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Providence Health Care

2010 CARBON NEUTRAL ACTION REPORT (CNAR)

A document authored by
Lower Mainland Facilities Management
Energy & Environmental Sustainability (EES) department



Providence Health Care Executive Summary 2010 Carbon Neutral Action Report



In accordance with the British Columbia Greenhouse Gas Reduction Targets Act we are proud to present Providence Health Care's 2010 Carbon Neutral Action Report (CNAR). We are in the second year of official CNAR reporting and third year of tracking Providence Health Care carbon footprint as part of our commitment to energy and carbon reduction.

Working collaboratively with the Lower Mainland Health Organizations, we are actively creating initiatives to advance our commitment to reduce GHG emissions and prioritize environmental sustainability within healthcare. Listed below are some of the key energy conservation initiatives, which advance our collective strategic goal of increasing resource efficiency to sustain and strengthen the health care system:

- **Sustainability Policy:** PHC, along with the other Lower Mainland health services organizations, has passed and endorsed an *Environmental Sustainability Policy* to define Sustainability in the context of health care, demonstrate senior leadership commitment and enable the reduction of carbon footprint by incorporating sustainability in decision making processes. This is the first Lower Mainland wide policy adopted in common by PHC, VCHA, FHA and PHSA.
- **Energy & Environmental Sustainability (EES):** The 2010 consolidation of the EES group ensures greater strategic direction and information sharing between energy management and environmental sustainability activities throughout the Lower Mainland Health Authorities.
- **GreenCare:** An umbrella initiative across the Health Authorities designed to promote an environmentally conscious culture that is actively aware and engaged in creating sustainable solutions for healthy lives and a healthy community.
- **Cut the Carbon Community (C3):** As the first health care specific online community in North America, C3 can be accessed by all Lower Mainland Health Authority staff to share information and collaborate around conservation and sustainability initiatives.

We embrace sustainable solutions and are committed to these collective actions as well as developing our own unique projects and initiatives at PHC to reduce our carbon footprint. Here are several of the most significant energy conservation projects and sustainability initiatives that we have initiated:

- Representing **96.7%** of the organizational carbon footprint, energy has been a key focus point of the organizations drive for carbon neutrality.
- Within this work, Energy Management has implemented projects during 2010 that will decrease electrical consumption **1.9%**, natural gas **6.21%**, and reduce the organizational carbon footprint by **2.43%**.

- Representing less than 3.1% of the organizations carbon footprint, waste (paper) management has been a key focus too. Waste management has rolled out a recycling program to all PHC sites and the community dialysis units. It is hoped that expanded recycling opportunities will bring a tipping point of recycling behaviour within the organization.
- According to current reporting standards, PHC vehicle emissions represent less than 0.2% of the organizations carbon footprint. But this has not stopped PHC from extending their carbon reduction efforts past their own small fleet (4 vehicles). PHC also encourages staff to commute carbon neutral (bike / walk) or carbon reduced (car pool / transit).

PHC is committed to providing the highest level of health care and as part of this we embrace sustainable solutions for healthy lives and a healthy community.

We appreciate your interest in our CNAR. I hope we will collectively work towards further carbon reduction and carbon neutrality.



Dianne Doyle
President and Chief Executive Officer



Peter Goldthorpe
VP Capital Projects, Real Estate & Facilities

Providence Health Care (PHC) is one of the largest Catholic health care organizations in Canada, serving British Columbians for over 115 years. It owns/operates eight acute and residential care facilities in Vancouver with over 600 acute care, 700 residential, 76 rehabilitation, 12 hospice beds and 60 assisted living units. In addition, PHC oversees the operation of 7 community dialysis clinics across the VCH region. These facilities provide care for patients from local, regional and provincial populations.

PHC is a party to the Master Agreement between the Denominational Health Association and the Province, under which it maintains the right to own, manage, operate and conduct the affairs of its health facilities and to plan and deliver health services in collaboration with other health bodies. As an affiliate, PHC receives its operating and capital funding through Vancouver Coastal Health (VCH) including designated funding for provincial programs from the Provincial Health Services Authority (PHSA).

Facilities and Operations

- St. Paul's Hospital, an acute care, academic and research hospital with 500 acute care beds located in downtown Vancouver.
- Mount Saint Joseph Hospital, a community hospital located on the east side of Vancouver with 120 acute care and 100 extended care beds
- Holy Family Hospital is a provincial referral centre providing specialized rehabilitation for older adults and residential care. Located in South Vancouver, offers 75 inpatient beds, a range of outpatient rehab services and 142 residential care beds.
- Brock Fahrni is an extended care facility located on Vancouver's West Side and home to 148 residents.
- Langara is a long term care facility that is home to 221 residents. It is located in a residential area of Vancouver
- Honoria Conway at St. Vincent's Heather is a 60 unit residence for seniors who live independently with assistance. It is part of a larger planned development for a Campus of Care located at the corner of Heather Street and 33rd Avenue in Vancouver
- Youville Residence, a multi-level care facility that is home to 84 residents
- Marion Hospice, 12-bed facility for the care of the terminally ill located in the Windermere Care Centre in Vancouver

1. Context

Providence Health Care (PHC) understands the importance of energy and environmental sustainability as a component of organizational, human, and environmental health.

