2011 Carbon Neutral ACTION REPORT

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

IN THIS REPORT

Executive Summary .......................... 2
About Vancouver Coastal Health ............. 3
Changes in our Operations .................. 4
Energy & Environmental Sustainability ... 5
2011 Green House Gas Emissions .......... 6
Carbon Offsets ................................ 7
Emissions Reduction Activities 2011 ...... 8
Emission Reduction Goals 2012–2014 .... 11
Additional Resources ....................... 12

Dr. David N. Ostrow
President and Chief Executive Officer

It is my pleasure to present the 2011 Vancouver Coastal Health Carbon Neutral Action Report. This is our fourth year of tracking our carbon footprint and we are proud to claim carbon neutrality for the second year in a row.

A key to achieving sustainable health care is establishing a healthy balance among energy & environmental conservation, maintenance of public health, and fiscal responsibility. This is a critical balance in a time of continued population growth, needed facility space, and rising costs.

Vancouver Coastal Health has included GreenCare in its organizational Strategic Framework. The following report will highlight key accomplishments in energy & environmental conservation. Most notably in 2011 we:

- Reduced our energy consumption by 2.6 GWh & 19,158 GJ.
- Reduced waste by implementing the recycling renewal program at 4 acute care sites and 5 residential care sites.
- Increased staff engagement through the launch of the Cut the Carbon Community and the Green+Leaders program.
- Decreased staff commuting, via single occupancy vehicles, through a Clean Commuter Challenge.

We are very excited about the progress we’ve made and look forward to a bright future of embedding green initiatives in an effort to make health care more sustainable.

Peter Goldthorpe
VP Capital Projects, Real Estate & Facilities
Lower Mainland Facilities Management

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

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

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

Vancouver Coastal Health is a health care provider that serves over one million people in British Columbia.

We serve one in four British Columbians

Vancouver Coastal Health (VCH) is one of six publicly funded healthcare regions within the Canadian province of British Columbia. One in four of British Columbia’s population of 4 million people are served by Vancouver Coastal Health.

We provide direct and contracted health services including:

- Primary health care
- Secondary, tertiary and quaternary care
- Home and community health care
- Mental health and addiction services
- Population and preventive health services

Thirteen hospitals and 260+ facilities

We operate in part of Greater Vancouver and in the Coast Garibaldi area. We administer 165 VCH-owned facilities and 90 leased facilities. This includes 9 hospitals, 3 diagnostic and treatment centers, and 15 community health centers. We also contract our services to third parties, primarily long term care facilities.

As a health authority in British Columbia, the Provincial Government, through the British Columbia Ministry of Health, sets province-wide goals, standards and performance agreements for health service delivery. This includes a mandate for Vancouver Coastal Health to reduce its carbon emissions.

Quick Facts

$2.8 billion
Operating budget 2010/11

22,000 staff
Including 12,936 full-time equivalents (FTE)

2 FTE for projects
To reduce our footprint

1 FTE to measure
Our energy/carbon use

2,500 physicians
Plus 4,000 volunteers

0 small vehicles
In our fleet (forklifts, gators etc)

48 medium vehicles
(Cars, ambulances etc.)

8 large vehicles
(Buses, transport trucks)

Our Communities

Vancouver
Richmond
Within Greater Vancouver

The North Shore
The municipalities and districts of North and West Vancouver

Coast-Garibaldi
Sea-to-Sky (including Whistler), and the Sunshine Coast, Powell River, Bella Bella, and Bella Coola.

“The delivery of public health care has complex and far reaching ecological reverberations. Thus, the health care sector must take responsibility and ensure it isn’t contributing to the very environmental problems that need to be addressed locally and globally.”

Duncan Campbell
CFO & VP Systems Development & Performance
Vancouver Coastal Health
CHANGES IN OUR OPERATIONS

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

Four health authorities are working together

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

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

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

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

Coordinating our sustainability work

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

<table>
<thead>
<tr>
<th>Building Space Change</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distinct VCH Buildings</td>
<td>270</td>
<td>255</td>
</tr>
<tr>
<td>% Owned</td>
<td>81</td>
<td>81</td>
</tr>
<tr>
<td>% Leased</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Usable Square Meters</td>
<td>817,753</td>
<td>816,880</td>
</tr>
<tr>
<td>Full-time Employee Equivalents</td>
<td>13,600</td>
<td>12,936</td>
</tr>
</tbody>
</table>

% based on floor areas
ENERGY AND ENVIRONMENTAL SUSTAINABILITY

We consider energy and environmental sustainability to be important components of organizational, human and environmental health.

Reducing our environmental impact

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

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

Increasing our staff’s envirogagement

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

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

Creating a conscious work culture

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

10 Focus Areas

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

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

Our Sustainability Goals

<table>
<thead>
<tr>
<th></th>
<th>2015</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Reduction</td>
<td>10%</td>
<td>20%</td>
</tr>
<tr>
<td>Green House Gas Reduction</td>
<td>15%</td>
<td>33%</td>
</tr>
<tr>
<td>Water Reduction</td>
<td>7%</td>
<td>10%</td>
</tr>
<tr>
<td>Alternate Commute Increase</td>
<td>10%</td>
<td>20%</td>
</tr>
<tr>
<td>Waste Diversion (Recycling) *</td>
<td>70%</td>
<td>80%</td>
</tr>
<tr>
<td>Staff Engagement in GreenCare</td>
<td>40%</td>
<td>75%</td>
</tr>
</tbody>
</table>

Targets use a 2009 baseline, except Green House Gas Emissions which uses 2007.

* Goals aligned to Metro Vancouver Targets
Vancouver Coastal Health is committed to setting aggressive targets for the reduction of Greenhouse Gas Emissions

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

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

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

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

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

**Our 2011 carbon footprint: 47,038 tC02e**

VCH has calculated our 2011 carbon footprint, in accordance with the Greenhouse Gas Reduction Targets Act (as reported in SMARTTool), to be 47,038 tonnes. This represents a 1.4% increase over our 2010 footprint.

