



fraserhealth

Better health.  
Best in health care.

# 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 Fraser Health _____	3
Changes in our Operations _____	4
Energy & Environmental Sustainability _____	5
2011 Green House Gas Emissions _____	6
Carbon Offsets _____	7
Green Buildings _____	8
Emissions Reduction Activities 2011 _____	9
Emission Reduction Goals 2012–2014 _____	11
Additional Resources _____	12



### Dr. Nigel Murray

*President and Chief Executive Officer*

Fraser Health is excited to present our Carbon Neutral Action Report.

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

For the second year in a row, Fraser Health has proactively taken the necessary steps to achieve carbon neutrality. This includes:

- **Reduced our energy consumption** by 1.9 GWh & 8,220 GJ
- **Reduced waste** by implementing a recycling renewal program at 1 site
- **Increased staff engagement** through Green+Leaders training
- **Decreased staff commuting** via single occupancy vehicles, through a *Clean Commuter Challenge*.

Fraser Health will continue as a leader in British Columbia for its focus on green built systems and is looking forward to adding 9 more LEED certifications to our existing portfolio of 6 LEED certified sites.

Fraser Health is proud to be working hard to achieve a stronger and more sustainable health care system through energy & environmental conservation.



### Peter Goldthorpe

*VP Capital Projects, Real Estate & Facilities*

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 FRASER HEALTH

We are British Columbia's largest health authority by population and serve some of Canada's fastest growing communities

Fraser Health is one of the Province's six health authorities. We serve a region that spans from the Vancouver suburb of Burnaby south to White Rock and east to Boston Bar in the Fraser Canyon.

## We provide integrated health services

Our 26,100 staff, which includes 14,900 full-time equivalent employees, provide the following:

- **Primary health care**
- **Community home care**
- **Residential care**
- **Acute medical and surgical services**
- **Mental health and addiction services**

## Twelve hospitals including B.C.'s oldest

Among our twelve acute care sites is the Royal Columbian Hospital, the oldest hospital in British Columbia, which celebrates its 150<sup>th</sup> anniversary in 2012. Located in New Westminster, it's one of Fraser Health's busiest hospitals, too.

The Royal Columbian Hospital is a major tertiary care facility known for trauma care, neurosurgery and open-heart surgery. It has the only cardiac program capable of performing surgery for expectant women in British Columbia.

## Growing communities and greener buildings

Three of Fraser Health's rapidly growing communities are Abbotsford, Maple Ridge, and Surrey. All three are served by expanding community-focused acute care hospitals and related services.

This new growth provides us with opportunities to build to greener LEED standards. The Abbotsford Regional Hospital and Cancer Centre is a new LEED Gold facility which opened in August of 2008. In 2011, the new Jim Pattison Outpatient Care and Surgery Centre opened and this new building is also expecting to receive LEED Gold certification.

## Quick Facts

**1.6 million**

Population served

**\$2.6 billion**

Operating budget 2010/11

**12 hospitals**

From Burnaby to Hope

**7,760 beds**

In residential care facilities

**26,100 staff**

Full-time, part-time, casual

**2,500 doctors**

In acute & primary care settings

## Our Communities

Abbotsford Burnaby Chilliwack  
Coquitlam Delta Langley Maple  
Ridge Mission Hope New  
Westminster Pitt Meadows Port  
Coquitlam Port Moody South  
Surrey Surrey White Rock

# 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:

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

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

Facilities Management was one of the ten administrative and clinical services areas consolidated. Now, the new 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 Fraser Health, PHC, PHSA and VCH for greater impact.

## Net Space +2%

Even though our site portfolio and square meters of space increased by 2% in 2011, Fraser Health still strives to reduce our carbon footprint in line with our target reduction goals.

*“The environmental implications of our everyday decisions are a shared responsibility of all health care professionals.”*

Geoffrey Crampton  
VP People & Organization Development  
Fraser Health



## Building Space Change

	2010	2011
<b>Distinct Fraser Health Buildings</b>	<b>132</b>	<b>143</b>
% Owned	82%	82%
% Leased	18%	18%
<b>Usable Square Meters</b>	<b>667,654</b>	<b>677,965</b>
<b>Full-time Employee Equivalents</b>	<b>13,626</b>	<b>14,900</b>

# 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 enviroengagement

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

Fraser 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.



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

## 10 Focus Areas

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

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

## Our Sustainability Goals

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

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



# 2011 GREEN HOUSE GAS EMISSIONS

Fraser 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 Fraser Health 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**

*"Individual staff decisions have a huge impact on the environment. Food choices, composting, and commuting are just a few examples of areas where we can, and should, make a difference."*

Shefali Raja, RD  
Community Health Specialist  
The Langleys, Fraser Health

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

## Our 2011 carbon footprint: 40,955 tCO<sub>2</sub>e

Fraser Health has calculated our 2011 carbon footprint, in accordance with the Greenhouse Gas Reduction Targets Act (as reported in SMARTTool), to be 40,955 tonnes. This represents a 9% increase over our 2010 footprint.

### Our Carbon Footprint (in tCO<sub>2</sub>e)

	2010	2011
Mobile Fuel Combustion (Fleet & other mobile equipment)	136	139
Stationary Fuel Combustion & Electricity (Buildings)	36,233	39,746
Supplies (Paper)	1,056	1,081
Emissions Which Don't Require Offsets*	0	-11
<b>Total Carbon Footprint (tCO<sub>2</sub>e)</b>	<b>37,424</b>	<b>40,955</b>
Emissions per Full-Time Employee	2.75	3.16
Emissions per Meter Square Facility Space	.056	.060

\*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 Fraser Health's total emissions and an ongoing effort to collect or estimate emissions from this source would be disproportionately onerous. For this reason, emissions from this source have been deemed out-of-scope and have not been included in our total greenhouse gas emissions profile.



