

Providence Health Care *2009 CARBON NEUTRAL ACTION REPORT*

Executive Summary:

Stewardship is a core value of **Providence Health Care (PHC)** such that we share accountability for the well being of our community. By adopting green practices, PHC is contributing to a healthier sustainable future for our staff, patients, residents, the community and the global environment.

As a community leader we need to ensure that our dedication to community health extends to becoming a leader in sustainability. Our health care system is a major consumer of renewable and non-renewable resources (including energy) and is a major producer of solid wastes. We need to develop the best possible practices and policies for our environmental health and implement recycling initiatives, Green Building solutions, encourage and support green transit/commuting initiatives, reduce waste and pollution and implement utilities and energy efficient practices and measures to reduce GHG emissions and our carbon footprint. PHC shares a vision with organizations such as Hospitals for a Healthy Environment of a health care system in which an environmentally aware and engaged health care community is dedicated to the health of patients, workers, their communities, and the global environment.

PHC has formed a volunteer Green Team to develop and implement environmentally friendly, cost-effective and practical "green" practices at Providence Health Care. The team has identified a list of sustainable solutions including recycling initiatives, Green Building initiatives, transit/commuting, waste disposal, energy use, and other related environmental issues. Some of the initiatives support our efforts to reduce overall green house gas (GHG) emissions from all of PHC's operations.

Overview:

Actions Taken to Reduce Greenhouse Gas Emissions since 2007:

The Green Team initiated a series of steps that will reduce PHC's carbon footprint and overall environmental impact. PHC, in partnership with Vancouver Coastal Health (VCH) and BC hydro, has implemented a number of energy retrofit projects since 2007-2009 to reduce energy utilities consumptions and GHG emissions in a number of its facilities.

- **Energy Initiatives completed in 2007-2009 at PHC**

- Three (3) Energy Retrofit projects in three (3) separate PHC facilities were completed in 2008 to reduce electricity (kWh) and Natural Gas (GJ) consumptions and GHG emissions. Estimated electricity savings of 492,000 kWh, 1,229 GJ of Natural Gas and a reduction of 72 tCO₂e per annum.
- In collaboration and partnership with Vancouver Coastal Health (VCH) and BC hydro, a funded Continuous Optimization Program (COP) energy retrofit project was initiated in 2009 at Mount St Joseph Hospital (MSJ) to reduce electrical (kWh) and Natural Gas (GJ) consumption and GHG emissions. This project will provide an estimated savings of



250,000 kWh of electricity, 1,961 GJ of Natural Gas and a reduction of 103 tCO₂e of GHG per annum. (A.2).

- An Energy Performance Audit was completed at Holy Family Hospital
- As part of Water Reduction Strategy, eleven (11) water efficient Lo-Flow Pre-rinse spray-nozzles/valves were installed in 2008 at PHC kitchens to rinse dishes. Estimated water consumption reduction by 80% as well as savings in water heating energy fuels. (electricity, steam and/or gas) This Initiative, part of BC hydro and the Live Smart BC Efficiency Incentive Program, was completed in 2009 (B.6)

Other Sustainable Initiatives

The PHC Green Team has identified a comprehensive list of sustainable solutions including;

- **Recycling Initiatives** – More than 30 departments in our acute care facilities are now actively participating in the recycling program. Recycled materials include paper, cardboard, beverage containers, plastic, printer cartridges and electronic equipment. Similar programs exist in our residential sites and at our community dialysis sites. More than 500,000 kg/yr are being diverted from landfill. The renal program has developed an acid container recycling program that recycles the approximately 150 4.5 litre plastic containers used daily in their department. (A.3)(B.6)
- **Green Building** – PHC 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. Integrated design management principles and the participation of willing client groups are applied to all of our new and renovation projects. The 9A Mental Health Unit renovations at St. Paul's Hospital in 2007 was the first hospital renovation in North America to be certified LEED for Commercial Interiors. (A.2)(B.5)
- **Transit/Commuting** – Support of initiatives include the Translink Employer Pass program and Bike travel support. Most PHC facilities have implemented secure bicycle cages/rooms for staff use. (A.4) (B.6)
- **Reducing Waste and Pollution** – PHC has implemented recycling and disposal initiatives for fluorescent and HID lights, batteries and old PCB containing magnetic ballasts to ensure the safe disposal of Mercury and PCBs. (B.6)
- **Bio-hazardous Waste** – Bio-hazardous waste, including Biomedical and Anatomical waste, and Cytotoxic and other pharmaceuticals is collected and disposed as per Provincial, Federal and OHS safety regulations and standards. Waste audits were conducted in the Operating Room, GI Clinic, Dialysis Unit and Radiology areas in order to identify opportunities to more appropriately dispose of all waste products. (B.6)

