Development			The Energy and Environment Sustainability team initiated a water conservation assessment trial in 2011 using water saving device at one VCH Hospital in preparation for a hot water conservation plan at other Lower Mainland Health Authorities (FH, VCA, PHSA, PH).	A water Conservation plan will be developed over the next 3 years	2011	2014
Other Stationary Fuel Combustion, Electricity, and Fugitive Emissions Actions							
Held electricity reduction training workshops for 100 housekeeping staff at St. Paul's Hospital, Mount St. Joseph's, and other sites	Completed in 2011			Developed program and executed it.	Program will repeat every two years.	2011	No End Date (Continuous)
Supplies (Paper)							

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Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)	Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year	
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress		Practice encouraged throughout PHC	HSSBC to review paper purchases and establish post-consumer recycled content paper standards for VCHA, PHC, FHA, PHSA health authorities	2012		
Purchase 40% post-consumer recycled paper	In Development		Practice being evaluated	HSSBC to review paper purchases and establish post-consumer recycled content paper standards for VCHA, PHC, FHA, PHSA health authorities	2012		
Purchase 100% post-consumer recycled paper	In Development		Opportunity being assessed	HSSBC to review paper purchases and establish post-consumer recycled content paper standards for VCHA, PHC, FHA, PHSA health authorities	2012		
Printer/document settings							
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	100	% of network printers or photocopiers are set to automatic double-sided	All new Multi-function printers and photocopiers installed since 2009 have automatic double-sided set as the default setting. All printers and copiers have been adjusted to default to double-sided printing	Maintain practice	2009	No End Date (Continuous)
Electronic media in place of paper							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress		Current use of MS Sharepoint Collaborative software for Electronic editing is available to staff where required. Planning in place for facilities to upgrade to one centralized web-based system using Sharepoint 2010	Initiative in place to enhance use of a centralized web-based MS SharePoint 2010 electronic editing and make available to all approved facilities staff across VCH, PHC, FH, PHSA health authorities.	2008	No End Date (Continuous)	
Use electronic document library for filing common documents	Ongoing/In Progress		Shared drives and electronic document libraries are available to most staff at PHC. Green+Leaders materials reduction campaign includes an electronic filing tool.	Practice will continue. Enhance and extend use in Facilities, including Planning, Construction and Engineering	2008	No End Date (Continuous)	
Post materials online that were previously printed	Ongoing/In Progress		Public Affairs and Communications post most materials that were previously printed through various web-based media	It is expected that most printed material will be slowly reduced and replaced with various on-line electronic media including e-mail bulletins, intranet newsletters and other electronic media	2009	No End Date (Continuous)	
Behaviour change program							
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	In Development		Some training is currently available	HSSBC to review training needs and develop action plan	2008	No End Date (Continuous)	
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress		Practice is encouraged Green+Leaders materials reduction campaign included a focus on paper reduction.	On-going and part of the paper reduction campaigns strategies. Green+Leaders program includes a paper reduction campaign that includes a tool on paperless meetings. Will be implemented in 120 departments by end of 2013.	2008	No End Date (Continuous)	
Encourage re-use of scrap paper	Ongoing/In Progress		Practice is encouraged. Green+Leaders materials reduction campaign included a focus on paper reduction.	On-going and part of the paper reduction campaigns strategies	2008	No End Date (Continuous)	

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Actions to Reduce Provincial Emissions and Improve Sustainability

The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the *Greenhouse Gas Reduction Targets Act*. Public sector organizations can optionally use this section to report on actions that will help British Columbia meet its provincial greenhouse gas reduction targets, engage the public, and improve environmental sustainability across all aspects of their organization.

Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)	Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Business Travel						
Virtual meeting technology						
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Ongoing/In Progress		Web-conferencing software is installed on some management desktop as well as in major conference rooms	The installation of Office Communication System (OCS), including web-conferencing software, is now part of HSSBC mandate and responsibility. Use will be expanded	2010	No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Ongoing/In Progress		Most main conference rooms in the larger facilities have video-conference units installed	The installation of Office Communication System (OCS), including video-conferencing, is now part of HSSBC's mandate and responsibility. Installation of video-conferencing units will continue to be installed across VCH	2010	No End Date (Continuous)
Behaviour change program						
Train staff in web-conferencing	Ongoing/In Progress		Limited staff training at this time due to lack of staff resources	Staff training for web-conferencing is now part of the HSSBC mandate and responsibility. Staff Training will be expanded	2010	No End Date (Continuous)
Train staff in video-conferencing or provide technical support for video-conferencing set-up	Ongoing/In Progress		Limited staff training and technical support at this time due to lack of staff resources	Staff training for video-conferencing and technical support is now part of the HSSBC mandate and responsibility. Staff Training and technical support will be expanded	2010	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress		Green+Leaders sustainable transportation campaign includes a tool to encourage staff to hold virtual meetings. Staff are encouraged to participate in video conferencing and other virtual attendance/presentation.	Maintain practice where possible. Part of the Green+Leaders program will include encouraging staff to hold virtual meetings as part of the sustainable transportation focus.	2009	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress		Green+Leaders sustainable transportation campaign includes a tool to encourage staff to carpool to meetings. Staff are encouraged to carpool to meetings	Practice to continue. Green+Leaders program will include encouraging staff to carpool as part of the sustainable transportation focus.	2008	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress		Green+Leaders sustainable transportation campaign includes a tool to encourage staff to take sustainable alternatives to meetings.	Practice to continue. Part of the Green+Leaders program will continue to encourage alternatives to SOVs when travelling to meetings.	2008	No End Date (Continuous)
Education, Awareness, and Engagement						
Team-building						
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	Ongoing/In Progress		The Green+Leaders program recruits, trains and supports staff volunteers to run behaviour change campaigns in their departments. The program is supported by Executive Team	Practice to continue	2010	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress		The Green+Leaders program has one FTE dedicated to training and supporting volunteers	Practice to continue	2010	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress		The Green+Leaders program provides training on community-based social marketing and CBSM is integrated into its tools	Practice to continue	2010	No End Date (Continuous)
Awards/Recognition						

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Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)	Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Establish a sustainability/green awards or recognition program	Ongoing/In Progress		Recognition event held for Green+Leaders annually	practice to continue	2009	No End Date (Continuous)
Staff Professional Development						
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress		The Green+Leadersprogram recruits, trains and supports staff volunteers to run behaviour change campaigns in their departments. The program is supported by Executive Team	Practice to continue	2010	No End Date (Continuous)
Include green options in employee performance measurement system	Ongoing/In Progress		Recognition event held for Green+Leaders annually	Practice to continue	2010	No End Date (Continuous)
Staff awareness/education						
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress		Green+Leaders energy reduction campaign provides training on energy conservation through behaviour change.	Practice to continue	2010	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress		Monthly newsletters sent to Green+Leaders featuring resources and suggested readings on various sustainability topics. Online website "Cut the Carbon Community" (C3) offers stories, tips, challenges, incentives, and collaboration for staff.	Practice to continue	2010	No End Date (Continuous)
Client/public awareness/education						
Provide green tips on client/public website or in newsletters	Ongoing/In Progress		Many tips offered through a variety of newsletters, websites, and updates.	Practice to continue	2010	No End Date (Continuous)
Other Sustainability Actions						
Water conservation						
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	Ongoing/In Progress		Water conservation strategies were included in a LEED CI Silver major renovations project at St Paul's Hospital, currently in progress in Vancouver, and scheduled for occupancy in June 2012. These include the use of efficient low flow water fixtures to reduce potable water demand and energy consumption.	All new constructed facilities and major renovations are mandated to meet LEED NC Gold. One (1) major renovation, currently under construction at St Paul's Hospital to be completed by June/July 2012. Certification will be LEED CI Silver As part of the LEED process, all major construction and major renovations will incorporate water conservation strategies to reduce and conserve potable water and reduce hot water consumption to reduce energy consumption. Other renovations will also include plans to replace inefficient water fixtures with efficient models	2010	No End Date (Continuous)
Waste reduction/diversion						