# CARBON OFFSETS

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

Our total carbon offsets increased this year due to weather conditions and an increase in Fraser Health’s building space

### Offsets applied to be carbon neutral in 2011

Fraser Health Authority was carbon neutral in 2011. We achieved this through our commitment to reducing our in-scope emissions and by purchasing offsets.

The offsets, purchased from the Pacific Carbon Trust in 2011, for in-scope emissions, amounted to \$1,098,692.

### Two factors increased our total GHG emissions

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

Two main factors that affected our in-scope emissions were our added building space, as noted on page 4, and more significantly, weather conditions. The Fraser Valley’s Heating Degree Days were 14% higher in 2011 than 2010, thus an increase in energy use was required for space heating. This caused an approximate 8% increase in Fraser Health’s GHG emissions.



## Our Carbon Offsets

	2010	2011
Carbon Footprint in tCO <sub>2</sub> e	37,424	40,955
Purchased Carbon Offsets	\$933,720	\$980,975
<b>Purchased Carbon offsets +HST</b>	<b>\$1,045,947</b>	<b>\$1,098,692</b>

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

# GREEN BUILDINGS

Construction projects on new or existing facilities are built to sustainability standards: LEED (Leadership in Energy and Environmental Design) for new builds, and BOMA BEST (Building Environmental Standards) for existing buildings



## Six buildings are LEED certified

- **Gold Certified**
  - Cottonwood Lodge, a Residential Mental Health Facility. Certified Sep 14, 2007.
  - Abbotsford Regional Hospital and Cancer Centre. Certified Sep 10, 2009.
- **Silver Certified**
  - CareLife Maple Ridge. Certified Dec 17, 2008.
- **Certified**
  - Czorny Alzheimer Centre. Certified Mar 19, 2010.
  - Chilliwack Hospital Redevelopment. Certified Apr 19, 2011.
  - Good Samaritan Canada, Victoria Heights Assisted Living. Certified Jun 23, 2010.

## Nine buildings are pending LEED certification

- **Registrations submitted, but not yet certified**
  - Creekside Withdrawal Management Center. Registered November 4, 2005.
  - Surrey Outpatient Facility. Registered Jul 15, 2008.
  - Maxine Wright Centre. Registered Sep 23, 2008.
  - Creekside Health & Housing Centre. May 25, 2009.
  - Maternity Ward Renovation, Peace Arch Hospital. Registered Sep 14, 2009.
  - Surrey Memorial Hospital Acute Care Tower. Registered Mar 29, 2010.
  - Czorny Alzheimer Centre, Phase 2. Reg. Apr 20, 2010.
  - Cypress Lodge Centre. Registered Aug 6, 2010.
  - Langley Memorial Cottage. Registered Aug 6, 2010.

## Two buildings are rated BOMA BEST

- **Certified Level 1**
  - 8521 198A Street. Jan 10, 2011.
  - 520 W. 6<sup>th</sup> Avenue.





## EMISSIONS REDUCTION ACTIVITIES 2011

Fraser Health continued to take strides to reduce our carbon footprint, undertaking multiple projects, including the following highlights of 2011

### ENERGY: We improved efficiency

- **We completed 20 dedicated energy-retrofit projects** in Fraser Health-owned buildings this year.
- **We started an additional 9 energy retrofits** in Fraser Health-owned buildings, all scheduled for completion by the end of 2012.
- **Real-time pulse meters were installed** at all Fraser Health-owned core sites as part of BC Hydro's Continuous Optimization (COP) program.
- **Energy study investigations were started at 4 sites** as part of BC Hydro's Continuous Optimization phased program.
- **Our Real Estate team launched a new *RFP and Tenant Improvement Handbook*** which includes a section on High Performance Buildings and LEED Requirements to help us embed energy conservation into facilities planning.

### Energy Saved

Fraser Health completed 20 Energy projects in 2011 which led to big savings for us...and the environment.

**1,883,632 kWh**

Electricity saved

**8,220 GJ**

Fuel saved

**457 tCO<sub>2</sub>e**

Greenhouse gas reduction

**\$176,209**

Energy bill reduction

### TRAVEL: We facilitated greener commutes

- **2 fleet vehicles were replaced in 2011** with more efficient models.
- **We consolidated 1,100 staff from 11 leases into one office space** in Surrey, conveniently located on the doorstep of one of the City's rapid transit hubs.
- **We employed a Transportation Demand Management Coordinator** for the Surrey Memorial Hospital and our other Surrey facilities to promote go-green transportation initiatives to staff.

## One Less Tonne

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

Here's what they committed to for the year:

**524 tCO<sub>2</sub>e**

Green House Gas Reduction

**5,939 GJ**

Energy Saved

**936,400 kWh**

Power saved

**\$153,446**

Cost savings

## BEHAVIOUR: We engaged staff

- **Over 2,300 Lower Mainland staff, including 700 Fraser Health employees, signed up for our new Cut the Carbon Community website and campaign, launched in 2011.** They committed to take actions that would reduce over 500 tonnes of carbon emissions through this Fortis sponsored site.
- **We launched a Green+Leaders program** and recruited 30 Fraser Health staff volunteers thus far. 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** through an Energy Fair, a Lights Out Sticker campaign and education workshops, all rolled out as part of our BC Hydro Workplace Conservation Agreement.
- **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.