Prof. Anthony Costello of the University College London's Institute for Global Health summed up the issue of human health with environmental health when he stated, *"There are major health benefits from low-carbon lifestyles, which can reduce obesity, heart and lung disease, diabetes and stress."*

PHC believes in and has taken strong steps to show leadership towards reducing its carbon footprint. Part of this commitment is to work with other Lower Mainland health organizations to establish a collaborative approach

"The current collaborative consolidation of specific services at Vancouver Coastal Health Authority (VCHA), Fraser Health Authority (FHA), Providence Health Care (PHC), and Provincial Health Services Authority (PHSA) has enabled the creation of an Energy & Environmental Sustainability (EES) group. This group of Energy Managers and Sustainability Managers are tasked with reducing the waste and environmental impacts of the health organizations. It is 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 well being of British Columbians through maintaining the important link between health and the environment. An increased focus will be placed on engaging organizational staff and work communities to take action on climate change and to reduce the organizations' overall carbon footprint." –Lower Mainland Consolidation Statement

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

Sustainability Policy

"The Lower Mainland Health Organizations will act as leaders with respect to Environmental stewardship while engaging the healthcare community in a collaborative approach towards sustainability."

Vision Statement

"To promote an environmentally-conscious culture that is actively aware and engaged in creating sustainable solutions for healthy lives and a healthy community."

Sustainability Conservation Targets

Tier One Targets	2010-11	2011-12	2013-14	2019-20
Energy Reduction	2%	4%	8%	20%
GHG Reduction	2%	7%	13%	* 33%
Water Reduction	2%	4%	8%	20%
% of Waste Recycled	23%	35%	* 70%	* 70%
GreenCare Behavioural - Staff Participation	15%	25%	45%	85%

** Targets aligned with Bill 44 and Metro Vancouver Targets*

2. 2010 Greenhouse Gas Emissions

Providence Health Care has calculated their 2010 carbon footprint, in accordance with the *Greenhouse Gas Reduction Targets Act* (as reported in SMARTTool).

2010 Emissions by Source	Value	Unit/type
Mobile Fuel Combustion (Fleet and other mobile equipment)	15.43	tonnes of CO ₂ e
Stationary Fuel Combustion and Electricity (Buildings)	11,265.15	tonnes of CO ₂ e
Supplies (Paper)	70.11	tonnes of CO ₂ e
Fugitive Emissions	-	tonnes of CO ₂ e
Total	11,350.69	tonnes of CO₂e

Organizational Information (as of December 31, 2010)	Value	Unit/type
How many full time equivalent employees (FTEs) do you have within your organization?	4,311	FTEs
How many vehicles (cars, trucks, SUVs, etc.) within your fleet?	4	vehicles
How much space (square meters) is within your building portfolio?	182,161	usable square meters
How many buildings are in your portfolio	23	distinct buildings
What percentage of your building portfolio is leased?	6	percent leased
What percentage of your building portfolio is owned?	94	percent owned
Is carbon neutral/sustainability planning incorporated into other organization-wide planning?	Yes	
How many FTEs does your organization employ for implementing carbon neutral/sustainability initiatives?	1	FTEs
How many FTEs does your organization employ for measuring and monitoring energy/carbon neutral performance?	1	FTEs

It was estimated that Fugitive Emissions from cooling do not comprise more than 0.01% of PHC'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 the PHC total greenhouse gas emissions profile.

3. Offsets Applied to Become Carbon Neutral in 2010

Providence Health Care became carbon neutral in 2010 by the continued commitment to reduce energy, paper, and travel CO₂ emissions.

This commitment was achieved through mechanical and electrical retrofits, policy development, behavioural programs and lastly, the purchasing of carbon offsets.

The following chart indicates the tCO₂e reported for 2010. As well, the total expenditure on carbon offsets to ensure Providence Health Care was Carbon Neutral during this calendar year.

2010 Offsets	Value	Unit/type
Emissions Which Do Not Require Offsets	1.01	tonnes of CO ₂ e
Total Offsets Purchased	11,349.68	tonnes of CO₂e
Total Offsets Investment (before taxes)	\$ 283,742.00	\$ CDN

*The above chart covers all 2010 emissions and offsets purchased from the Pacific Carbon Trust (PCT) in 2010. Final tCO₂e emissions and costs to be confirmed once SMARTTool is fully operational.

4. Operational Changes in 2010:

“The Senior Leadership of VCHA, PHC, PHSA, and FHA outlined their firm commitment to ensure that health care dollars are focused on direct patient care by announcing that the four organizations will formally work together to manage and deliver administrative and clinical support services.

