



Fraser Health Authority

2010 CARBON NEUTRAL ACTION REPORT (CNAR)

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



Fraser Health Authority 2010 Carbon Neutral Action Report

Executive Summary



In accordance with the British Columbia Greenhouse Gas Reduction Targets Act, we are pleased to present Fraser Health Authority 2010 Carbon Neutral Action Report (CNAR). This is Fraser Health Authority's third year of tracking its carbon footprint and the organizations second year of official CNAR reporting.

Within the Lower Mainland Health Authorities, we are actively creating initiatives to advance our commitment to reduce GHG emissions and create a collaborative culture toward environmental sustainability. In this past year, we can all be proud of the following energy conservation initiatives, which advance our collective strategic goal of increasing resource efficiency to sustain and strengthen the health care system:

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

We are pleased to be prioritizing environmental sustainability within the Health Authorities. Here at Fraser Health Authority (FHA), we have established a clear vision towards energy reduction and a consistent strategy towards carbon reduction.

FHA has made substantial progress towards reducing our carbon footprint:

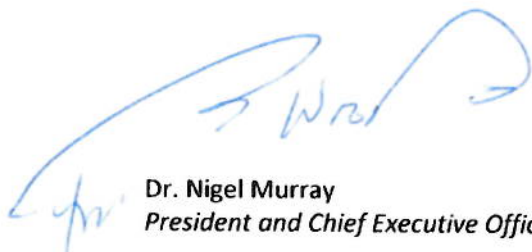
- The greenhouse gas emissions produced from our buildings represents **96.3%** of the organizational reportable carbon footprint. Thus, the energy consumed has been and will continue to be the main focus point of the organizations drive for carbon neutrality. A number of energy conservation projects have been implemented in 2010. One of the largest and most significant was at the Fraser Canyon Hospital. This included various measures; such

as new boiler plant, ventilation and Building Management System (BMS) control upgrades and a lighting retrofit. The combined effect of these measures will result in approximate GHG emissions reduction of 215 tCO₂e per year and a cost avoidance of \$60,000. These projects, along with other energy conservation initiatives in 2010 have resulted in **overall GHG emissions reduction of approximately 7%** compared to 2009.

- Although paper use only represents **3.3%** of the organizations reportable carbon footprint, there has been a significant step made in 2010 towards reducing paper utilization, with the introduction and implementation of a large number of departmental share-point sites that have helped to reduce paper use. General waste management and recycling initiatives were also initiated.
- With 39 fleet vehicles the mobile emissions represent only **0.4%** of the organizations reportable carbon footprint. However, business travel, which currently falls outside of the reporting requirements, is considered to be a key source of greenhouse gas emissions and FHA has taken significant steps in reducing business travel carbon emissions by embracing web-conferencing software and the utilization of video conference units.

At FHA we are committed to advancing our impact on the environment just as we strive to provide the highest level of health care.

Thank you for your interest in our CNAR. We hope you enjoy hearing all the accomplishments we have made and join us in continuing to work towards carbon reduction and carbon neutrality.



Dr. Nigel Murray
President and Chief Executive Officer



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

Fraser Health Authority (FHA) is one of six publicly funded health care Regions into which the Canadian province of British Columbia is divided. It has nearly 14,000 full-time equivalent employees and serves the region from the Vancouver suburb of Burnaby to White Rock to Boston Bar in the Fraser Canyon. It is the largest health authority by population in British Columbia, and includes some of the fastest-growing communities within Canada.

Services provided by Fraser Health include primary health care, community home care, mental health and addictions, acute medical and surgical services, including 12 acute care facilities.

The Royal Columbian Hospital, located in the city of New Westminster, is the oldest hospital in British Columbia and one of Fraser Health's busiest. A major tertiary care facility known for trauma care, neurosurgery and open-heart surgery, the Royal Columbian Hospital has the only program capable of performing cardiac surgery for expectant women in the Province of British Columbia.

Three rapidly growing communities also included in Fraser Health are Abbotsford, Maple Ridge, and Surrey; all three are served by expanding community-focused acute-care hospitals and related services. Abbotsford Regional Hospital and Cancer Centre is a new facility, having opened only in August of 2008.

1. Context

Fraser Health Authority (FHA) understands the importance of energy and environmental sustainability towards organizational, human and environmental health. Thus, context based performance and reporting is an important aspect to the organizational work and reporting around sustainability.