## WASTE: We reduced garbage

- **Implemented a recycling renewal program** at 1 acute care site.
- **A paperless electronic paystub system was implemented** for employees.
- **Rechargeable batteries are now used in pagers** by ARAMARK staff (our housekeeping contractor).

## Our C3community.ca for staff engagement

The screenshot shows the C3community.ca dashboard. At the top, it says 'GreenCare Cut the Carbon Community' and 'A community effort brought to you by FORTIS BC'. The user is logged in as 'EnviroWoman' and has a C3 score of 1710. A message congratulates the user for earning 10 points. There is a section for 'Why join the Clean Commuter Challenge?' with an illustration of people on bicycles. On the right, there is a '2479 MEMBERS AND GROWING!' section and buttons for 'invite colleagues to C3' and 'Track your invites'.

# EMISSION REDUCTION GOALS 2012–14

## Our plans to continue reducing greenhouse gas emissions 2012–2014

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

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

### ENERGY

- **Complete the 9 energy retrofit projects** started in 2011 and start 6 approved energy projects.
- **Continue to identify inefficient plant and equipment** within Fraser–Health owned facilities.
- **Implement a small Solar Hot Water initiative** as a pilot project.
- **Complete the Phase 1 implementations of energy conservation measures** at four Fraser Health owned–sites as part of the BC Hydro Continuous Optimization program. Commence energy study investigations for the Phase 2 & 3 owned core sites.
- **Complete virtualization of the servers** across the 4 Lower Mainland Health Authorities.
- **Start and complete a major lighting retrofit** at Langley Memorial Hospital.
- **Develop an Energy & Environmental Sustainability "Playbook"** describing the team and work involved in our efforts.

### TRAVEL

- **Employ a regional Transportation Demand Coordinator.**
- **Run a Clean Commuter Challenge** for staff.

### BEHAVIOR

- **Maintain and grow the Cut the Carbon Community** website's offers stories, tips, challenges, incentives, and collaboration for staff.
- **Continue to support the Green + Leaders program** and recruit more staff volunteers through our Energy and Environmental Sustainability team.
- **Continue agreement with BC Hydro** and participate in their Workplace Conservation Program.

### WASTE

- **Roll out recycling renewal programs** to 10 acute care and 6 residential care sites.
- **Implement food services recycling and composting** at 17 sites.

### BUILDING DESIGN

- **Continue to use the GOLD LEED standard in new facility design and construction**, and the LEED standard for all major renovations. Fraser Health has 9 projects seeking certification completion in 2012.
- **Continue to apply the BOMA BEST standard for any existing building projects.**
- **Continue with the 3 New Construction Programs** in partnership with BC Hydro and Fortis BC.
- **Evaluate using Perkins Will Precautionary List and the Living Building Challenge's Red List** for all project design.

# ASSURANCES AND RESOURCES

## Health Authority Resources

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

## External Resources

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

## Partner Resources

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

## Assurances

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

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

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

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



# Fraser Health Authority - 2011 Carbon Neutral Action Report

## Actions Towards Carbon Neutrality

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

Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
<b>Mobile Fuel Combustion (Fleet and other mobile equipment)</b>							
<b>Vehicle fuel efficiency</b>							
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	15	% of vehicles are fuel- efficient models	2 vehicles replaced with more fuel efficient newer models and 3 vehicles transferred to Provincial Health Services Authority.	As and when a replacement becomes necessary (a vehicle that is 10 years old and/or not maintainable anymore). Replacing with more fuel efficient model is always a first priority.	2003	No End Date (Continuous)
Replace larger vehicles with smaller models according to fleet "right-sizing" principles	Ongoing/In Progress	10	% of vehicles down-sized since start year indicated	No new action steps taken in 2011.	The purchase of a fleet vehicle is initially selected primarily for its use and then fuel efficiency is the next priority. This practice will continue for next 2 years.	2003	No End Date (Continuous)
Perform regular fleet maintenance specifically to improve fuel-efficiency	Ongoing/In Progress	100	% of vehicles are subject to regular maintenance for fuel efficiency	All fleet vehicles maintained throughout 2011 as per manufacturers schedule.	Continue to maintain fleet to ensure fuel efficiency and vehicle life expectancy	2003	No End Date (Continuous)
Replace small maintenance vehicles with more fuel-efficient models	In Development	0	% of small maintenance vehicles are fuel-efficient		Limited number of small maintenance vehicles in use. More fuel efficient models will be considered for those that need replacing as and when required.	2011	No End Date (Continuous)
<b>Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)</b>							
<b>Planning/management</b>							
Reduce office space (square meters) per employee	Ongoing/In Progress			Consolidated 1,100 staff from 11 leases into one office space in Surrey.	Real Estate to continue to review all leased space and reduce accordingly.	2009	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	90	% of buildings have a real time metering system installed	Pulse meters were installed as part of the BC Hydro Continuous Optimization program in all owned compliant core sites. Also, additional PML sub-meters installed at Surrey Memorial, Mission Memorial and Burnaby Hospitals.	Continue to add sub-metering as part of planned electrical upgrades, large equipment replacements and general building/area upgrades, subject to funding availability.	2003	No End Date (Continuous)
<b>Owned buildings</b>							
Register for performance labelling/certification for operations and maintenance of owned buildings (e.g., LEED EB:O&M)	In Development	0	% of owned buildings have operations and maintenance labelling/certification		Planning to investigate building labelling options moving forward.	2011	No End Date (Continuous)
Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI)	In Development	0	% of commercial interiors in owned buildings have labelling		To date only one project has been registered for LEED CI (Maternity Ward Renovation at Peace Arch Hospital). Funding challenges are barriers that need to be addressed.	2009	No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress	11	% of owned buildings are certified LEED NC Gold or LEED NC Platinum	No new LEED NC Gold Certifications in 2011, but the Chilliwack Hospital Redevelopment project was certified.	All new constructions will be ideally designed and built to LEED Gold standards. Three projects including, Surrey Outpatient Care and Surgical Centre, Langley Memorial Cottage and Surrey Memorial Hospital Acute Tower have all been registered with CaGBC.	2005	No End Date (Continuous)