Operational Changes in 2009:

A five (5) phase major renovation at the St Paul's Hospital Emergency, started in 2006 and scheduled for completion in June/July 2010, required the installation of a new major air supply fan in June, 2009 to meet ventilation standards. No other major changes at Providence Health Care facilities in 2009 directly impact our carbon footprint and GHG emissions profile.

A collaborative consolidation of both non-clinical back office support areas as well as clinical support services was initiated between Vancouver Coastal Health (VCHA), Fraser Health Authority (FHA), Providence Health Care (PHC), and Provincial Health Services Authority (PHSA) in August 2009, to be effective April 1, 2010. The organizations outlined their 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 a variety of services. This partnership will allow for new opportunities to coordinate environment and sustainability work across the four organizations in a unified manner, which:

- Provides services to British Columbia communities ranging in location from Boston Bar to Pemberton, encompassing the North Shore, Powell River and the Sunshine Coast, including Vancouver and surrounding areas in the Lower Mainland
- Oversee the operation of 25 acute care hospitals and 27 residential care facilities
- Serve a total population of over 2.5 million British Columbians, and includes 37 municipalities and regional districts.

Plans to Continue Reducing Greenhouse Gas Emissions (GHG) 2010-2012:

• Energy Retrofit Initiatives in Progress and Planned

- A funded Continuous Optimization Program (COP) Energy Retrofit project, to be completed in 2010 at Mount St Joseph Hospital (MSJ), will result in an estimated GHG savings of 103 tCO₂e per annum (A.2)
- Installation of a Plate Heat exchanger capable of taking heat from the purchased steam condensate before it is dumped to drain and using the heat to pre-heat cold water going to the domestic hot water heating tanks. Estimated savings of 81,000 kg of purchased steam and 17.00 tCO₂e GHG per annum. (B.6)
- Plans are currently in place to implement four (4) BC hydro Continuous Optimization projects (COP) to save energy and reduce GHG. The approved Continuous Optimization Energy measures to be implemented in 2011-2012, pending available funding. (A.2)
- Energy retrofit projects will be submitted for approval to PSECA 3.

• Other Sustainable Initiatives

- Promotion of Earth Hour, Earth Day and Green cleaning products (B.5)(B.6)
- A staff Environmental Survey was completed in 2008 in order to assess the level of awareness and interest of staff on a variety of issues
- Development of a partnership with YMCA for a community gardening project at Saint Paul's Hospital (B.6)
- Aramark (contracted Housekeeping services provider) Healthcare's Environmental Program staff visited most of the PHC owned sites during the months of November and December, 2009 and January, 2010 to conduct an assessment of current waste management practices and to collect baseline data prior to implementation of environmental initiatives and prioritize and improve upon recycling programs.(B.6)
- A Single-Stream recycling program was introduced to the St Paul's Hospital (SPH) ORs in March, 2010. This allows mixing of recycling materials (paper, cardboard, tin and plastics). This program is focused on making easier for staff to recycle, more efficient to manage by recycling materials handlers, and increase the recycling volumes. Success of these new initiatives will result in the expansion of this program to other parts of PHC areas and facilities where feasible. (B.6)
- Composting initiatives are currently in place in the food preparation areas of Holy Family Hospital (HFH) and Mount St Joseph Hospital (MSJ) sites.(B.6)
- A water re-circulating pump is currently being installed for the St Paul's Hospital Kitchen dishwashing machine to re-circulate the water used for clearing the trays and flush food, plastic and other materials to the garburator/pulper system. The savings of water is estimated at 80% (237,104 cu. Ft.) from the current consumption. This initiative is scheduled for completion by the end of April, 2010. (B.6)
- Aramark (contracted Housekeeping services provider) Healthcare's Environmental Program staff hosted Green cleaning products awareness sessions at 2 PHC facilities in January/February, 2009 (B6). Hosting for Earth Day awareness is also scheduled for April, 2010 (B5)