This formal working relationship has resulted in the consolidation, of the following areas:

- Biomedical Engineering (BME)
- Business Initiatives and Support Services (BISS)
- Facilities Management (FM)
- Health Information Management (HIM)
- Information Management Information Technology Services (IMITS)
- Integrated Protection Services (IPS)
- Interpreting Services (IS)
- Medical Imaging (MI)
- Pathology & Laboratory Medicine Services
- Pharmacy Services

This partnership has allowed for new opportunities to coordinate environmental and sustainability work across VCHA, FHA, PHA and PHSA in a unified manner. These organizations oversee the operation of 25 acute care hospitals and 27 residential care facilities, which serve a total population of over 2.5 million British Columbians and include 37 municipalities and regional districts.
(Lower Mainland Consolidation Statement)

5. Emissions Reduction Activities

Actions Taken to Reduce Greenhouse Gas Emissions in 2010:

Providence Health Care (PHC) has strived to be a leader in energy and environmental sustainability. PHC was one of the first British Columbian health care institutions to have a green team with corporate representation. As of recent, PHC has joined VCH, PHSA, and FHA in rolling out a collaborative initiative called “GreenCare”.

In 2010 PHC took strides in reducing their carbon footprint through the following ways:

- **Energy**
 - Real-time Pulse metering system was implemented in one building in 2010 (Mt. St. Joseph Hospital). Five (5) other Real time pulse meters are in the implementation stage in five (5) PHC buildings and will be completed in 2011 (St. Paul’s Hospital Providence I and II, Burrard, and Comox buildings, and Holy Family Hospital).
 - One (1) BC hydro Continuous Optimization Project (COP) energy retrofit project, initiated in 2010 at Mt St Joseph Hospital, will be completed in 2011. Estimated savings of 214,000 kWh of Electricity, 2,740 GJ of Natural gas and a total reduction 143 tCO₂e (1.2%) of GHG from the carbon footprint of PHC.
 - Initiated planning for nine (9) energy retrofit/projects/measures (Mechanical, Boilers, Domestic Hot Water, HVAC, DDC building controls, and Lighting retrofits) in two (2)

- owned PHC facilities. All projects are in the implementation stage and will be completed in 2011. (Mount St. Joseph Hospital, St Vincent - Brock Fahrni)
 - Initiated planning for four (4) energy retrofit/projects/measures for Mechanical, Boilers, Domestic Hot Water, and HVAC) in four (4) owned PHC facilities. All projects are in the implementation stage and will be completed in 2011 (Mount St Joseph Hospital, St Vincent – Brock Fahrni)
 - Two (2) DDC upgrade projects were initiated in two (2) facilities in 2010 and will be completed in 2011 (Mount St. Joseph Hospital and St. Vincent – Brock Fahrni)
 - All newly purchased refrigerators are ENERGY STAR models. Older non-ENERGY STAR models are only replaced to STAR-ENERGY models when they fail.
- **Travel**
 - All vehicles are subjected to stringent annual AirCare testing and optimized fuel efficiency standards.
 - Plans were initiated to expand video-teleconferencing at PHC sites by installing three (3) more setups at St Paul's Hospital for UBC Academic Research use as well as one (1) unit at Mount St Joseph's Hospital.
 - Staff are encouraged to carpool or transit to meetings where possible
- **Waste**
 - In partnership with VCH, PHC hired a Reduction & Recycling Coordinator to implement recycling at all acute sites; recycling programs implemented at St. Paul's Hospital, Langara, Holy Family Hospital, St Vincent - Brock Farnhi, Youville Residence and Mount St Joseph Hospital; St. Paul's waste audit conducted; 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 survey to assess staff awareness and satisfaction; compiled waste & recycling invoice data; completed waste audit training; completed power point for staff education; Recycling at PHC facilities includes paper, confidential paper, plastics, soft drink cans, cardboard and batteries.
 - ARAMARK (contracted housekeeping services provider) has moved from disposable to rechargeable batteries in pagers.
 - Composting initiatives at two (2) PHC sites food preparation areas - Holy Family Hospital and Mount Saint Joseph Hospital.
- **Design - Leadership in Energy and Environmental Design (LEED)**
 - All new construction and major renovations aims to incorporate Integrated Design Process and/or LEAN principles where feasible and/or appropriate
- **Behavioural**
 - Earth Hour promoted and "Stop the Energy bleed, Turn off lights no one is using" book marks were provided by energy management staff to employees during energy fairs and other Energy Awareness sessions.

- Staff are encouraged to participate in video conferencing and other virtual attendance/presentation.
- Staff are encouraged to carpool or transit to meetings where possible.
- Refreshed the “GreenCare” branding and creative platform to more closely align it with health care.
- Aramark conducted “Earth Day”, “Green Cleaning Week”, and an “Energy Awareness Week”.

Plans to Continue Reducing Greenhouse Gas Emissions 2011-2013:

The four organizations, VCHA / FHA / PHSA / PHC will continue to coordinate, collaborate and integrate energy & environmental initiatives within all operational clinical and non-clinical work. Within those efforts, the following is a list of tasks to be achieved in 2011 – 2012.