## Fraser Health Authority - 2011 Carbon Neutral Action Report

Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Incorporate integrated design process into new construction or during renovations of owned buildings	Ongoing/In Progress	15	% of buildings built or renovated since start year indicated used the integrated design process	IDP started for the Surrey Memorial Acute Tower project.	All new construction or renovation projects are subject to a form of IDP. Practise to continue and where applicable, incorporated into all new projects.	2005	No End Date (Continuous)
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	99	% of owned buildings have undergone energy retrofits since start year indicated	Various energy retrofits (detailed below) have been carried out in 2011. Resulting in estimated energy savings of 14,651 GJ (4 eGWh) and GHG savings of 440 tCO <sub>2</sub> e.	Energy retrofits to continue as identified through energy studies and inefficient practices.	2003	No End Date (Continuous)
<b>Retrofitting owned buildings</b>							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	25	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	Boiler Plant replaced at Fellburn Care Centre and Weatherby Pavilion at Peace Arch Hospital. Burners and controls upgraded for boilers at Chilliwack General Hospital.  Chiller plant replaced at Burnaby and Delta Hospitals.  Various ventilation upgrades carried out at Chilliwack General, Eagle Ridge, Langley Memorial & Mission Memorial Hospitals.	Boiler to be replaced in the Charles Barnham Pavilion at Surrey Memorial Hospital. Studies undertaken for various sites to install boiler economizers. Steam boilers to be replaced at Queens Park Care Centre and Eagle Ridge Hospital.  Chiller plants to be replaced/upgraded and various ventilation upgrades planned at Surrey Memorial & Royal Columbian.	2003	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	95	% of retrofits since start year indicated had lighting systems upgrades	Lighting retrofit completed at the parkade at Surrey Memorial Hospital.  External car park lights replaced with LED at Royal Columbian Hospital.  Various small lighting retrofits, incandescent to CFL or LED, undertaking throughout region.  Lighting study complete at Langley Memorial Hospital.	Major lighting retrofit to be carried out at Langley Memorial Hospital (last of the core owned sites with T12 fluorescent fixtures).  Lighting studies to be carried out for all external lighting applications.	2003	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	30	% of retrofits since start year indicated had control system upgrades or adjustments	Major controls replacement started in Eagle Ridge and Mission Memorial Hospitals.  Various upgrades to the control system was carried out at Chilliwack General Hospital, including the extension of the system to the Parkholm building as part of the major building upgrade.  Controls adjustments & minor changes carried out at Langley Memorial Hospital as part of the BC Hydro Continuous Optimization program.  Various small upgrades carried out throughout region with minor capital improvement funding.	BC Hydro Continuous Optimization program (COp) studies will be completed for Burnaby, Delta and Royal Columbian Hospitals, plus the Queens Park Care Centre. This will result in various upgrades and adjustments to the control systems.  COp studies at the remaining Fraser Health sites will commence.	2003	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	10	% of retrofits since start year indicated had insulation improvements	Windows replaced in Surrey Memorial and Mission Memorial Hospitals.  Several building envelope assessments carried out on buildings throughout region.	Funding requested to replace windows at Burnaby Hospital.  Continuation of building envelope assessments throughout region.	2003	No End Date (Continuous)