<table>
<thead>
<tr>
<th>Our Carbon Footprint (in tC02e)</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mobile Fuel Combustion</strong> (Fleet &amp; other mobile equipment)</td>
<td>107</td>
<td>49</td>
</tr>
<tr>
<td><strong>Stationary Fuel Combustion &amp; Electricity</strong> (Buildings)</td>
<td>44,882</td>
<td>45,576</td>
</tr>
<tr>
<td><strong>Supplies</strong> (Paper)</td>
<td>1,392</td>
<td>1,425</td>
</tr>
<tr>
<td><strong>Emissions Which Do Not Require Offsets</strong></td>
<td>0</td>
<td>-12</td>
</tr>
<tr>
<td><strong>Total Carbon Footprint</strong> (tC02e)</td>
<td>46,382</td>
<td>47,038</td>
</tr>
<tr>
<td><strong>Emissions per Full-Time Employee</strong></td>
<td>3.41</td>
<td>3.64</td>
</tr>
<tr>
<td><strong>Emissions per Meter Square Facility Space</strong></td>
<td>.057</td>
<td>.058</td>
</tr>
</tbody>
</table>

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

It was estimated that Fugitive Emissions from cooling equipment do not comprise more than 0.01% of VCH's total emissions and an ongoing effort to collect or estimate emissions from this source would be disproportionately onerous. For this reason, emissions from this source have been deemed out-of-scope and have not been included in our total greenhouse gas emissions profile.

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

Prof. Anthony Costello
Institute for Global Health
CARBON OFFSETS

Vancouver Coastal Health purchased carbon offsets to become carbon neutral in 2011

Offsets applied to be carbon neutral in 2011

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

The offsets, for in–scope emissions, were purchased from the Pacific Carbon Trust and amounted to $1,188,675.

Weather increased our total GHG emissions

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

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

In 2011, the Heating Degree Days were 13% higher than 2010. Because some fuel consumption is weather dependent, this likely contributed a 7.0% increase in VCH’s 2011 carbon emissions.

Our Carbon Offsets

<table>
<thead>
<tr>
<th></th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Footprint in tCO2e</td>
<td>46,382</td>
<td>47,038</td>
</tr>
<tr>
<td>Purchased Carbon Offsets</td>
<td>$1,147,124</td>
<td>$1,188,675</td>
</tr>
<tr>
<td>Purchased Carbon Offsets +HST</td>
<td>$1,284,779</td>
<td>$1,331,316</td>
</tr>
</tbody>
</table>

2011 purchased carbon offsets include payment credits and space adjustments from 2010
EMISSIONS REDUCTION

ACTIVITIES 2011

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

ENERGY: We improved efficiency

- Installed real-time Pulse meters in 12 VCH buildings.
- 50% of VCH-owned facilities now have active PML sub-metering in place.
- Building Energy Performance Indexes (BEPI – ekWh/m²/yr) are now in 100% of all VCH-owned acute, and extended/residential care facilities. BEPIs can be compared to the average BEPI at other same-function VCH facilities and at other BC Health Care Authorities.
- Completed 23 energy-retrofit projects in 13 buildings (2,199,214 sqft). This included:
  - Conducted energy audits and BC Hydro Continuous Optimization Projects (COP) at 13 buildings.
  - Upgraded mechanical systems in 10 buildings (80% of all 23 energy retrofits).
  - Optimized Digital Design Control (DDC) systems in 3 buildings.
  - Finished 6 lighting-retrofit projects (26% of all 23 energy retrofits).
  - Initiated the investigation phase of BC Hydro's COP at an additional 7 VCH-owned buildings (994,696 sqft). Most energy measures will be to upgrade/optimize the mechanical systems and the DDC building systems.
  - Started a major energy retrofit on an 83-year old 60,000 sqft Vancouver site to be completed by July 2012. To maximize energy savings this retrofit has undergone a BC Hydro Energy Modeling process. Previously heated by inefficient steam, the retrofit will include a number of energy measures such as condensing boiler, additional insulation for roof, walls, and windows, lighting controls, and a high efficiency HVAC system.
  - Completed lighting audits at 14 VCH-owned buildings.
Green Buildings

Construction projects on new or existing facilities are now built to an existing sustainability/green standard at Vancouver Coastal Health. This includes LEED (Leadership in Energy and Environmental Design) for new buildings, and BOMA BEST (Building Environmental Standards) for existing buildings.

Our current building rankings are:

- **We’re seeking Gold–LEED certifications** for St. Mary’s Hospital in Sechelt and for Hope Center in North Vancouver, which is under construction and targeted for completion in December 2013.

- **One building has been rated a BOMA BEST Level 1**, 520 West 6th Avenue (Corporate), rated 10/01/2011.

- **One building has been rated a BOMA BEST Level 2**, 1669 East Broadway.

- **We’re seeking BOMA BEST status for one building**, 132 W. Esplanade.

**DESIGN:** We use green standards

- It’s now mandatory to incorporate an Integrated Design Process for all new construction and major renovation projects at VCH. A number of new projects, currently in various stages of development in 2011, incorporated Integrated Design Process and LEAN principles where appropriate and feasible.

- **LEED NC Gold standards are being used** in the construction of a residential care facility extension (4,830 square meters) of St Mary’s Hospital in Sechelt. Occupancy is scheduled for October 2012.

- **Three more patient care facilities are being built to LEED Gold Standards**. These projects are currently in the various design and planning stages.

**WASTE:** We recycled and reduced

- **Implemented recycling renewal program at 4 acute care sites and 4 residential care sites.**

- **Rechargeable batteries are now used in ARAMARK–staff pagers**, instead of disposable batteries. ARAMARK is VCH’s contracted housekeeping provider.