We are all united in our commitment to reduce our impact on the environment and to increase the health and well being of British Columbians while maintaining the important link between health and the environment. A key outcome of the Lower Mainland Health Authorities consolidation is the creation, effective April 1, 2010, of a dedicated team for Energy and Environmental Sustainability professionals reporting to an Executive Director of Facilities Operations and Environmental Sustainability. Increased focus will be placed on engaging our staff and key stakeholders to take action on climate change and to implement energy efficiency measures/projects to reduce our organizations' energy utilities consumption and overall green house emissions (GHG) and carbon footprints. Together we will work to coordinate, consolidate and integrate environmental initiatives within all of our operational work plans.

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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 12/31/09)	Performance to Date (as of 12/31/09)	Steps Taken in 2009	Steps Planned for 2010 -2012	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	1) Fleet of four (4) vehicles used by PHC sites are maintained regularly by PHC to ensure vehicle safety and optimize fuel efficiency. 2) Fleet of 60 leased vehicles used by VCH-PHC for supplies deliveries to VCH and PHC facilities are managed by PHH-Arval Fleet Management Services. 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 renewals.	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)	Complete	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	Maintain current practice	2006	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)						
Planning/management						
Enrol in a building energy benchmarking program (e.g., GREEN UP)	Ongoing/In Progress		Enrolled in one (1) BC hydro Continuous Optimization Programs (COP) to retro-commission one (1) hospital building (20,545 square meters) to help maintain and continually enhance the level of efficiency in building operations systems, reduce energy consumption and carbon footprint	1) Complete the implementation of the one (1) BC hydro Continuous Optimization Program initiative by March 31, 2011. 2) Pending available funding, implement one (1) additional BC hydro Continuous Optimization Program (COP) for 1 separate PHC building (56,522 square meters) to proceed through the investigation phase in 2011 and the implementation phase in 2012-2013. 3) Pending available funding, implement the investigation phase in three (3) facilities (49,246 square meters) in 2012 with the implementation phase to proceed in 2013-2014.	2009	No End Date (Continuous)

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)		Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Reduce office space (square meters) per employee	Ongoing/In Progress			A Providence Health Care Corporate Space Policy was drafted in 2009 and approved on October 14, 2009 for PHC owned and leased space where applicable. The objective is to promote the optimum use of PHC sites and to meet the goals of efficiency in the optimum use of current and future space, build flexibility that allows for changing needs in the present and future, ensure that the policies are applied equitably and consistently across all work environments for all types of staff, and sustainability to ensure that space solutions create the best values for PHC's operating and capital budgets and meet long range needs. Similar Space Policies on the allocation of space will be developed for PHCRI and the hospital/facility-based physician offices. The allocation of Academic space will be in accordance with the Academic Space Protocol (October 2002) and will be in compliance with the PHC Corporate Space Policy.	<ol style="list-style-type: none"> 1) Implement the guidelines of the PHC Corporate Space Policy where applicable 2) Continue consolidation of under-utilized leased facilities and other leased facilities where feasible. 3) Initiated planning to implement an energy efficient Advanced Office Concept (Open Office) in a leased facility (960 square meters) to maximize space usage, increase efficiency and reduce utilities consumption 4) Develop and implement an overall Space Optimization Policy for the consolidated four Health Authorities (VCH, PHC, FH, PHSA). 	2010	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	0	% of buildings have a real time metering system installed	<p>Enrolled in one (1) BC hydro Continuous Optimization Programs (COP) to retro-commission one (1) hospital building (20,545 square meters) to help maintain and continually enhance the level of efficiency in building operations systems, reduce energy consumption and carbon footprint.</p> <p>COP program will include the installation of real time Pulse metering system</p>	<ol style="list-style-type: none"> 1) Complete the implementation of the one (1) BC hydro Continuous Optimization Program initiative by March 31, 2011. 2) Pending available funding, implement one (1) additional BC hydro Continuous Optimization Program (COP) for 1 separate PHC building (56,522 square meters) to proceed through the investigation phase in 2011 and the implementation phase in 2012-2013. 3) Pending available funding, implement the investigation phase in three (3) facilities (49,246 square meters) in 2012 with the implementation phase to proceed in 2013-2014. <p>All COP Programs will have real time Pulse metering systems installed</p>	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 annually 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	8	% of commercial interiors in owned buildings have labelling	No LEED CI Registration in 2009	<ol style="list-style-type: none"> 1) The renovations of the 9A Mental Health Unit at St Paul's Hospital in 2007 achieved LEED-CI certification, a first for all of North America. 2) Providence Health is constantly strives 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 	2007	No End Date (Continuous)
Incorporate integrated design process into new construction or during renovations of owned buildings	Ongoing/In Progress	0	% of buildings built or renovated since start year indicated used the integrated design process	All new construction and major renovations will incorporate Integrated Design Process into new construction and LEAN principles where appropriate	All new construction and major renovations will incorporate Integrated Design Process into new construction and LEAN principles where appropriate	2007	No End Date (Continuous)