• Energy

- Real-time Pulse meters are in various stages of implementation in five (5) additional buildings and will be completed in 2011. (St Paul’s Hospital - Providence I and II, Burrard and Comox buildings and Holy Family Hospital)
- Complete the implementation of one (1) BC hydro Continuous Optimization Program initiative by March 31, 2011. (Mount St. Joseph Hospital)
- Nine (9) energy retrofit/projects/measures (Mechanical, Boilers, Domestic Hot Water, HVAC, DDC building controls, and Lighting retrofits) in two (2) PHC facilities (Mount St Joseph Hospital and St. Vincent – Brock Fahrni) currently in the implementation stage, will be completed in 2011
- Initiate Investigation phase of BC Hydro Continuous Optimization Program (COP) in two (2) separate PHC buildings at St Paul’s Hospital in 2011 (Providence I and II). Implementation phase of approved energy measures will proceed in September 2012. Continuous Optimization retrofits include Mechanical retrofit measures and DDC systems
- Two (2) additional DDC upgrades initiated in 2010 (Mount St Joseph Hospital and St Vincent – Brock Fahrni) will be completed in 2011.
- All desk lamps incandescent bulbs to be replaced with CFL compact fluorescent bulbs or more efficient lighting where required

• Travel

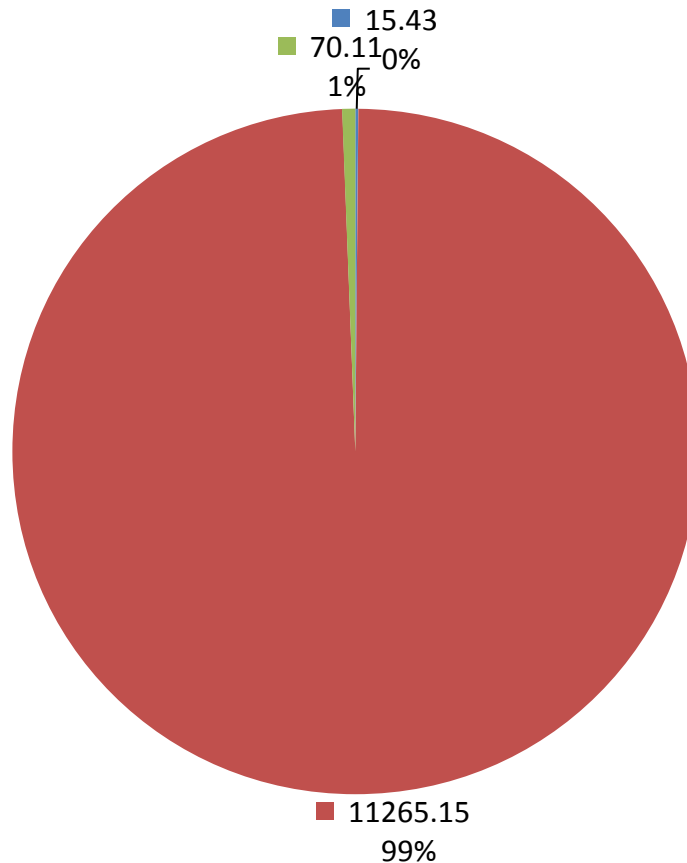
- Office Communication System (OCS) which includes web-conferencing software is a mandate of Health Shared Services BC (HSSBC). Planning, installation, and training will take place in the coming year(s).
- Green+Leaders program will have an annual two-month Sustainable Transportation focus which promotes behaviour change in this area.

• Waste

- Continue promotion of recycling programs at all PHC sites in order to increase the percentage of material recycled; Program implementation will include planning & distribution of bins, education of staff and the public and continued support & progress

- reporting for all sites; Investigation into additional recycling streams and systems to be implemented; it is expected recycling volumes and diversion rates, staff awareness and satisfaction with recycling will increase as the program moves forward and is continually monitored.
- Anticipate move to rechargeable batteries will reduce battery reduction from 5,000 to 250 over a 5 year period.
- A previous audit of biomedical waste found materials that could be recycled or disposed as regular waste so education efforts will continue to ensure waste is disposed in the appropriate stream.
- Potential of additional composting initiatives in the food preparation areas of other PHC owned facilities where feasible.
- **Design - Leadership in Energy and Environmental Design (LEED)**
 - PHC administration offices at Hornby (leased facility) is undergoing renovation and incorporating LEAN space and open office design to maximize space efficiency and energy savings.
 - Final edit and approval of the Tenant Improvement Handbook by the Lower Mainland Facilities Management Steering Committee, which will promote inclusion of sustainability standards in every tenant improvement done within the Health Care Organizations lease sites
 - Maintain and improve green leasing practices to reduce energy consumption, increase buildings efficiency, sustainability, and occupant satisfaction and comfort.
- **Behavioural**
 - The "Green+ Leaders" program was launched in February 2011. The Green+Leaders behaviour change program will entail 120 staff volunteers who will be recruited and educated on community-based social marketing behaviour-change tools that focus on paper/waste reduction, energy reduction and sustainable transportation.
 - The "Cut the Carbon Community" (C3) was launched in March 2011. This web site provides a direct channel of communication and networking with interested staff from across the region. This will bridge a continual incentive and communication gap that previous behavioural programs have been plagued with.
 - Continued support for the Aramark conducted "Earth Day", "Green Cleaning Week", and an "Energy Awareness Week".