- **EcoLogo–certified represented 70% of paper consumables purchased** in 2011 by ARAMARK. An additional 10% of paper products have recycled content of 80% or higher.

**TRAVEL:** We facilitated greener commutes

- **Continued to reinforce anti-idling** by installing 34 anti-idling signs in VCH entrance areas which have vehicle idling potential. Signs were obtained from LiveSmart BC.

- **VCH staff participated in the national Clean Commuter Challenge** that encouraged them to commute/travel carbon neutral or carbon reduced.

- **Promoted sustainable transportation and ran a commuting campaign** through our Green+Leaders program which encouraged staff to walk, cycle or take public transit to work.

- **Implemented secure bicycle cages/rooms** for staff to use at most VCH facilities.
One Less Tonne

During 2011, as part of our new Cut the Carbon Community website and campaign, launched in 2011. They committed to take actions that would reduce over 500 tonnes of carbon emissions through this Fortis-sponsored site.

- We incorporated GreenCare messaging into staff orientations at Vancouver General, Richmond and Lion's Gate Hospitals.
- We launched a Green+Leaders program and recruited VCH staff volunteers. They champion and run behavior change campaigns at their hospitals, care facilities and offices focusing on:
  - waste and paper reduction
  - energy reduction, and
  - sustainable transportation
- We encouraged staff to change their behavior by hosting Energy Fairs, and other Energy and Sustainability awareness sessions, all rolled out as part of our BC Hydro Workplace Conservation Agreement. This included "Stop the Energy Bleed, Turn off the Lights" bookmarks.
- Staff have access to real-time power usage per hospital through our online Cut the Carbon Community and our partnership with Pulse Energy. This builds awareness of the success of initiatives and retrofits.
- We ran energy awareness campaigns to encourage staff to use stairs to save energy and encourage fitness.
- Alternative/green travel to meetings was encouraged, as was video conferencing and other virtual attendance/presentations.
- Staff shuttle services were provided to employees travelling between our sites within Vancouver.

Here’s what they committed to for the year:

524 tC02e
Green House Gas Reduction

5,939 GJ
Energy Saved

936,400 kWh
Power saved

$153,446
Cost savings

Our C3community.ca is for staff engagement
Our plans to continue reducing greenhouse gas emissions 2012–2014

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

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

**ENERGY**

- **Install pulse meters in more buildings** pending the implementation of Continuous Optimization Programs.

- **Begin BC Hydro COP Implementation phases at 12 VCH-owned sites.** This includes optimization of the DDC systems.

- **Begin BC Hydro COP Investigation Phases at 12 VCH buildings** (1,651,838 sqft) and complete in 2014. These will focus on electrical savings, mechanical systems upgrades and optimizations, and DDC system optimizations or upgrades.

- **Retrofit T12 lighting fixtures at 16 facilities**, pending available funding. Estimated savings of 2.8 million kWh per annum.

- **Complete the installation of a geo–exchange clean energy project** at St. Mary's Hospital in Sechelt.

- **Develop an Energy & Environmental Sustainability "Playbook"** describing the team and work involved in our efforts.

**BEHAVIOR**

- **Maintain and grow the online Cut the Carbon Community.**

- **Recruit more staff volunteers and continue to support our Green+ Leaders.**

- **Run Green+Leaders paper reduction campaign in 120 departments** across all four health authorities by the end of 2013.

- **Run energy reduction campaigns in 120 departments** across all four health authorities by end of 2013.

**BUILDING DESIGN**

- **Continue to use the GOLD LEED standard in new facility design and construction**, and the LEED standard for all major renovations. VCH has 1 project seeking certification completion in 2012.

- **Continue to encourage the BOMA BEST standard** in our leased buildings.

- **Investigate using Evidence Based Design and LEAN principles in building designs.**

- **Evaluate using Perkins Will Precautionary List and the Living Building Challenge's Red List** in all project design.

**TRAVEL**

- **Continue the Clean Commuter Challenge** in 2012.

- **Continue the Green+Leaders sustainable transportation focus** including a campaign to encourage walking, cycling or public transit for work commute.

**WASTE**

- **Roll out recycling renewal programs** to 8 acute care and 10 residential care sites.

- **Implement food services recycling and composting** at 18 sites.

- **Set standard of 60% cleaning products to be Environmental Choice–certified** used by ARAMARK at all VCH sites, pending approval for use in healthcare facilities by infection control authorities.
Health Authority Resources

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

External Resources

- **LiveSmart BC: 2010 CarbonNeutral Action Reports: Health Authorities**
- **Bill 44 - 2007; Greenhouse Gas Reduction Targets Act**
  [http://www.leg.bc.ca/38th3rd/1st_read/gov44-1.htm](http://www.leg.bc.ca/38th3rd/1st_read/gov44-1.htm)
- **Canadian Green Building Council LEED description**
- **ASHRAE 189.1 standard for new buildings and renovations**
- **BOMA BESst Environmental Certification**
  [http://www.bomabest.ca/](http://www.bomabest.ca/)
- **Natural Resources Canada**