## Fraser Health Authority - 2011 Carbon Neutral Action Report

Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Install an on-site renewable energy demonstration project	Ongoing/In Progress	1	% of retrofits since start year indicated had on-site renewable energy components	Pilot solar domestic hot water project started at one of the buildings within the Queens Park Care Centre facility. Including extensive metering to determine performance.	<p>The pilot solar domestic hot water project within the Queens Park Care Centre facility will be completed and commissioned. Solar hot water feasibility studies to be carried out on suitable buildings throughout the Fraser Health region.</p> <p>Pre-feasibility study to be carried out for Royal Columbian Hospital for DES, including options for renewable energy.</p> <p>Further discussions with the City of Surrey to take place to determine how Surrey Memorial Hospital will fit into their DES strategy.</p>	2011	No End Date (Continuous)
<b>Leased buildings</b>							
Establish energy performance baseline for leased buildings	Ongoing/In Progress	0	% of leased buildings have an established energy performance baseline	Energy use data for leased buildings (only utility accounts managed by FHA) added to utility management database.	Realistic Performance baselines to be discussed and agreed with Real Estate.	2011	2012
Lease space with operations and maintenance performance labelling/certification (e.g., LEED EB:O&M)	In Development				Review existing building performance labelling with Real Estate and Property Management companies.	2011	No End Date (Continuous)
Lease space in buildings with new construction performance labelling/certification (e.g., LEED NC)	Ongoing/In Progress	14	% of leased buildings have new construction performance labelling/certification	Czorny Alzheimer Centre Phase 2 building completed to LEED NC standard.	Due to the high cost, LEED NC leased space will only be considered if Fraser Health owns the land or has some other equity in the project.	2004	No End Date (Continuous)
Develop a green lease policy that requires green features to conserve energy be included in all lease negotiations	Ongoing/In Progress			No policy, but a Tenant Improvement Handbook was created and is being used by our Real Estate team. This handbook references High Performance Buildings and LEED requirements to help embed energy conservation into facilities planning.	Real Estate will continue to use the Tenant Improvement Handbook for potential retrofit projects in lease buildings and for lease negotiations.	2011	No End Date (Continuous)
<b>IT power management</b>							
Install power management software which shuts down computers outside of regular business hours	In Development	0	% of computers shut down automatically outside of regular business hours		Under review by Customer Technology & Service department of the Health Shared Services BC (HSSBC).	2009	No End Date (Continuous)
Implement server virtualization	Ongoing/In Progress	75	% of servers have been virtualized since start year indicated	Updated energy study carried out by Greenhalo investigating the further potential of virtualization across the Lower Mainland Health Authorities. This study was transferred to a BC Hydro Power Smart Incentive agreement.	Virtualization to commence affecting 8 FHA core sites with a potential annual electrical savings of 1 GWh.	2009	2013
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress	0	% of computers have auto-sleep settings applied	No new action steps in 2010. All monitors have a default auto-sleep setting of 20 minutes	Under review by Customer Technology & Service department of the Health Shared Services BC (HSSBC).	2009	No End Date (Continuous)
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Ongoing/In Progress	10	% reduction in printers, copiers, and/or fax machines since start year indicated	No new action steps in 2011.	Will be reviewed when printer lease agreement comes up for renewal in 2012	2008	No End Date (Continuous)
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	Ongoing/In Progress	99	% of devices have auto-sleep settings applied	All new devices are equipped with this function. No new action steps were taken in 2011.	Up to date list of all IT devices to be obtained from IM to help identify if there are still any old fax machines in use without this function.	2003	2012
<b>Appliances and electronic devices</b>							

## Fraser Health Authority - 2011 Carbon Neutral Action Report

Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)	Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress		All consumer grade refrigerators purchased in 2011 where energy star models.	Practise to continue and an up to date inventory list to be produced.	2007	No End Date (Continuous)
Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress		All consumer grade appliances purchased in 2011 where energy star models.	Practise to continue.	2007	No End Date (Continuous)
<b>Behaviour change program</b>						
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress		<p>As part of the BC Hydro Workplace Conservation Agreement (WCA), Energy Awareness fairs were organized at the beginning of 2011 at 5 core FH sites. These fairs included BC Hydro and a focus to "switch off" equipment when not in use.</p> <p>Green + Leaders (G+L) program was launched in the fall of 2011. The program has recruited 30 staff volunteers to run behaviour change campaigns including an energy reduction campaign designed to get staff to turn off electrical equipment.</p> <p>An online Cut the Carbon Community (C3) was launched in spring of 2011. One of the C3 features included staff commitment to unplug unused electrical equipment.</p>	<p>More WCA energy awareness fairs will be organized in 2012 and switching off equipment will be promoted. Also, as part of the WCA, 'turn it' off tours will be carried out at the core FH sites.</p> <p>The recruited G+L will continue to promote behaviour change in their departments.</p> <p>The online C3 will continue to promote behaviour change and recruit more users.</p>	2009	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress		As part of the BC Hydro Workplace Conservation Agreement (WCA), Energy Awareness fairs were organized at the beginning of 2011 at 5 core FH sites. These fairs included displays and information heating and cooling demands and how they can be reduced.	More energy awareness fairs will be organized in 2012 and reduction in heating and cooling demands will be promoted.	2009	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Ongoing/In Progress		<p>As part of the BC Hydro Workplace Conservation Agreement (WCA), education sessions were organized for the Housekeepers throughout the region to remind them to switch off lights after they had completed their housekeeping tasks.</p> <p>An online Cut the Carbon Community (C3) was launched in spring of 2011. One of the C3 features included regular "green" tips to save energy in the office.</p>	Practise to continue, plus additional core sites will be added to the BC Hydro WCA program.	2009	No End Date (Continuous)
Encourage use of stairs instead of elevators	In Development			Energy consumption analysis to be carried out on selected sites and signage to be reviewed.	2010	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress		<p>As part of the BC Hydro Workplace Conservation Agreement (WCA), "lights off" stickers were attached to non essential light switches at 5 core FH sites.</p> <p>Green + Leaders (G+L) program was launched in the fall of 2011. The program has recruited 30 staff volunteers to run behaviour change campaigns including an energy reduction campaign designed to get staff to turn off lights. Stickers and posters supplied to G+L to promote switching lights off.</p>	Practise to continue, plus additional core sites will be added to the BC Hydro WCA program.	2009	No End Date (Continuous)