Providence Health Care Greenhouse Gas Emissions by Source for the 2010 Calendar Year (tCO₂e*)



Total Emissions: 11350.69

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

Offsets Applied to Become Carbon Neutral in 2010

Total offsets purchased: **11349.68**. Total offset investment: **\$283,742.00**. Emissions which do not require offsets: **1.01** **

*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 Government Neutral 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.

Providence Health Care - 2010 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 <i>Greenhouse Gas Reduction Targets Act</i> .							
Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Mobile Fuel Combustion (Fleet and other mobile equipment)							
Vehicle fuel efficiency							
Perform regular fleet maintenance 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.	Maintain current practice	1992	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							
Planning/management							
Reduce office space (square meters) per employee	Ongoing/In Progress	42	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 2010 to an open office to accomodate 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	2009	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress			Real-time Pulse metering system was implemented in one building in 2010. Additional five (5) Pulse meters are in various stages of implementation in five (5) additional buildings and will be completed in 2011.	1- Additional five (5) real time Pulse metering system installation are currently in progress and will be completed in 2011 2- Pending available funding, install additional Pulse meters in the remaining PHC owned facilities	2009	No End Date (Continuous)
Owned buildings							
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 - ekWh/m2/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 - ekWh/m2/yr) are updated monthly for all PHC owned buildings	2007	No End Date (Continuous)
Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI)	Ongoing/In Progress			No LEED CI Registered in 2010	Providence Health is constantly striving for innovative sustainable design and project delivery solutions to resolve challenges to upgrade aging hospital facilities while balancing new demands for modern health care practices, sustainability and energy efficiency	2010	No End Date (Continuous)
Incorporate integrated design process into new construction or during renovations of owned buildings	Ongoing/In Progress			All new construction and major renovations aims to incorporate Integrated Design Process and/or LEAN principles where feasible and/or appropriate	Maintain practice	2009	No End Date (Continuous)

Providence Health Care - 2010 Carbon Neutral Action Report

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
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)
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress	22	% of owned buildings have undergone energy retrofits since start year indicated	1- Initiated one (1) BC hydro Continuous Optimization Project (COP) energy retrofit project in 2010 (Mount St Joseph Hospital) to be completed in 2011. Estimated savings of 214,000 kWh of Electricity and 2,740 GJ of Natural gas and a total reduction 143 tCO2e per annum. 2- Initiated planning for nine (9) energy retrofit/projects/measures (Mechanical, Boilers, Domestic Hot Water, HVAC, DDC building controls, and Lighting retrofits) in two (2) owned PHC facilities (Mount St Joseph Hospital and St Vincent - Brock Fahrni Residential Care). All projects are in the implementation stage and will be completed in 2011.	1- One (1) BC hydro Continuous Optimization Program started in 2010 (Mount St Joseph Hospital) will be completed by April 2011. 2- Nine (9) energy retrofit/projects/measures (Mechanical, Boilers, Domestic Hot Water, HVAC, DDC building controls, and Lighting retrofits) in two (2) owned PHC facilities (Mount St Joseph Hospital and St Vincent - Brock Fahrni Residential Care), will be completed in 2011. 3- Initiate Investigation phase of BC Hydro Continuous Optimization Program (COP) for two (2) separate PHC buildings at St Paul's Hospital (Providence Phase I and II) in 2011. Implementation phase of approved energy measures will proceed in September 2012 and completed in 2013. Continuous Optimization retrofits include Mechanical retrofit measures and DDC systems optimization 4- Initiate Investigation phase of BC Hydro Continuous Optimization Program (COP) for three (3) separate PHC buildings (St Paul's Hospital - Burrard and Comox buildings, and Holy Family Hospital - South building) in 2012. Implementation phase of energy measures will proceed in September 2013 and completed in 2014.	2007	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	30	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	1- Initiated one (1) BC hydro Continuous Optimization Project (COP) energy retrofit project in 2010 to be completed in 2011. Estimated savings of 214,000 kWh of Electricity and 2,740 GJ of Natural gas and a total reduction 143 tCO2e per annum. 2- Initiated planning for four (4) energy retrofit/projects/measures for Mechanical, Boilers, Domestic Hot Water, and HVAC) in four (4) owned PHC facilities. All projects are in the implementation stage and will be completed in 2011.	1- Complete the implementation of the one (1) BC hydro Continuous Optimization Program initiative by March 31, 2011. 2- Four (4) energy retrofit/projects/measures for Mechanical, Boilers, Domestic Hot Water, and HVAC retrofits in four (4) owned PHC facilities, currently in the implementation stage, will be completed in 2011. 3- Initiate Investigation phase of BC Hydro Continuous Optimization Program (COP) for two (2) separate PHC buildings at St Paul's Hospital in 2011. Implementation phase of approved measures to start in September 2012. Continuous Optimization retrofits include Mechanical retrofit measures and DDC systems optimization 4- Initiate Investigation phase of BC Hydro Continuous Optimization Program (COP) for three (3) separate PHC buildings (St Paul's Hospital, Holy Family Hospital) in 2012. Implementation phase of approved measure to start in September 2013. Continuous Optimization retrofits include Mechanical retrofit measures and DDC systems optimization .	2007	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	5	% of retrofits since start year indicated had lighting systems upgrades	One (1) Lighting Retrofit project was initiated in one (1) facility in 2010 (Mount St Joseph Hospital) to be completed in 2011. Estimated savings of 134,500 kWh	1- One (1) Lighting Retrofit project started in 2010 in one owned facility (Mount St Joseph Hospital) in 2010, will be completed in April 2011. Estimated savings of 134,500 kWh and a reduction of 3.5 tCO2e of GHG per annum 2- One (1) additional LED Lighting Retrofit, initiated in 2010 (St Vincent - Brock Fahrni parking) will be completed in 2011. Estimated savings of 33,316 kWh and savings of 0.87 tCO2e of GHG per annum	2007	No End Date (Continuous)