Partner Resources

- **Fortis**
  [http://www.fortisbc.com](http://www.fortisbc.com)
- **BC Hydro**

**Assurance**

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

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

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

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

<table>
<thead>
<tr>
<th>Action</th>
<th>Status (as of 12/31/11)</th>
<th>Performance (as of 12/31/11)</th>
<th>Steps Taken in 2011</th>
<th>Steps Planned for 2012 - 2014</th>
<th>Start Year</th>
<th>End Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mobile Fuel Combustion (Fleet and other mobile equipment)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle fuel efficiency</td>
<td>Ongoing/In Progress</td>
<td>100%</td>
<td>1. Fleet of 13 vehicles used by VCH for supplies deliveries are managed by PHH-Arvai Fleet Management Services. 2. Forty three (43) other vehicles, owned by VCH, are not currently managed by PHH-Arvai. All vehicles are maintained regularly to ensure vehicle safety and optimize fuel efficiency. Stringent annual AirCare, a motor vehicle inspection/maintenance (IM) program implemented in BC in 1992, requires all vehicles to undergo emissions testing prior to licence renewals.</td>
<td>Maintain current practice. As of April 1, 2011, Five (5) VGH stores vehicles were added to PHH-Arvai fleet management services.</td>
<td>Started before 1995</td>
<td>No End Date (Continuous)</td>
</tr>
</tbody>
</table>

| **Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)** | | | | | | |
| Planning/management | | | | | | |
| Reduce office space (square meters) per employee | Ongoing/In Progress | 39 | 1. Ongoing consolidation of some under-utilized leased facilities to reduce energy utilities consumption, the organization’s carbon footprint, square footage footprint and leasing costs. 2. A 10,530 square foot floor in a leased facility was converted to an open office in January 2011 to accommodate 74 working stations (56 permanent stations 2 touch downs and 6 flex stations) for VCH, PHC, PHSA, and FH. Lower Mainland facilities management employees to maximize space usage, increase efficiency and reduce utilities consumption. 3. Overall leased space ffor VCH was reduced by 3.6% during 2011. | Continue consolidation of under-utilized leased facilities and reducing leased space inventory. | 2010 | No End Date (Continuous) |

| Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls) | Completed in 2011 | 50 | Approximately 50% of VCH owned facilities have active PML sub-metering in place. Total of 12 real time Pulse meters were implemented in 12 VCH buildings in 2011. | Additional Pulse meters will be installed in other buildings pending the additional implementation of Continuous Optimization Programs in other VCH facilities. | 2009 | No End Date (Continuous) |

<p>| Owned buildings | | | | | | |
| Establish energy performance baseline for owned buildings | Ongoing/In Progress | 100% | All owned VCH buildings have a Building Energy Performance Index (BEP - ekWh/m2/yr) for Acute, and Extended/Residential Care facilities. These can be compared to the average BEPI for same function facilities at VCH and other Health Care Authorities in BC where applicable. | Building Energy Performance Index (BEP - ekWh/m2/yr) are updated quarterly for all VCH owned buildings. | 2008 | No End Date (Continuous) |</p>
<table>
<thead>
<tr>
<th>Action</th>
<th>Status (as of 12/31/11)</th>
<th>Performance to Date (as of 12/31/11)</th>
<th>Steps Taken in 2011</th>
<th>Steps Planned for 2012 - 2014</th>
<th>Start Year</th>
<th>End Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achieve LEED NC Gold certification at a minimum for new construction or major renovations</td>
<td>Ongoing/In Progress</td>
<td>0%</td>
<td>1. Construction of one (1) residential care facility, an extension (4,830 square meters) of St Mary's Hospital in Sechelt, was started in 2010 with occupancy scheduled for July 2012. This is being built to LEED NC Gold standards. 2. Three (3) more patient care facilities are currently in the various design and planning stages and will be built to LEED NC Gold standards. All new constructed facilities and major renovations are mandated to meet LEED NC Gold standards. Four (4) facilities, in various stages of development, will meet LEED NC Gold standards over the next 4 years: 1. St Mary's Hospital extension in Sechelt, a 38 bed extension, currently in construction is due to open in July, 2012 2. Powell River Residential Care Centre, currently in the design stage, with Capacity of 102 beds which will replace the existing Olive Devaugh residence facility in 2004, in Powell River 3. Joe and Rosalie Segal Care Centre, currently in the design stage, a 100 bed mental health care centre to be opened in Vancouver in 2014. 4. The HQEq Centre, a mental health facility, currently under construction in North Vancouver, will be opened in December 2013.</td>
<td></td>
<td>2010</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Incorporate integrated design process into new construction or during renovations of owned buildings</td>
<td>Ongoing/In Progress</td>
<td>100%</td>
<td>Incorporating Integrated Design Process is mandatory for all new construction and major renovations at VCH. A number of new construction and major renovations projects, currently in various stages of development in 2011, incorporated Integrated Design Process and LEAN principles where appropriate and feasible</td>
<td></td>
<td>2008</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions</td>
<td>Ongoing/In Progress</td>
<td></td>
<td>Chiller and refrigeration maintenance contracted services incorporate refrigerant leak detection and monitoring, leak repair, system retirement and retrofiting, and appropriate bleeding of banned refrigerants. Maintain practice</td>
<td></td>
<td>2005</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Perform energy retrofits on existing, owned buildings</td>
<td>Ongoing/In Progress</td>
<td>16%</td>
<td>1. Twenty three (23) energy retrofit projects were completed in 2011 in 13 buildings (2,199,214 sqft). Estimated annual savings of 2.4 GWh of Electricity, 15,804 GJ of natural gas and a reduction of 858 CO2e of GHS emissions, a reduction of approximately 3.9% from the current VCH carbon footprint. 2. A major renovations retrofit of a 60,000 sqft 1929 building at the VGH site in Vancouver, initiated in 2011 is still under renovations and will be completed in June/July 2012. Previously heated by inefficient steam, the retrofitted building will incorporate a high efficiency condensing boiler for building heating and will also include building envelope insulation and energy efficient windows replacement. This building retrofit has gone through a BC Hydro Energy Modeling process to maximize energy savings. 3. Initiated the investigation phase of BC hydro's Continuous Optimization Project (COP) in seven (7) separate (994,696 sqft) VCH owned buildings. Most energy measures will be to upgrade/optimize mechanical systems as well DDC building systems. 4. Initiated Lighting audits at 15 VCH owned buildings (2,199,244 sqft)</td>
<td>1. BC Hydro's Implementation Phase of the Continuous Optimization Project (COP) is being implemented in six (6) separate VCH owned buildings (2,035,474 sqft) in 2012 and implementation of energy measures are scheduled for completion in 2013. 2. BC Hydro's COP Project Investigation Phase were initiated in eight (8) VCH buildings (995,000 sqft) in February 2012. Implementation Phase energy measures will be implemented in early 2013 with completion scheduled for 2014. 3. BC Hydro Continuous Optimization Projects Investigation Phase are committed for another six (6) VCH owned buildings for late 2012. Implementation Phase of identified energy measures to start in 2013 and are scheduled for completion in 2014. 4. Pending available funding, VCH will retrofit T12 lighting fixtures at fifteen (15) facilities that have gone through a detailed lighting audit process in 2011. Estimated savings of 2.5 million kWh savings per annum.</td>
<td>2008</td>
<td>No End Date (Continuous)</td>
</tr>
</tbody>
</table>