## Fraser Health Authority - 2011 Carbon Neutral Action Report

Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Promote hot water conservation	Ongoing/In Progress			As part of the BC Hydro Workplace Conservation Agreement (WCA), Energy Awareness fairs were organized at 5 core FH sites. These fairs included Fortis BC with a focus on hot water conservation.  An online Cut the Carbon Community was launched in spring of 2011 and this included information/tips regarding hot water conservation.	More energy awareness fairs will be organized in 2012 and hot water conservation will be promoted.  Education sessions to be coordinated for facilities maintenance and operations staff to site reduce energy use. One of the focus points will be hot water conservation.	2009	No End Date (Continuous)
<b>Other Stationary Fuel Combustion, Electricity, and Fugitive Emissions Actions</b>							
Implementation of the Strategic Energy Management Plan (SEMP)	Ongoing/In Progress			SEMP updated and consolidated with other Lower Mainland Health Authorities. Approved by BC Hydro in September.	Continue to update and implement action items from SEMP.	2008	No End Date (Continuous)
Utility Management Database and Reporting	Ongoing/In Progress			A utility database management system for the Lower Mainland Health Authorities has been created. Energy use data inputted on a regular basis and reports are being generated every quarter.	Practise to continue.	2011	No End Date (Continuous)
BC Hydro EMA	Ongoing/In Progress			BC Hydro's Energy Management Assessment (EMA) carried out in March. Action Plan and Road Map created to help drive energy reduction initiatives.	Practise to continue.	2008	No End Date (Continuous)
Unplanned Maintenance Actions	Ongoing/In Progress			Several unplanned maintenance actions were undertaken in 2011 which resulted in energy use reductions. These included steam trap surveys/repairs and HVAC coil cleaning.	Practise to continue.	2011	No End Date (Continuous)
Education for Facilities Maintenance & Operations (FMO) staff	In Development				Workshop education sessions to be coordinated for FMO staff with a focus on energy conservation.	2011	No End Date (Continuous)
<b>Supplies (Paper)</b>							
<b>Paper Type</b>							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	10	% of total paper purchased contains 30% recycled content	No new action steps taken in 2011.	To continue to work with Health Shared Services BC to review the purchasing of paper and create a standard for post consumer recycled paper.	2009	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Ongoing/In Progress	1	% of total paper purchased contains 100% recycled content	No new action steps taken in 2011.	To continue to work with Health Shared Services BC to review the purchasing of paper and create a standard for post consumer recycled paper.	2009	No End Date (Continuous)
<b>Printer/document settings</b>							
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress			All new printers and photocopies rolled out in 2011 were defaulted to double sided printing, unless they were for clerical form printing.	Practise to continue.	2009	No End Date (Continuous)
<b>Electronic media in place of paper</b>							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Completed in 2011	100	% of staff workstations with software installed	SharePoint rolled out for all departments		2008	2011
Post materials online that were previously printed	Ongoing/In Progress			No new action steps taken in 2011.	Printed material will continue to be reduced with the development and improvements to FH intranet and the various forms of electronic media.	2010	No End Date (Continuous)

## Fraser Health Authority - 2011 Carbon Neutral Action Report

Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)	Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Switch to an electronic payroll notification system in place of paper pay stubs	Completed in 2011		Electronic payroll notification implemented at the end of 2011.		2011	2011
<b>Behaviour change program</b>						
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress		Training set up by Project Leaders. A standard service support guideline was also made available on the FH Intranet.	Practise to continue as required.	2008	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress		Green + Leaders (G+L) program was launched in the fall of 2011. The program has recruited 30 staff volunteers to run behaviour change campaigns including paper/waste reduction. One of the tools provided to the G+L was a Paperless Meeting Toolkit.	G+L to continue to implement the paper/waste reduction campaign and utilise the Paperless Meeting Toolkit.	2008	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress		Green + Leaders (G+L) program was launched in the fall of 2011. The program has recruited 30 staff volunteers to run behaviour change campaigns including paper/waste reduction	G+L to continue to implement the paper/waste reduction campaign	2008	No End Date (Continuous)

## Fraser Health Authority - 2011 Carbon Neutral Action Report

### Actions to Reduce Provincial Emissions and Improve Sustainability

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

Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)	Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
<b>Business Travel</b>						
<b>Virtual meeting technology</b>						
Make desktop web-cameras available to staff	Ongoing/In Progress		As part of the IT refresh roll out in 2011 new Lenovo monitors and laptops have cameras built in.	Roll out to continue.	2009	No End Date (Continuous)
<b>Behaviour change program</b>						
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress		Green + Leaders (G+L) program was launched in the fall of 2011. The program has recruited 30 staff volunteers to run behaviour change campaigns including a Sustainable Transportation campaign. One of the campaign objectives is to encourage staff to hold virtual meetings instead of travelling from site to site.	G+L to continue to encourage staff to hold virtual meetings.  GreenCare Fair to be organized in the spring and will include representation from Translink (Travel Smart).	2008	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress		Green + Leaders (G+L) program was launched in the fall of 2011. The program has recruited 30 staff volunteers to run behaviour change campaigns including a Sustainable Transportation campaign. One of the campaign objectives is to encourage staff to consider alternatives to SOVs, such as carpooling, when travelling to meetings.	G+L to continue to encourage staff to consider alternatives to SOVs, such as carpooling, when travelling to meetings.  GreenCare Fair to be organized in the spring and will include representation from Translink (Travel Smart).	2003	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress		Green + Leaders (G+L) program was launched in the fall of 2011. The program has recruited 30 staff volunteers to run behaviour change campaigns including a Sustainable Transportation campaign. One of the campaign objectives is to encourage staff to consider alternatives to SOVs, such as public transit, when travelling to meetings.	G+L to continue to encourage staff to consider alternatives to SOVs, such as public transit, when travelling to meetings.  GreenCare Fair to be organized in the spring and will include representation from Translink (Travel Smart).	2008	No End Date (Continuous)
<b>Other Business Travel Actions</b>						
Employ a Travel Demand Coordinator (TDM)	Ongoing/In Progress		TDM coordintor employed for Surrey Memorial Hospital and Out Patients facilities.	Lower Mainland Health Authorities looking to employ a regional TDM coordinator.	2011	2012
Part of the Translink Regional Transportation Strategic advisory committee	Ongoing/In Progress		Lower Mainland Health Authorities represented on the Translink Regional Transportation Strategic advisory committee	Practise to continue.	2011	No End Date (Continuous)
<b>Education, Awareness, and Engagement</b>						
<b>Team-building</b>						
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	Ongoing/In Progress		Green + Leaders (G+L) program was launched in the fall of 2011. The program has recruited 30 staff volunteers to run behaviour change campaigns including paper/waste reduction, energy reduction and Sustainable Transportation.	Practise to continue and looking to recruit more G+L dedicated to FH sites.	2010	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress		Existing resources already in place as part of the Energy and Environmental Sustainability team. The Green + Leaders Coordinator will provide dedicated support to staff volunteers.	Practise to continue.	2010	No End Date (Continuous)