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Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	Ongoing/In Progress			A refrigerant management strategy is currently in place that incorporates a refrigerant leak detection and monitoring, leak repair, system retirement and retrofitting, and appropriate bleeding of banned refrigerants.	Maintain practice	2005	No End Date (Continuous)
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress	21	% of owned buildings have undergone energy retrofits since start year indicated	Initiated one (1) energy retrofit project in 2009 to be completed in 2010/2011. Estimated savings of 250,000 kWh of Electricity and 1,961 GJ of Natural gas and a total reduction 103 tCO2e per annum	1) Complete the implementation of the one (1) BC hydro Continuous Optimization Program initiative by March 31, 2011. 2) Pending available funding, implement one (1) additional Continuous Optimization Program (COP) for 1 separate PHC building (56,522 square meters) to proceed through the investigation phase in 2011 and the implementation phase in 2012-2013. 3) Pending available funding, implement the investigation phase of three COP programs for three (3) facilities (49,246 square meters) in 2012 and the implementation phase in 2013-2014.	2007	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	55	% of retrofits (captured above) had heating, cooling, and ventilation systems upgrades	1) Six (6) energy efficiency projects including Boilers replacement, Boilers burn optimization and kitchen exhaust fan controls, in two (2) owned facilities were completed in 2008. 2) One (1) BC hydro Continuous Optimization Program is currently under implementation at one (1) owned facility. Implementation phase to be completed by March 31, 2011. Estimated savings of 250,000 kWh of Electricity and 1,961 GJ of Natural gas and a total reduction 103 tCO2e per annum	1) Complete the implementation of the one (1) BC hydro Continuous Optimization Program initiative by March 31, 2011. 2) Pending available funding, implement one (1) additional Continuous Optimization Program (COP) for 1 separate PHC building (56,522 square meters) to proceed through the investigation phase in 2011 and the implementation phase in 2012-2013. This COP will require DDC Systems optimization 3) Pending available funding, implement the investigation phase of three COP programs for three (3) facilities (49,246 square meters) in 2012 and the implementation phase in 2013-2014. These COP programs will require DDC Systems optimization All Continuous Optimization Programs include Upgrading and/or optimizing mechanical systems	2003	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	18	% of retrofits (captured above) had lighting systems upgrades	Lighting Retrofit projects were completed in two (2) PHC owned facilities in 2008	Identify and implement lighting retrofit opportunities at PHC Sites, pending availability of funding	2007	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	27	% of retrofits (captured above) had control system upgrades or adjustments	1) Two (2) DDC building controls systems adjustments at two (2) PHV owned facilities were completed in 2008 2) One (1) DDC building system will be going through adjustment at Mount St. Joseph Hospital and part of the BC hydro Continuous Optimization Program (COP) currently in progress. Scheduled for completion by March 31, 2010.	1) Complete the implementation of the one (1) BC hydro Continuous Optimization Program initiative by March 31, 2011. This COP will require DDC Systems optimization 2) Pending available funding, implement one (1) additional Continuous Optimization Program (COP) for 1 separate PHC building (56,522 square meters) to proceed through the investigation phase in 2011 and the implementation phase in 2012-2013. 3) Pending available funding, implement the investigation phase of three COP programs for three (3) facilities (49,246 square meters) in 2012 and the implementation phase in 2013-2014.	2003	No End Date (Continuous)
Leased buildings							