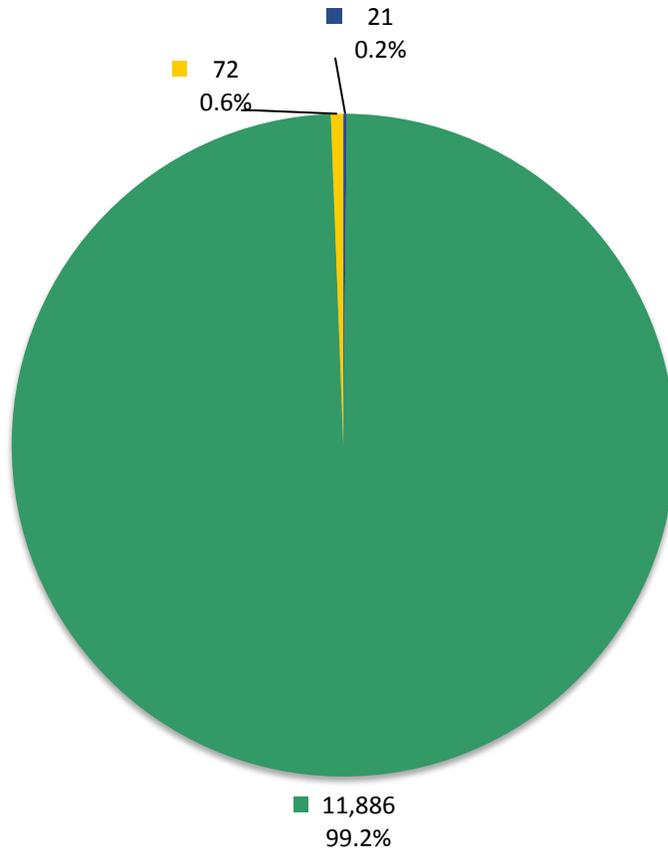
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Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)	Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	Ongoing/In Progress		<p>A Coordinator, Reduction & Recycling position implemented recycling strategies at major acute sites; designed and commissioned marketing /training/educational materials and finalized signage; drafted a communication plan; visited recycling plants in order to understand processes and what materials can be recycled; developed indicators for recycling reporting; designed surveys to assess staff awareness and satisfaction; compiled waste and recycling data; completed waste audit training; completed power point for staff education; initiated recycling programs at a number of PHC sites. Recyclable materials include paper, confidential paper, plastics, soft drink cans, cardboard, batteries, Mercury, electronics, and fluorescent and HID lighting.</p> <p>ARAMARK (contracted housekeeping services provider) has moved from disposable to rechargeable batteries for their staff pagers.</p>	Recycling programs will continue to be implemented all PHC acute care sites where waste management contracts are in place; Program implementation will include planning and distribution of bins, education of staff and the public and continued support & progress reporting for all sites; Investigation into additional recycling streams and systems will be implemented; it is expected that recycling volumes and diversion rates, staff awareness and satisfaction with recycling will increase as the program moves forward.	2004	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress		Compliance levels for the safe disposal of all hazardous waste are met through regular audits of biomedical waste to exclude hazardous waste from the recycling and general waste streams.	Maintain and improve current practice	Started before 1995	No End Date (Continuous)
Procurement (non-paper supplies)						
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress		70% of paper consumables purchased in 2011 by ARAMARK (contracted housekeeping services provider) were EcoLogo certified ; an additional 10% of paper products have a recycled content of 80% or higher.	60% of cleaning products used by ARAMARK (contracted housekeeping services provider) will be Environmental Choice certified at all PHC sites where ARAMARK provides housekeeping services; purchasing practices to be reviewed regularly and new green products added where available, pending approval for use in healthcare facilities by infection control authorities.	2010	No End Date (Continuous)
Indoor air quality						
Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.)	Ongoing/In Progress		Practice maintained	Maintain practice	2000	No End Date (Continuous)
Commuting to and from home						
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress		Green+Leaders sustainable transportation focus includes a campaign to encourage walking, cycling or public transit for work commute. Launched a 4 week Clean Commuter Campaign in tandem with Bike to Work Week.	Maintain campaign	2007	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	In Development		No Change	Develop Commuter Strategy Plan to promote shower and locker room facilities to meet increase in demand pending availability of space and funds	2010	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In Progress		Most PHC facilities have implemented secure bicycle cages/rooms for staff use.	A complete audit of all sites. This will entail the exact amount of the currently offered storage space and shower facilities being offered. Increase secure bicycle storage at various sites pending available funding.	2007	No End Date (Continuous)
Other Sustainability Actions						

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Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Completed implementation of 4-6 stream recycling program at all PHC acute sites and residences. Maintained program once implemented.	Ongoing/In Progress			Completed implementation and maintained/monitored program.	Maintenance and monitoring. Further training for users where necessary.	2010	2011
Office organics diversion	Ongoing/In Progress			Renewed contracts to continue the composting / organics diversin.	Investigating the possibility to expand the program	2009	No End Date (Continuous)

**Providence Health Care
Greenhouse Gas Emissions by Source
for the 2011 Calendar Year (tCO₂e*)**



Total Emissions: 11,978

- 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 2011 (Generated May 18, 2012 10:56 AM)

Total offsets required: **11,974**. Total offset investment: **\$299,350**. Emissions which do not require offsets: **4** **

*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.