Providence Health Care - 2010 Carbon Neutral Action Report

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	5	% of retrofits since start year indicated had control system upgrades or adjustments	Two (2) DDC upgrade projects were initiated in two (2) facilities (Mount St Joseph Hospital and St Vincent - Brock Fahrni) in 2010.	Two (2) DDC upgrade projects, initiated in two (2) facilities in 2010, will be completed in 2011	2007	No End Date (Continuous)
Leased buildings							
Develop a green lease policy that requires green features to conserve energy be included in all lease negotiations	Ongoing/In Progress	100	% of leases negotiated since start year indicated have included green features	A Tenant Improvement Handbook incorporating some elements of Green Lease policies developed in 2007 and updated in 2009 is in the process of additional updates to incorporate the different standards for all of the 2010 consolidation of the lower mainland health authorities facilities Management (VCH, FHA, PHSA, and PHC) for all new and renewed leases where feasible. As part of the update, Facilities Energy & Environmental Sustainability staff are incorporating green strategies in this handbook. Final edit and approval by the Steering Committee is anticipated for April/May 2011	1-Final edit and approval of the Tenant Improvement Handbook by the Steering Committee is anticipated for April/May 2011 2-Maintain and improve green leasing practices to reduce energy consumption, increase buildings efficiency, sustainability, and occupant satisfaction and comfort.	2010	No End Date (Continuous)
IT power management							
Implement server virtualization	Ongoing/In Progress	70	% of servers have been virtualized since start year indicated	65 Servers of the remaining 300 at VCH/PHC have undergone assessment for virtualization but were not done due to budget restrictions	Planning to finalize assessment of the remaining physical servers and virtualize as many as possible, pending available funding.	2010	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress	35	% reduction in printers, copiers, and/or fax machines since start year indicated	A VCH/PHC Output Management Strategy business case was developed and submitted by IMIS management to implement an output management strategy that will result in a managed output management service with a refreshed fleet of reliable and efficient devices, increased functionality from fewer devices, and a reduction in costs through standardization. Substantial energy utilities savings are also expected.	In 2009, the BC Shared Services Organization (HSSBC) was initiated with responsibilities over IMIS services including workplace technologies, desktop management, data centre, server technologies, and network services (data and voice), as well as responsibly for Supply Chain. Output Management Strategies for the future will be integrated into this new initiative	2007	No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress			All new purchased computers are ENERGY STAR models.	Practice to continue	2007	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			All new purchased refrigerators are ENERGY STAR models. Older non-ENERGY STAR models are only replaced to STAR-ENERGY models when they fail.	Practice to continue	2007	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			All new purchased other appliances or electronic devices are replaced with energy star models where available and where feasible. Older non-ENERGY STAR models are only replaced to STAR-ENERGY models and if available when they fail.	Practice to continue	2010	No End Date (Continuous)
Replace desk lamp incandescent bulbs with compact fluorescent (CFL) bulbs or source more efficient desk lamps for future purchases	Ongoing/In Progress			Desk lamp Incandescent lamp bulbs are not supported by PHC Maintenance departments and are replaced with CFL bulbs as may be requisitioned through Maintenance . The purchase of more efficient desk lamps using CFL lamps and/or LED lighting are recommended where needed.	All desk lamps incandescent bulbs to be replaced with CFL compact fluorescent bulbs or more efficient lighting where required	2007	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 and awareness initiatives. Green+Leaders behaviour change program will be launched and will include an energy reduction focus. Energy reduction behaviours will be implemented in 120 departments by the end of 2013.	2007	No End Date (Continuous)