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)		Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Lease space with operations and maintenance performance labelling/certification (e.g., LEED EB:O&M)	In Development			A Tenant Improvement Handbook incorporating some elements of Green Lease policies was developed by the Fraser Health Facilities Planning and Real Estate in 2007 and updated in 2009 and will be implemented for PHC and VCH, FH and PHSA Health Authority leases where feasible in the future	A Tenant Improvement Handbook incorporating tenant improvement work to leased office space will be implemented at PHC for all new building leases and current leases where applicable. High Performance Building strategies explicitly designed for systems resource efficiency, sustainability, and occupant satisfaction and comfort, will be followed	2010	No End Date (Continuous)
Lease space in buildings with new construction performance labelling/certification (e.g., LEED NC)	In Development			A Tenant Improvement Handbook incorporating some elements of Green Lease policies was developed by the Fraser Health Facilities Planning and Real Estate in 2007 and updated in 2009 and will be implemented for PHC and VCH, FH and PHSA Health Authority leases where feasible in the future	All new building constructions and major renovations are mandated to be designed and built to LEED Gold standards	2009	No End Date (Continuous)
Develop a green lease policy that requires green features to conserve energy be included in all lease negotiations	In Development			None	A Tenant Improvement Handbook incorporating for tenant improvement work to leased office space will be implemented at VCH, PHC, FHA, PHSA Health Authorities for all new building leases and current leases where applicable. Discussions with the consolidated Real Estate group to include Green lease policies to existing Tenant Handbook.	2010	No End Date (Continuous)
IT power management							
Install power management software which shuts down computers outside of regular business hours	Ongoing/In Progress	0	% of computers shut down automatically outside of regular business hours	A Desktop Energy Study was completed to implement a Desktop Power Management program, Windows based network, to power down almost 15,000 PCs throughout the VCH and PHC organizations. An RFP was developed and a service vendor chosen. The implementation feasibility of this program is still under assessment due to the current average age of the desktop computers (7-8 years old) which presents operational issues.	In 2009, the Health Authority Shared Services Organization (SSO) that includes all BC Health Authorities was initiated and includes IMIS services responsible for workplace technologies, including desktop management, data centre, including server technologies, and network services (data and voice), as well as Supply Chain Management. Desktop Power Management Software implementation for the future will be integrated into this new initiative.	2009	2012
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 300 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 Health Authority Shared Services Organization (SSO) that includes all BC Health Authorities was initiated and includes IMIS services responsible for workplace technologies, including desktop management, data centre, including server technologies, and network services (data and voice), as well as Supply Chain Management. Output Management Strategies for the future will be integrated into this new initiative	2007	No End Date (Continuous)
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	Ongoing/In Progress			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. A VCH/PHC Output Management Strategy business case was developed in 2009 to replace all of VCH/PHC's aging and inefficient output devices that will result in a managed output management service with a refreshed fleet of reliable and efficient devices, increased functionality from fewer devices, and increased energy efficiency.	There is an overall strategy in place to replace stand alone devices from the environment and replace with MFPs (Multi-function Printers) as the standard and for all new net new purchases. Pending approval of the VCH/PHC Output Management Strategy, completed in 2009, and available resources, most of the current old and inefficient devices will be replaced with a refreshed fleet of reliable, energy efficient, and increased functionality devices.	2007	No End Date (Continuous)