Retrofitting owned buildings
## Vancouver Coastal Health - 2011 Carbon Neutral Action Report

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</table>
| Upgrade mechanical systems (heating, cooking, ventilation) during retrofits | Ongoing/In Progress | 80                  | Twenty three (23) energy retrofit projects including energy audits and Continuous Optimization programs were completed in 2011 in 13 buildings (2,199,214 sqft) of which ten (77%) included mechanical systems upgrades as part of the retrofits.                                                                                                                                                                                                                                         | 1. Implementation phase of BC Hydro’s Continuous Optimization Project (COP) of six (6) separate VCH owned buildings in 2010 will be initiated in 2012 and scheduled for completion in early 2013. Most energy measures will be to upgrade/optimize mechanical systems as well DDC building systems  
2. BC Hydro’s COP Project Investigation Phase was initiated in eight (8) VCH buildings (995,000 sqft) in February 2012. Implementation Phase Energy measures will be implemented in early 2013 with completion scheduled for 2014. These will focus on electrical savings, mechanical systems upgrades and optimization as well as DDC buildings systems optimization and/or upgrades.  
3. Implementation Phase of identified energy measures to start in 2013 and scheduled for completion in 2014. These will focus on electrical, mechanical and DDC systems optimization and/or upgrades.                                                                                                                                               |
| Upgrade lighting systems during retrofits    | Completed in 2011    | 26                  | 1-Six lighting retrofit projects were completed in 2011. This constitutes 26% of the total 23 energy retrofit projects completed in 2011  
2-Lighting audits were completed at 14 VCH owned buildings (2,199,244 sqft) in 2011                                                                                                                                                                                                                                                          | Pending available funding, VCH will retrofit T12 lighting fixtures at fifteen (15) facilities that have gone through a detailed lighting audit process in 2011. Estimated savings of 2.5 million kWh per annum.                                                                                                                                                                                                                                                                                                                                                       |
<p>| Upgrade/adjust control systems during retrofits | Completed in 2011    | 13                  | Of the twenty three (23) completed energy retrofit projects completed in 2011, three (3) included optimization of the buildings DDC system                                                                                                                                                                                                                                                   | The implementation of BC Hydro COP program of energy measures from 2012-2014 includes optimization of the targeted buildings DDC systems                                                                                                                                                                                                                                                                                                                                                           |</p>
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<tr>
<td>Improve building insulation (including windows) during retrofits</td>
<td>Completed in 2011</td>
<td>0% of retrofits since start year indicated had insulation improvements</td>
<td>1-A new 85,000 sqft building completed in July, 2011, includes windows and roof insulation 2-One (1) 1929 65,000 sqft building at the VGH Site is undergoing total retrofit and includes windows replacement and insulation as well as building and roof insulation. Building to be occupied in June of 2012. All new facilities and major renovations under construction (2) as well new facilities in planning and Design phase at VCH will be mandated to be LEED NC Gold certified as well as have superior building insulation, including windows and roofs. One (1) facility currently under construction and to be occupied in 2012 and three (3) others in design stage and tentatively scheduled for completion in 2014.</td>
<td></td>
<td>2010</td>
<td>2014</td>
</tr>
<tr>
<td>Install an on-site renewable energy demonstration project</td>
<td>Completed in 2011</td>
<td>0% of retrofits since start year indicated had on-site renewable energy components</td>
<td>Installation of a geo-exchange clean energy project at St. Mary’s Hospital (Sechelt) expansion is currently in progress. Completion of geo-exchange at St Mary’s Hospital expansion project in Sechelt will be completed in July, 2012.</td>
<td></td>
<td>2010</td>
<td>2012</td>
</tr>
<tr>
<td>Leased buildings</td>
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<tr>
<td>Develop a green lease policy that requires green features to conserve energy be included in all lease negotiations</td>
<td>Ongoing/In Progress</td>
<td></td>
<td>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 2011 consolidation of the lower mainland 1-Final edit and approval of the Tenant Improvement Handbook by the Steering Committee in April/May 2011. 2-Maintain and improve green leasing practices, energy consumption, buildings efficiency, sustainability, and occupant satisfaction and comfort.</td>
<td></td>
<td>2010</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>IT power management</td>
<td></td>
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<tr>
<td>Implement server virtualization</td>
<td>Ongoing/In Progress</td>
<td>70%</td>
<td>Updated energy study carried out by Greenhalo investigating the further potential of virtualization across the Lower Mainland Helath Authorities (VCH/PHCF/PHSA). This study was transferred to a BC Hydro Power Smart Incentive agreement. Virtualization to commence affecting the VCH core sites.</td>
<td></td>
<td>2012</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices</td>
<td>Ongoing/In Progress</td>
<td>100%</td>
<td>All new stand-alone printers, copiers, and/or fax machines have been replaced with new multi-function devices, where feasible. Maintain practice.</td>
<td></td>
<td>2007</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices</td>
<td>Ongoing/In Progress</td>
<td>100%</td>
<td>Auto-sleep settings are the standard configuration setting for all devices that support this functionality. All new printers, copiers, fax machines and/or MFPs (Multi-Function Printers) have auto-sleep settings applied. Maintain practice.</td>
<td></td>
<td>2007</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Replace computers with ENERGY STAR models during regular computer upgrades</td>
<td>Ongoing/In Progress</td>
<td>100%</td>
<td>All PC Desktops and flat screen monitors purchased in 2011, are star ENERGY STAR models and replace energy inefficient PC Desktops and CRT monitors. Maintain practice.</td>
<td></td>
<td>2011</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Appliances and electronic devices</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases</td>
<td>Ongoing/In Progress</td>
<td>100%</td>
<td>All new refrigerators purchased in 2011 were Energy Star models. Maintain practice.</td>
<td></td>
<td>2011</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases</td>
<td>Ongoing/In Progress</td>
<td></td>
<td>New purchases of appliances or electronic devices are ENERGY STAR rated when available. Maintain practice.</td>
<td></td>
<td>2011</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Replace desk lamp incandescent bulbs with compact fluorescent (CFL) bulbs or source more efficient desk lamps for future purchases</td>
<td>Completed in 2011</td>
<td></td>
<td>Desk lamp incandescent lamp bulbs are not supported by VCH Maintenance departments and are being replaced with CFL bulbs repositioned through Maintenance. The purchase of more efficient desk lamps using CFL lamps and/or LED lighting are recommended to user departments Maintain practice.</td>
<td></td>
<td>2007</td>
<td>No End Date (Continuous)</td>
</tr>
</tbody>
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### Behaviour change program