Providence Health Care - 2010 Carbon Neutral Action Report

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress			Information to staff during Energy Awareness and education sessions	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			Information to staff during Energy Awareness and education sessions	Maintain practice and awareness initiatives	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	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.	Energy and Environment Sustainability staff are providing Turn Off lights bookmarks to employees during energy fairs and other Energy and Sustainability awareness sessions. New non-wall damaging Lights Off stickers are being placed above room light switches for reminder to staff to switch off lights when not in use. Green+Leaders will be affixing stickers and posters in their departments regarding turining off lights, monitors and other equipment during the energy focus months.	2007	No End Date (Continuous)
Promote hot water conservation	In Development				Energy and Environment Sustainability team will be initiating assessment water conservation trials in 2011 using water saving devices. One facility is currently under review.	2011	No End Date (Continuous)
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress			No standard established as yet.	The BC Shared Services Organization (BCSSO) to review paper purchases and establish post-consumer recycled content paper standards for VCHA, PHC, FHA, PHSA Health Authorities	2011	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Ongoing/In Progress			No standard established as yet.	The BC Shared Services Organization (BCSSO) to review paper purchases and establish post-consumer recycled content paper standards for VCHA, PHC, FHA, PHSA Health Authorities	2011	No End Date (Continuous)
Printer/document settings							
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress			All new Multi-function printers and photocopiers installed in 2010 had automatic double-sided set as the default setting. All printers and copiers have been adjusted to default to double-sided printing	All new Multi-function printers and photocopiers will be set to double-sided printing as a default setting.	2008	No End Date (Continuous)
Electronic media in place of paper							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress	100	% of staff workstations with software installed	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	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							

Providence Health Care - 2010 Carbon Neutral Action Report

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress			Some Training was available through limited training staff resources	The new BC Shared Services Organization (BCSSO) 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			Departments are encouraged to hold paperless meetings or presentations.	On-going and part of the paper reduction campaigns strategies. Will implement the Green+Leaders "paperless meetings" tool by the end of 2013.	2008	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress			Practice is encouraged	On-going and part of the paper reduction campaigns strategies	2008	No End Date (Continuous)

Providence Health Care - 2010 Carbon Neutral Action Report

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 <i>Greenhouse Gas Reduction Targets Act</i> . 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 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Business Travel							
Virtual meeting technology							
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	In Development				Office Communication System (OCS) which includes web-conferencing software is now part of the BC Shared Services Organization's (BCSSO) mandate and responsibility for planning, installation and training	2010	No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Ongoing/In Progress	70	% of meeting rooms have access to video-conferencing equipment	Plans were initiated to expand video-teleconferensing at PHC sites by installing 3 more setups at St Paul's Hospital for UBC Academic Research use as well as one (1) unit at Mount St Joseph Hospital. Limited staff training resources available at this time	Plans are in progress to set up 3 video-teleconferencing setups at St Paul's hospital for UBC Academic Research use as well as one (1) unit at Mount St Joseph's hospital (this unit is waiting Foundation funding). Video Conferencing is now part of the BC Shared Services Organization (BCSSO) mandate and responsibility for planning, installation and training.	2009	No End Date (Continuous)
Behaviour change program							
Train staff in web-conferencing	In Development				Office Communication System (OCS) which includes web-conferencing software is now part of the BCSSO mandate and responsibility for planning, installation and training	2010	No End Date (Continuous)
Train staff in video-conferencing or provide technical support for video-conferencing set-up	In Development			Limited Video-conferencing technical support and training at this time due to lack of resources	Video Conferencing is now part BCSSO mandate and responsibility for planning, installation and training.	2010	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress			Staff are encouraged to participate in video conferencing and other virtual attendance/presentation. Most staff are not aware of availability at this time	The BC Shared Services Organization (BCSSO) will assume responsibility and develop a support model	2010	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress			Staff are encouraged to carpool to meetings	Practice to continue. Green+Leaders program will have an annual two-month Sustainable Transportation focus which promotes behaviour change in this area.	2008	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress			Practice is encouraged	Practice to continue. Green+Leaders program will have an annual two-month Sustainable Transportation focus which promotes behaviour change in this area.	1996	No End Date (Continuous)
Education, Awareness, and Engagement							
Team-building							
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	In Development				Green+Leaders program will be launched, 120 staff volunteers will be recruited, oriented, supported and recognized by end of 2013. Community-based social marketing behaviour change tools will be carried out in paper reduction, energy reduction and sustainable tranportation.	2011	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	In Development				Green+Leaders program coordinator will provide support to staff volunteers.	2011	No End Date (Continuous)