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Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	100	% of computers are ENERGY STAR rated	Newly purchased computers are ENERGY STAR models. However, due to lack of funding, very few new computers are purchased and most of the current 7-8 year old units tend to be recycled for use.	It is anticipated that the Health Authority Shared Services Organization (SSO) will begin a computer replacement program to retire the current old units and install new computers and monitors will be ENERGY STAR models. This is also critical if Desktop Power Management is to be implemented to reduce energy utilities consumption.	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			None	The new Energy and Environmental Sustainability group will be working closely with the new Health Authority Shared Services Organization (SSO) to implement policies and guidelines to ensure that all future purchases of refrigerators are ENERGY STAR Models	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 VCH 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	2007	No End Date (Continuous)
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			Energy saving 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			Information to staff during Energy Awareness and education sessions	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 management staff to employees during energy fairs and other Energy Awareness sessions.	Develop a more effective awareness campaign for staff to turn off unnecessary lights at work and at home.	2007	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress			Planned installation of a Plate Heat Exchanger at St Paul's Hospital capable of taking heat from the hot steam condensate and using it to preheat cold water going to domestic hot water heating tanks.	Planned installation of Plate Heat Exchanger at St Paul's Hospital to be completed by early May, 2010.	2009	2010
Other Stationary Fuel Combustion and Electricity Actions							
Development of a Strategic Energy Management Plan (SEMP) 2009-2011 as part of the BC hydro Energy Managers program	Ongoing/In Progress			VCH/PHC Strategic Energy Management Plan (SEMP) was updated on September 29, 2009. The aim of this plan is to develop an Energy Management Strategy for 2009-2011	The VCH/PHC Strategic Energy Management Plan (SEMP) will be updated annually in conjunction with BC Hydro's oversight.	2009	No End Date (Continuous)
BC hydro's Energy Management Assessment (EMA) for VCH/PHC	Ongoing/In Progress	48	% increase in the International Benchmark Rating (IBR)	In January, 2009, the International Benchmark Assessment (IBR) for VCH/PHC was 1.52, an increase of 48% from the IBR assessment of 1.03 for VCH/PHC in April, 2007. The average industry increase in the first year is 29%. VCH/PHC registered as equal to or greater than 85% of the sector participants (78)	The VCH/PHC EMA will be updated annually (spring of each year) in conjunction with Hatch Energy and BC Hydro.	2007	No End Date (Continuous)

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)		Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	10	% of total paper purchased contains 30% recycled content	No standard established as yet.	New Health Authority Shared Services Organization (SSO) to review paper consumption and establish post-consumer recycled content paper standards for VCHA, PHC, FHA, PHSA Health Authorities	2010	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Ongoing/In Progress	0	% of total paper purchased contains 100% recycled content	No standard established as yet.	New Health Authority Shared Services Organization (SSO) to review paper consumption and establish post-consumer recycled content paper standards for VCHA, PHC, FHA, PHSA Health Authorities	2010	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 2009 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	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. Initiative to be completed in June 2010 with professional 2 hour training to follow.	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							
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress			Some Training is currently available through limited training staff resources	New Health Authority Shared Services Organization (SSO) 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	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)
Other Paper Supplies Actions							
Print Shop Printing paper use reduction	Ongoing/In Progress	50	% reduction of Print Shop paper use through double-sided printing	Maintain paper use reduction of the Print shop through double sided printing	Maintain Practice	2008	No End Date (Continuous)

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)	Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Paper recycling programs in place at all of the owned PHC facilities	Ongoing/In Progress		Aramark (contracted housekeeping services provider) Healthcare's Environmental Staff conducted an assessment of current waste management at all of the PHC owned facilities in Vancouver to collect baseline data of recycled material, including paper, prior to implementation of environmental initiatives and improve upon recycling programs	It is expected that the implementation of improved recycling programs and awareness will result in increased paper consumption reductions.	2005	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 12/31/09)	Performance to Date (as of 12/31/09)	Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Business Travel						
Virtual meeting technology						
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	In Development		None	Office Communication System (OCS) which includes web-conferencing software is now part of the Health Authority Shared Services Organization's (SSO) 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-teleconferencing 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's 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 Provincial Shared Services Organization (SSO) mandate and responsibility for planning, installation and training.	2009	No End Date (Continuous)
Behaviour change program						
Train staff in video-conferencing or provide technical support for video-conferencing set-up	Ongoing/In Progress		Limited Video-conferencing technical support and training at this time due to lack of resources	Video Conferencing is now part of the Health Authority Shared Services Organization (SSO) 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 Health Authority Shared Services Organization (SSO) will assume responsibility and will need to develop a support model	2010	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress		Staff are encouraged to carpool to meetings where possible	Practice to continue	2008	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress		Practice is encouraged where feasible	Practice to continue	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		Re-organized ownership and strategy around GreenCare. Created contact list with key "champions" on the list	Leverage contact list to promote and support localized "Green Teams". Offer "Green+ Leaders" training to Green Team Leaders	2007	No End Date (Continuous)
Staff Professional Development						
Support green professional development (e.g., workshops, conferences, training)	In Development		Workshops conducted around "energy" and "travel". 1) Two (2) facilities focused "energy" workshops hosted by Lighthouse Sustainable Buildings Centre. 2) Three (3) general staff focused "travel" workshops hosted by Vancouver Area Cycling Coalition	Future plans are currently under evaluation. It is intended that future plans will align with Vancouver Coastal Health, Fraser Health, Providence Health Services, and Provincial Health Services Health Authorities.	2007	No End Date (Continuous)
Staff awareness/education						