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<tr>
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<tbody>
<tr>
<td>Ask staff to unplug electrical equipment or switch off power bars when not in use</td>
<td>Ongoing/In Progress</td>
<td><em>Stop the Energy bleed, Turn off lights no one is using</em> book marks are provided by energy management staff to employees during energy fairs and other Energy Awareness sessions.</td>
<td>Maintain practice</td>
<td></td>
<td>2007</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Ask staff to close blinds at end of work day to reduce heating/cooling demands</td>
<td>Ongoing/In Progress</td>
<td>Information provided to staff during Energy Awareness and education sessions. Also included in the Green+Leaders energy reduction campaign.</td>
<td>Maintain practice and awareness initiatives</td>
<td></td>
<td>2007</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Provide tips to staff on saving energy in the office while working outside of regular business hours</td>
<td>Ongoing/In Progress</td>
<td><em>Stop the Energy bleed, Turn off lights no one is using</em> book marks are provided by Energy and Environment Sustainability staff to employees during energy fairs and other Energy and Sustainability awareness sessions. Energy reduction is also one of the three behaviour change campaigns in the Green+Leaders program. Launched the Cut the Carbon Community online web engagement campaign.</td>
<td>Maintain practice and awareness initiatives. Use the Green+Leaders behaviour change program which focuses on energy reduction throughout the year. Target is to recruit 120 by the end of 2013 for the Lower Mainland Health Authorities VCH, PHC, PHSA, and FH</td>
<td></td>
<td>2007</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Encourage use of stairs instead of elevators</td>
<td>Ongoing/In Progress</td>
<td>Energy awareness campaigns encourage staff to use stairs where feasible to save energy and encourage personal fitness</td>
<td>Maintain practice and awareness initiatives. &quot;Take the stairs&quot; awareness is incorporated into the Green+Leaders program.</td>
<td></td>
<td>2007</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Provide reminders for turning off lights (e.g., signs, stickers, messages)</td>
<td>Ongoing/In Progress</td>
<td><em>Stop the Energy bleed, Turn off lights no one is using</em> book marks are provided by Energy and Environment Sustainability staff to employees during energy fairs and other Energy and Sustainability awareness sessions. Non-wall damaging stickers to turn off lights when not in use have been installed. Installed by light switches to encourage electricity savings.</td>
<td>Green+Leaders will continue running energy reduction campaigns in their departments to encourage staff to turn off lights and equipment. Will be implemented in 120 departments by end of 2013.</td>
<td></td>
<td>2007</td>
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</table>

### Supplies (Paper)

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<tbody>
<tr>
<td>Switch networked printers and photocopiers to automatic double-sided</td>
<td>Ongoing/In Progress</td>
<td>100 % of network printers or photocopiers are set to automatic double-sided</td>
<td>All new Multi-function printers and photocopiers installed since 2009 have automatic double-sided set as the default setting. All printers and copiers have been adjusted to default to double-sided printing</td>
<td>Maintain practice</td>
<td></td>
<td>2009</td>
</tr>
<tr>
<td>Install collaborative software for electronic editing (e.g. SharePoint, Grooves, etc.)</td>
<td>Ongoing/In Progress</td>
<td>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</td>
<td>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, PHSA health authorities.</td>
<td></td>
<td>2008</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Use electronic document library for filing common documents</td>
<td>Ongoing/In Progress</td>
<td>Shared drives and electronic document libraries are available to most staff at VCHA</td>
<td>Practice will continue. Enhance and extend use in Facilities, including Planning, Construction and Engineering</td>
<td></td>
<td>2008</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Post materials online that were previously printed</td>
<td>Ongoing/In Progress</td>
<td>Public Affairs and Communications post most materials that were previously printed through various web-based media</td>
<td>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</td>
<td></td>
<td>2009</td>
<td>No End Date (Continuous)</td>
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<tr>
<td>Action</td>
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</tr>
<tr>
<td>Behaviour change program</td>
<td>Ongoing/In Progress</td>
<td></td>
<td>Some training is currently available</td>
<td>HSSBC to review training needs and develop action plan</td>
<td>2008</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Train staff to use collaborative software for electronic editing</td>
<td></td>
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<tr>
<td>(e.g. SharePoint, Groove, etc.)</td>
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<tr>
<td>Encourage staff to hold paperless meetings or presentations (i.e., no</td>
<td>Ongoing/In Progress</td>
<td></td>
<td>Practice is encouraged. Green+Leaders materials reduction campaign included a focus on paper reduction.</td>
<td>On-going and part of the paper reduction campaigns strategies. Green+Leaders program includes a paper reduction campaign that includes a tool on paperless meetings. Will be implemented in 120 departments by end of 2013.</td>
<td>2008</td>
<td>No End Date (Continuous)</td>
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<tr>
<td>handouts)</td>
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</tr>
<tr>
<td>Encourage re-use of scrap paper</td>
<td>Ongoing/In Progress</td>
<td></td>
<td>Practice is encouraged. Green+Leaders materials reduction campaign included a focus on paper reduction.</td>
<td>On-going and part of the paper reduction campaigns strategies</td>
<td>2008</td>
<td>No End Date (Continuous)</td>
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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.