## Fraser Health Authority - 2011 Carbon Neutral Action Report

Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)	Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress		The Green+Leaders program provides training on community-based social marketing and CBSM is integrated into its tools.	Practise to continue.	2011	No End Date (Continuous)
<b>Awards/Recognition</b>						
Establish a sustainability/green awards or recognition program	Ongoing/In Progress		Annual recognition events are included as part of the Green + Leaders program.	First G+L recognition event to held in 2012 and then annually thereafter.	2011	No End Date (Continuous)
<b>Staff Professional Development</b>						
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress		Several individuals as part of the Facilities Management team attended dedicated training for specific energy end uses, such as steam trap maintenance and using an infrared camera for heat losses.  All Lower Mainland Health Authority Facilities Management staff were signed up to the Practice Greenhealth webinars.	Workshops to be organized, sponsored by NRCan, for Facilities Maintenance & Operations staff as part of the B Hydro WCA program.  Continue to support and promote green professional development for the FM team.	2009	No End Date (Continuous)
<b>Staff awareness/education</b>						
Provide education to staff about the science of climate change	In Development			Brief overview of climate change will be presnted to the Green + Leaders as part of the Energy Reduction launch campaign.	2011	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress		As part of the BC Hydro Workplace Conservation Agreement (WCA), Energy Awareness fairs were organized at the beginning of 2011 at 5 core FH sites.  Green + Leaders (G+L) program was launched in the fall of 2011. The program has recruited 30 staff volunteers to run behaviour change campaigns including energy reduction and waste reduction campaigns.  An online Cut the Carbon Community (C3) was launched in spring of 2011 to provide education on conservation of energy, water and raw materials.  Dedicated site training was provided on recycling as part of the Recycling roll out Program.  As part of the BC Hydro WCA program education provided to the Housekeeping and some Security staff on lighting and how they can help reduce our lighting load during unoccupied hours.	Practise to continue.	2009	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress		Green + Leaders (G+L) program was launched in the fall of 2011. Monthly newsletters, including green tips, were electronic emailed to all G+L.  An online Cut the Carbon Community (C3) was launched in spring of 2011 and included tips and community discussion around environmental sustainability and energy conservation.	Practise to continue.	2011	No End Date (Continuous)
<b>Other Sustainability Actions</b>						
<b>Water conservation</b>						

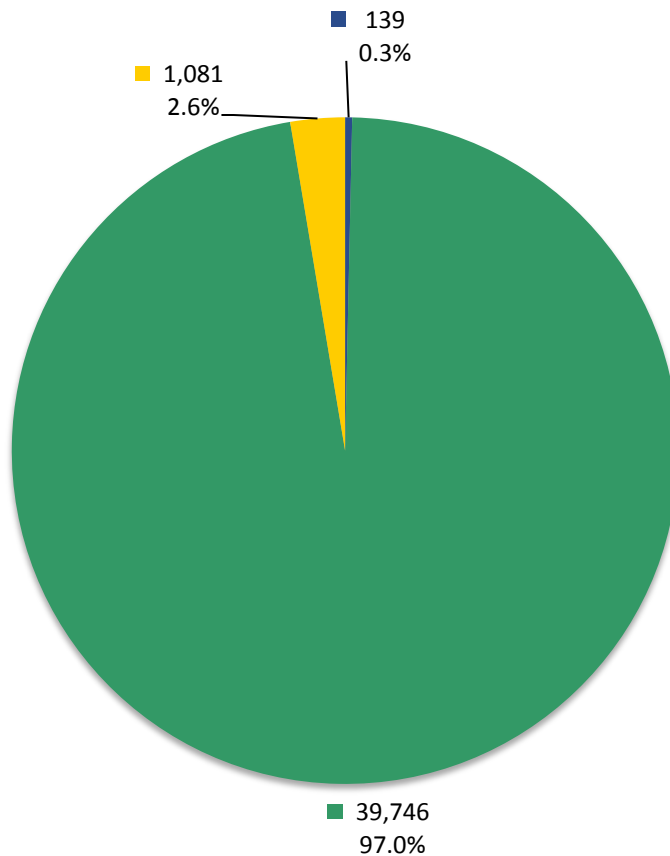
## Fraser Health Authority - 2011 Carbon Neutral Action Report

Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)		Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Ongoing/In Progress			No strategy in place. Most sites already have low flow water fixtures however, the use of these devices needs to reviewed in line with CSA Z8000 standard.	Strategy for water conservation to be developed.	2011	2014
Put in place a potable water management strategy to reduce potable water demand of building-level uses such as cooling tower equipment, toilet fixtures, etc. and landscape features	Ongoing/In Progress			No strategy in place, but a comprehensive Water Conservation Study was carried out at Eagle Ridge Hospital in partnership with Metro Vancouver.	The final report from the water conservation study will help with the development of a strategy. Also, looking to carry out more site studies.	2011	2014
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	Ongoing/In Progress			Unofficial strategy in place not to water landscaping, simply rely upon rainfall.  As part of the comprehensive Water Conservation Study carried out at Eagle Ridge Hospital, an outdoor water assessment was undertaken, including the potential of storm-water and rain water collection opportunities.	Strategy for water conservation to be developed.	2011	2014
<b>Waste reduction/diversion</b>							
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	Ongoing/In Progress	4	number of sites that reached waste diversion target of 35%	Lower Mainland Health Authority Waste Management policies already exist.  Reduction & Recycling coordinator implemented recycling strategy at Royal Columbian Hospital. Including the design and commissioning of marketing/training/educational materials, plus signage. A communication plan was drafted and indicators were established for recycling reporting. Pre and post audits undertaken which showed a 20% improvement in recycle diversion.	Roll out recycling renewal program to 10 acute care and 6 residential care sites.  Implement food services recycling and composting at 17 sites.	2009	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress			Developing signage in partnership with vendor to improve biomedical waste segregation.	Develop a waste reduction target. Vendor to carry out mini waste audits and education and training on waste segregation	2009	No End Date (Continuous)
<b>Procurement (non-paper supplies)</b>							
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress			No new steps in 2011. 57% of the chemicals used by ARAMARK (contracted housekeeping services provider) are Environmental Choice certified.	Purchasing practices to be reviewed regularly and new green products added where available, pending approval for use in healthcare facilities by infection control authorities.	2009	No End Date (Continuous)
Require a minimum purchase of sustainable, and organic food and beverages supplied by contracted food suppliers or caterers	In Development				No minimum purchase requirements in place, but all food purchasing is carried out through HSSBC and sustainability is considered as a component for RFPs.	2009	No End Date (Continuous)
<b>Building construction, renovation, and leasing</b>							
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	In Development				An Energy and Environmental Sustainability (EES) Principles and Guideline document will be created and implemented. This document will include guidance on construction waste.	2011	No End Date (Continuous)
Incorporate lifecycle costing into new construction or renovations	Ongoing/In Progress			Lifecycle costing incorporated on new projects in 2011 on an ad hoc basis.	An Energy and Environmental Sustainability (EES) Principles and Guideline document will be created and implemented. This document will include direction on lifecycle costing for new construction.	2010	No End Date (Continuous)
<b>Indoor air quality</b>							

## Fraser Health Authority - 2011 Carbon Neutral Action Report

Action	Status (as of 12/31/11)	Performance to Date (as of 12/31/11)	Steps Taken in 2011	Steps Planned for 2012 -2014	Start Year	End Year
Incorporate low volatile organic compounds (VOCs) standards into procurement policy for products such as paints, carpets, and furniture	In Development			VOC standards to be incorporated into general HSSBC Procurement Policy.	2010	2014
<b>Commuting to and from home</b>						
Introduce telework/work from home policy	In Development		A study was undertaken and presented to the Lower Mainland Energy and Environmental Sustainability team on the impact of Telework and how this can reduce carbon emissions.	Initiative will continue to be investigated.	2010	No End Date (Continuous)
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress		Green + Leaders (G+L) program was launched in the fall of 2011. The program has recruited 30 staff volunteers to run behaviour change campaigns including a Sustainable Transportation campaign.	G+L to continue to encourage staff to consider sustainable transportation for their commute to and from work.  GreenCare Fair to be organized in the spring and will include representation from Translink (Travel Smart), who be promoting sustainable transportation.	2008	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In Progress		No new action steps in 2011.	Plans to add new bike cages at Queens Park Care Centre and Langley Memorial Hospital.	2009	No End Date (Continuous)
Modify parking fees or parking availability for staff/students	Ongoing/In Progress		No new action steps in 2011.	The Traffic Demand Management (TDM) team are investigating the potential to utilise the revenue from parking fees to subsidize bus passes and cover costs related to increasing knowledge and opportunities to commute car free.	2011	No End Date (Continuous)
<b>Other Sustainability Actions</b>						
Composting Initiatives	Ongoing/In Progress		6 core sites implemented a composting initiative.	Initiative to be rolled out at remaining core sites	2011	No End Date (Continuous)
Environmental Sustainability Advisory Committee	Ongoing/In Progress		A Lower Mainland Environmental Sustainability Advisory Committee was set up and terms of reference were agreed.	Committee to continue to meet and develop environmental sustainability strategies for the Lower Mainland Health Authorities.	2011	No End Date (Continuous)

**Fraser Health Authority  
Greenhouse Gas Emissions by Source  
for the 2011 Calendar Year (tCO<sub>2</sub>e\*)**



**Total Emissions: 40,965**

- 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 10:50 AM)**

Total offsets required: **40,954**. Total offset investment: **\$1,023,850**. Emissions which do not require offsets: **11** \*\*

\*Tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e) 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.