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)	Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress		Workshops conducted around energy and green buildings. Two facilities focused workshops were hosted by Lighthouse Sustainable Buildings Centre.	2010-2012: Workshops for facilities teams on sustainable buildings. Promotion of calendar events (World Water Day, Earth Hour, Earth week, Bike to Work month, etc...). 2010/2011: Currently looking for funding to support and educational session around LEED Principles during the 2010/2011 fiscal year.	2007	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress		PHCConnect Intranet news letter provides a comprehensive list of sustainable solutions and information regarding Recycling Initiatives, Green Building developments and renovations, Transit/Commuting information, Reducing Waste and Pollution for all PHC employees. VCH/PHC Quarterly "EnergyWise" online newsletter	Re-design and re-launch the Green GreenCare EnergyWise online newsletter. Maintain current awareness initiatives information through PHCConnect	2007	No End Date (Continuous)
Provide sustainability education during new staff orientation	In Development		New staff orientation includes one Power Point slide that provides contact information for GreenCare.	Engage Human Resources to include conservation messaging in their new staff orientations across Vancouver Coastal Health, Fraser Health, Providence Health Services, and Provincial Health Services Health Authorities. The goal is to get 1-3 2 minute videos included	2007	No End Date (Continuous)
Other Education, Awareness, and Engagement Actions						
Earth Day hosting	In Development			Aramark's (Contracted Housekeeping Services provider) Environmental Sustainability team will be hosting Earth Day activities at two (2) PHC facilities (St Paul's Hospital and Mount St Joseph Hospital) on April 19th & 20th. This activity may expand to other PHC sites	2010	No End Date (Continuous)
Green Cleaning Week hosting	Ongoing/In Progress		Aramark's (Contracted Housekeeping Services provider) Environmental Sustainability team hosted Green Cleaning Week from January 25th to February 3rd, 2009, at a number of VCH and PHC facilities (St Paul's Hospital and Mount St Joseph Hospital at PHC). This event provided information to staff on various Green cleaning products for home use, recipes to make Green cleaning products for home use, and information on water saving initiatives	This Green Cleaning hosting activity is expected to be an annual event and expanded to other PHC Sites.	2008	No End Date (Continuous)
Other Sustainability Actions						
Waste reduction/diversion						
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	Ongoing/In Progress		Aramark (contracted housekeeping services provider) Healthcare's Environmental Staff conducted an assessment of current waste management at all facilities owned and run by PHC to collect baseline data of recycled material, prior to implementation of environmental initiatives and improve upon recycling programs. Recycling at PHC sites includes paper, confidential paper, plastics, soft drink cans, cardboard, batteries, Mercury, electronics, and fluorescent, HID lighting as well as non-PCB and PCB containing magnetic ballasts. More than 500,000 kg of waste per year is diverted from the landfill.	It is expected that the implementation of improved recycling programs and awareness will result in increased recycling efforts and diversion of recyclable waste from landfills. A more formalized operations policy to be implemented to facilitate the reduction and diversion of waste and recyclable materials. As a result of consolidation of Energy and Sustainability initiatives for VCH, PHC, PHSA, and FH Health Authorities, it is anticipated that a single policy will be implemented that will apply across the 4 health Authorities	2004	2011
Implement a hazardous waste reduction and disposal strategy	Complete		Maintain current compliance levels for the safe disposal of all hazardous waste, including Mercury containing lamps and other equipment and PCB containing magnetic ballasts	Maintain current compliance levels for the safe disposal of all hazardous waste	1992	No End Date (Continuous)