### Business travel

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<tbody>
<tr>
<td>Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)</td>
<td>Ongoing/In Progress</td>
<td>Web-conferencing software is installed as may be needed on some management desktop as well as in major conference rooms</td>
<td>The installation of Office Communication System (OCS), including web-conferencing software, is now part of HSSBC mandate and responsibility. Use will be expanded</td>
<td>2010 No End Date (Continuous)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Install video-conferencing units in meeting rooms or provide mobile video-conferencing units</td>
<td>Ongoing/In Progress</td>
<td>Most main conference rooms in the larger facilities had video-conference units installed</td>
<td>The installation of Office Communication System (OCS), including video-conferencing, is now part of HSSBC’s mandate and responsibility. Installation of video-conference units will continue to be installed across VCH</td>
<td>2010 No End Date (Continuous)</td>
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### Behaviour change program

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<tr>
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<tbody>
<tr>
<td>Train staff in web-conferencing</td>
<td>Ongoing/In Progress</td>
<td>Limited staff training at this time due to lack of staff resources</td>
<td>Staff training for web-conferencing is now part of the HSSBC mandate and responsibility. Staff Training will be expanded</td>
<td>2010 No End Date (Continuous)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Train staff in video-conferencing or provide technical support for video-conferencing set-up</td>
<td>Ongoing/In Progress</td>
<td>Limited staff training and technical support at this time due to lack of staff resources</td>
<td>Staff training for video-conferencing and technical support is now part of the HSSBC mandate and responsibility. Staff Training and technical support will be expanded</td>
<td>2010 No End Date (Continuous)</td>
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### Encourage staff to consider virtual attendance/presentation at events where possible

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<td>Train staff in video-conferencing or provide technical support for video-conferencing set-up</td>
<td>Ongoing/In Progress</td>
<td>Limited staff training at this time due to lack of staff resources</td>
<td>Staff training for video-conferencing and technical support is now part of the HSSBC mandate and responsibility. Staff Training and technical support will be expanded</td>
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### Encourage carpooling to meetings

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<tr>
<td>Encourage carpooling to meetings (e.g., bicycles, public transit, walking)</td>
<td>Ongoing/In Progress</td>
<td>Limited staff training at this time due to lack of staff resources</td>
<td>Staff training for video-conferencing and technical support is now part of the HSSBC mandate and responsibility. Staff Training and technical support will be expanded</td>
<td>2010 No End Date (Continuous)</td>
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### Education, Awareness, and Engagement

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<tbody>
<tr>
<td>Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement</td>
<td>Ongoing/In Progress</td>
<td>Limited staff training at this time due to lack of staff resources</td>
<td>Staff training for video-conferencing and technical support is now part of the HSSBC mandate and responsibility. Staff Training and technical support will be expanded</td>
<td>2010 No End Date (Continuous)</td>
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### Team-building

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<tr>
<td>Provide resources and/or dedicated staff to support teams</td>
<td>Ongoing/In Progress</td>
<td>Limited staff training at this time due to lack of staff resources</td>
<td>Staff training for video-conferencing and technical support is now part of the HSSBC mandate and responsibility. Staff Training and technical support will be expanded</td>
<td>2010 No End Date (Continuous)</td>
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### Providing behaviour change education/training to teams (e.g., community-based social marketing)

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</thead>
<tbody>
<tr>
<td>Awards/Recognition</td>
<td>Ongoing/In Progress</td>
<td>Limited staff training at this time due to lack of staff resources</td>
<td>Staff training for video-conferencing and technical support is now part of the HSSBC mandate and responsibility. Staff Training and technical support will be expanded</td>
<td>2010 No End Date (Continuous)</td>
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**Vancouver Coastal Health - 2011 Carbon Neutral Action Report**

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<tbody>
<tr>
<td>Establish a sustainability/green awards or recognition program</td>
<td>Ongoing/In Progress</td>
<td>Recognition event held for Green+Leaders annually</td>
<td>practice to continue</td>
<td></td>
<td>2009</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td><strong>Staff Professional Development</strong></td>
<td></td>
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</tr>
<tr>
<td>Support green professional development (e.g., workshops, conferences, training)</td>
<td>Ongoing/In Progress</td>
<td>The Green+Leaders program recruits, trains and supports staff volunteers to run behaviour change campaigns in their departments. The program is supported by Executive Team</td>
<td>Practice to continue</td>
<td></td>
<td>2010</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td><strong>Staff awareness/education</strong></td>
<td></td>
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<tr>
<td>Provide education to staff about the conservation of water, energy, and raw materials</td>
<td>Ongoing/In Progress</td>
<td>Green+Leaders energy reduction campaign provides training on energy conservation through behaviour change.</td>
<td>Practice to continue</td>
<td></td>
<td>2010</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Provide green tips on staff website or in newsletters</td>
<td>Ongoing/In Progress</td>
<td>Monthly newsletters sent to Green+Leaders featuring resources and suggested readings on various sustainability topics.</td>
<td>Practice to continue</td>
<td></td>
<td>2010</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Provide sustainability education during new staff orientation</td>
<td>Ongoing/In Progress</td>
<td>Conducted GreenCare presentations at the VH new staff (monthly) orientations.</td>
<td>GreenCare presentations to at the new staff orientations will be expanded to Richmond Hospital and Lion’s Gate Hospital</td>
<td></td>
<td>2011</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td><strong>Client/public awareness/education</strong></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Provide green tips on client/public website or in newsletters</td>
<td>Ongoing/In Progress</td>
<td>Many tips offered through a variety of newsletters, websites, and updates.</td>
<td>Practice to continue</td>
<td></td>
<td>2010</td>
<td>No End Date (Continuous)</td>
</tr>
</tbody>
</table>