Providence Health Care - 2010 Carbon Neutral Action Report

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Providing behaviour change education/training to teams (e.g., community-based social marketing)	In Development				See cells above	2011	No End Date (Continuous)
Awards/Recognition							
Establish a sustainability/green awards or recognition program	In Development				Green+Leaders will run six annual events to recognize staff volunteers for their efforts.	2011	No End Date (Continuous)
Staff awareness/education							
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress			Regarding the recycling program: Designed and commissioned marketing /training/educational materials and finalized signage; drafted a communication plan; developed indicators for recycling reporting; completed power point for staff education	Regarding the recycling program: Monitor program success and adjust as needed; run stories in PHC news and provide updates through the C3 site on recycling program success and progress at all PHC sites ; post recycling materials, references and resources on the external PHSA Environmental Sustainability site (will be linked to the C3 site); report recycling progress in local media.	2010	No End Date (Continuous)
Provide green tips on staff website or in newsletters	In Development				Launch of the "Cut the Carbon Community" website in early 2011.	2011	No End Date (Continuous)
Client/public awareness/education							
Provide education to clients/public about the conservation of water, energy, and raw materials	Ongoing/In Progress			Regarding the recycling program: Designed and commissioned marketing /training/educational materials and finalized signage; drafted a communication plan	Regarding the recycling program: post recycling materials, references and resources on the external PHSA Environmental Sustainability site (will be linked to the C3 site); report recycling progress in local media	2010	No End Date (Continuous)
Other Education, Awareness, and Engagement Actions							
Earth Day Hosting	Ongoing/In Progress			ARAMARK (contracted environmental services provider) hosted Earth Day events in April 2010 at St. Paul's Hospital and Mount Saint Joseph Hospital. Educational handouts and prizes were given away. Translink participated in the event at several sites, providing information on sustainable transportation.	Event to be held annually	2010	No End Date (Continuous)
Green Cleaning Week	Ongoing/In Progress			ARAMARK (contracted environmental services provider) hosted Green Cleaning week, January 25- February 1, at St. Paul's Hospital and Mount Saint Joseph Hospital. The event provided information to staff, patients and visitors on green cleaning products for home use and reducing water use in cleaning.	Event will be held annually or bi-annually	2008	No End Date (Continuous)
Energy Awareness Week	Ongoing/In Progress			ARAMARK (contracted environmental services provider) hosted Energy Awareness week, June 7-16, at St. Paul's Hospital and Mount Saint Joseph Hospital. ARAMARK's Environmental Program provided information on use and disposal of compact flourescent light bulbs, sustainable transportation and the ENERGY STAR Certification program. BC Hydro joined the event and encouraged staff to sign up to Team Power Smart.	Event will be held annually or bi-annually	2010	No End Date (Continuous)
Other Sustainability Actions							
Waste reduction/diversion							

Providence Health Care - 2010 Carbon Neutral Action Report

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	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>Hired a Reduction & Recycling Coordinator to implement recycling at all acute sites; recycling programs implemented at St. Paul's Hospital, Langara, Holy Family Hospital, Mount St Joseph Hospital, Brock Farnhi and Youville sites; St. Paul's waste audit conducted; 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 survey to assess staff awareness and satisfaction; compiled waste and recycling invoice data; completed waste audit training; completed power point for staff education; Recycling at PHC facilities includes paper, confidential paper, plastics, soft drink cans, cardboard and batteries.</p> <p>ARAMARK (contracted housekeeping services provider) has moved from disposable to rechargeable batteries in pagers.</p>	<p>Basic recycling programs to be implemented at all PHC 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 and progress reporting for all sites; Investigation into additional recycling streams and systems to be implemented; it is expected recycling volumes and diversion rates, staff awareness and satisfaction with recycling will increase as the program moves forward.</p> <p>Anticipate move to rechargeable batteries will reduce battery reduction from 5,000 to 250 over a 5 year period.</p>	2004	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress			<p>Maintain current compliance levels for the safe disposal of all hazardous waste.</p> <p>Audit of biomedical waste and found materials that should be in recycling or general waste; included a slide on importance of proper biohazardous waste disposal in recycling education presentation.</p>	Maintain and improve current practice	Started before 1995	No End Date (Continuous)
Procurement (non-paper supplies)							
Incorporate minimum recycled content standards into procurement policy for consumable, non-paper supplies (e.g., writing instruments, binders, toner cartridges, etc.)	In Development				Issue identified as a key element to the "greening" of health care and the need for LEED certification. Increased attention will be given to this issue.	2010	No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress			66% of paper consumables purchased last year by ARAMARK (contracted housekeeping services provider) were EcoLogo certified ; an additional 10% of paper products have a recycled content of 80% or higher.	57% 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.	2011	2012
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			On-going staff encouragement	Practice to continue. Sustainable Transportation focus of Green+Leaders program will encourage alternatives to SUVs for work commute.	2007	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Ongoing/In Progress			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)

Providence Health Care - 2010 Carbon Neutral Action Report

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Provide secure bicycle storage	Ongoing/In Progress			Most PHC facilities have implemented secure bicycle cages/rooms for staff use. Increased secure bicycle storage at St Paul's Hospital by 25 racks in 2009	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							
Composting Initiatives	Ongoing/In Progress			Composting initiatives at two (2) PHC sites food preparation areas - Holy Family Hospital and Mount Saint Joseph Hospital.	Potential of additional composting initiatives in the food preparation areas of other PHC owned facilities where feasible	2009	No End Date (Continuous)