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Action	Status (as of 12/31/09)	Performance to Date (as of 12/31/09)	Steps Taken in 2009	Steps Planned for 2010 -2012	Start Year	End Year
Procurement (non-paper supplies)						
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress		Practice to continue	Practice to continue with additional Green products to be implemented pending approval for use in health care facilities and by infection control authorities	2008	No End Date (Continuous)
Indoor air quality						
Enforce a scent-free policy (e.g., no strong perfumes, deodorants, etc.)	Ongoing/In Progress		None	None at this time	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	2007	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Ongoing/In Progress		None	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. Increased secure bicycle storage at St Paul's Hospital by 25 racks	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						
Waste recycling programs in place at all of PHC owned facilities	Ongoing/In Progress		Aramark (contracted housekeeping services provider) Healthcare's Environmental Staff conducted an assessment of current waste management at all facilities owned and run by PHC to collect baseline data of recycled material, prior to implementation of environmental initiatives and improve upon recycling programs. Recycling at PHC sites includes paper, confidential paper, plastics, soft drink cans, cardboard, batteries, Mercury, electronics, and fluorescent and HID lighting. More than 500,000 kg of waste per year is diverted from the landfill.	It is expected that the implementation of improved recycling programs and awareness will result in increased recycling efforts and diversion of recyclable waste from landfills.	2007	No End Date (Continuous)
Composting Initiatives	Ongoing/In Progress		Composting initiatives at two (2) PHC facilities food preparation areas - Holy Family Hospital (HFH) and Mount St Joseph Hospital (MSJ).	Potential of additional composting initiatives in the food preparation areas of other PHC owned facilities where feasible	2009	No End Date (Continuous)
St Paul's Hospital Kitchen Dish Wash Machine water recirculation project to reduce water consumption.	In Development		Planning to to install a recirculation pump to reuse the water from the dishwashing machine to flush food, plastic, and other material from food trays to a garburator/pulper system, thus minimizing the amount of water going to the drain	Project to be completed by the end of April 2010. Estimated savings of 230,000 cu.ft. of water, approximately 80% of the total water currently used in the dishwashing machine. Continue to look for other water saving opportunities at PHC sites	2010	No End Date (Continuous)
Develop a partnership with YMCA for a community gardening project at St Paul's Hospital	In Development			Develop a partnership with YMCA for a community gardening project at St. Paul's Hospital	2010	No End Date (Continuous)
Single-Stream waste recycling initiative at St. Paul's Hospital	Ongoing/In Progress		A waste assessment of current waste management practices was conducted in November and December 2009, and January 2010 and to collect baseline data prior to the implementation of any environmental recycling initiatives	Single stream waste recycling initiative was implemented in St Paul's ORs in March, 2010, to allow for the mixing of recycling materials (paper, cardboard, tin and plastics). Program is focused on making it easier for staff to recycle, more efficient to manage by recycling materials handlers and increase the recycling volumes. Success of these new initiatives will result in the expansion of this program to other PHC facilities where feasible.	2010	No End Date (Continuous)

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Implement GreenCare "TravelWise" (behavioural program) strategy	In Development		Strategy Plan in development	A one (1) year strategy, including bike-to-work week/month and associated fairs/events will be contained in this strategy to be delivered in April 2010. This program uses an external consultant to help organize and focus the program	2010	No End Date (Continuous)
Launch an online community web site (C3-Cut the Carbon) focused on all VCH and PHC staff.	In Development		Plan development	In August/September 2010, TravelWise will join with the other GreenCare programs to launch an online community site (C3: Cut the Carbon) focused on all staff at VCH. This web site will provide a direct channel of communication and networking with interested staff across the region.	2010	No End Date (Continuous)
Water Reduction initiative - Installation of low-flow Pre-rinse spray-nozzles/valves in kitchen dishwashing areas	Complete		This Initiative, part of BC hydro and the Live Smart BC Efficiency Incentive Program, was completed in 2009		2008	2009