### Other Sustainability Actions

**Water conservation**

- Put in place a potable water management strategy to reduce potable water demand of building level uses such as cooling tower equipment, toilet fixtures, etc. and landscape features
  - Status: Ongoing/In Progress
  - Performance to Date: Monthly newsletters sent to Green+Leaders featuring resources and suggested readings on various sustainability topics.
  - Steps Taken in 2011: Practice to continue
  - Steps Planned for 2012 - 2014: Practice to continue
  - Start Year: 2010
  - End Year: No End Date (Continuous)

**Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)**

- Status: In Development
- Performance to Date: None
- Steps Taken in 2011: None
- Steps Planned for 2012 - 2014: Practice to continue
- Start Year: 2010
- End Year: No End Date (Continuous)

**Waste reduction/diversion**

- Status: Ongoing/In Progress
- Performance to Date: None
- Steps Taken in 2011: None
- Steps Planned for 2012 - 2014: Practice to continue
- Start Year: 2010
- End Year: No End Date (Continuous)
<table>
<thead>
<tr>
<th>Action</th>
<th>Status (as of 12/31/11)</th>
<th>Performance to Date (as of 12/31/11)</th>
<th>Steps Taken in 2011</th>
<th>Steps Planned for 2012 - 2014</th>
<th>Start Year</th>
<th>End Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities</td>
<td>Ongoing/In Progress</td>
<td></td>
<td>A Coordinator, Reduction &amp; Recycling position implemented recycling strategies at major acute sites; designed and commissioned marketing/training/educational materials and finalized signage; drafted a communication plan; visited recycling plants in order to understand processes and what materials can be recycled; developed indicators for recycling reporting; designed surveys to assess staff awareness and satisfaction; compiled waste and recycling data; completed waste audit training; completed power point for staff education; initiated recycling programs at a number of VCH sites authorities sites. Recyclable materials include paper, confidential paper, plastics, soft drink cans, cardboard, batteries, Mercury, electronics, and fluorescent and HID lighting. ARAMARK (contracted housekeeping services provider) has moved from disposable to rechargeable batteries for their staff pagers.</td>
<td>Recycling programs will continue to be implemented all VCH acute care sites where waste management contracts are in place; Program implementation will include planning and distribution of bins, education of staff and the public and continued support &amp; progress reporting for all sites; Investigation into additional recycling streams and systems will be implemented; it is expected that recycling volumes and diversion rates, staff awareness and satisfaction with recycling will increase as the program moves forward.</td>
<td>2004</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Implement a hazardous waste reduction and disposal strategy</td>
<td>Ongoing/In Progress</td>
<td>Compliance levels for the safe disposal of all hazardous waste are met through regular audits of biomedical waste to exclude hazardous waste from the recycling and general waste streams.</td>
<td>Maintain and improve current practice</td>
<td></td>
<td>Started before 1995</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Procurement (non-paper supplies)</td>
<td></td>
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<td></td>
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<tr>
<td>Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags</td>
<td>Ongoing/In Progress</td>
<td>70% of paper consumables purchased in 2011 by ARAMARK (contracted housekeeping services provider) were EcoLogo certified; an additional 10% of paper products have a recycled content of 80% or higher.</td>
<td>60% of cleaning products used by ARAMARK (contracted housekeeping services provider) will be Environmental Choice certified at all VCH 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.</td>
<td></td>
<td>2010</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Commuting to and from home</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encourage commuting by foot, bicycle, carpool or public transit</td>
<td>Ongoing/In Progress</td>
<td>GreenLeads sustainable transportation focus includes a campaign to encourage walking, cycling or public transit for work commute.</td>
<td>Maintain campaign</td>
<td></td>
<td>2007</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Provide shower or locker facilities for staff/students who commute by foot or by bicycle</td>
<td>In Development</td>
<td>No Change</td>
<td></td>
<td>Develop Commuter Strategy Plan to promote shower and locker room facilities to meet increase in demand pending availability of space and funds.</td>
<td>2012</td>
<td>No End Date (Continuous)</td>
</tr>
<tr>
<td>Provide secure bicycle storage</td>
<td>Ongoing/In Progress</td>
<td>Most VCH facilities have implemented secure bicycle cages/rooms for staff use.</td>
<td>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.</td>
<td></td>
<td>2007</td>
<td>No End Date (Continuous)</td>
</tr>
</tbody>
</table>
Vancouver Coastal Health Authority
Greenhouse Gas Emissions by Source
for the 2011 Calendar Year (tCO₂ₑ*)

Total Emissions: 47,050

- Mobile Fuel Combustion (Fleet and other mobile equipment)
- Stationary Fuel Combustion (Building Heating and Generators) and Electricity
- Supplies (Paper)

Offsets Applied to Become Carbon Neutral in 2011 (Generated May 18, 2012 10:59 AM)
Total offsets required: 47,038. Total offset investment: $1,175,950. Emissions which do not require offsets: 12 **

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

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