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

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

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

FHA, along with the other Lower Mainland health services organizations, has adopted the following Sustainability Policy, Vision Statement, and Sustainability Conservation Goals:

Sustainability Policy

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

Vision Statement

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

Sustainability Conservation Targets

Tier One Targets	2010-11	2011-12	2013-14	2019-20
Energy Reduction	2%	6%	10%	15%
GHG Reduction	2%	7%	10%	* 33%
Waste Reduction	2%	4%	8%	20%
% of Waste Recycled	23%	35%	* 70%	* 70%
GreenCare Behavioral – Staff Participation	15%	25%	45%	85%

* Targets aligned with Bill 44 and Metro Vancouver Targets

2. 2010 Greenhouse Gas Emissions

Fraser Health Authority has calculated their 2010 carbon footprint in accordance with the *Greenhouse Gas Reduction Target Act* (as reported in SMARTtool).

2010 Emissions by Source	Value	Unit/type
Mobile Fuel Combustion (Fleet and other mobile equipment)	140.40	tonnes of CO ₂ e
Stationary Fuel Combustion and Electricity (Buildings)	36,158.95	tonnes of CO ₂ e
Supplies (Paper)	1,055.89	tonnes of CO ₂ e
Fugitive Emissions	-	tonnes of CO ₂ e
Total	37,355.24	tonnes of CO₂e

Organizational Information (as of December 31, 2010)	Value	Unit/type
How many full time equivalent employees (FTEs) do you have within your organization?	13,626	FTEs
How many vehicles (cars, trucks, SUVs, etc.) within your fleet?	39	vehicles
How much space (square meters) is within your building portfolio?	667,854	usable square meters
How many buildings are in your portfolio?	140	distinct buildings
What percentage of your building portfolio is leased?	18	percent leased
What percentage of your building portfolio is owned?	82	percent owned
Is carbon neutral/sustainability planning incorporated into other organization-wide planning?	Yes	
How many FTEs does your organization employ for implementing carbon neutral/sustainability initiatives?	2	FTEs
How many FTEs does your organization employ for measuring and monitoring energy/carbon neutral performance?	2	FTEs

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

3. Offsets Applied to Become Carbon Neutral in 2010

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

2010 Offsets	Value	Unit/type
Emissions Which Do Not Require Offsets	6.43	tonnes of CO ₂ e
Total Offsets Purchased	37,348.81	tonnes of CO ₂ e
Total Offsets Investment (before taxes)	\$ 933,720.25	\$ CDN

This commitment was achieved through mechanical and electrical energy retrofits, policy development, behavioral programs and lastly the purchasing of carbon offsets. The offsets purchased from the Pacific Carbon Trust (PCT) in 2010, for in scope emissions, as stated in the table above, amounted to \$933,720.

4. Operational Changes in 2010

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

This formal working relationship has resulted in the consolidation, under a Lower Mainland Consolidation leadership, of the following areas:

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

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

(Lower Mainland Consolidation Statement)

5. Emissions Reduction Activities

Actions Taken to Reduce Greenhouse Gas Emissions in 2010:

An increased focus has been placed on infrastructure improvements and engaging our staff, communities and key stakeholders to take action on climate change and to reduce our organizations' overall carbon footprint. In addition to the development and approval of an Environmental Sustainability policy, other significant carbon reduction actions taken in 2010 include:

- **Energy**
 - 12 dedicated energy retrofit projects were completed within various FHA owned buildings. The total annual estimated savings are expected to be 1.2 GWh for electricity and 2,500 GJ for natural gas, resulting in a reduction of 156 tCO₂e of GHG emissions per year.
 - In addition to the above completed projects, 25 dedicated energy retrofit projects were initiated within various FHA owned buildings. The total annual estimated savings are expected to be 4 GWh for electricity and 13,500 GJ for natural gas, resulting in a reduction of 779 tCO₂e of GHG emissions per year. These projects are in various stages of implementation, but they are all scheduled for completion by the end of 2011.
 - A multi-site agreement was signed with BC Hydro for 9 acute sites and 3 residential sites to be part of their Continuous Optimization program.
- **Travel**
 - The Transit Pass program has seen a significant increase (approx 20%) of staff applications.

- Web conferencing software (Live Meeting and Office Communicator) was installed on all PCs and Laptops.
- 52 video-conference units are installed throughout the region and there is at least one unit installed in a meeting room within the main sites.
- **Waste**
 - A Reduction & Recycling Coordinator was hired to assist with the implementation of recycling at all Lower Mainland Acute sites. The recycling program was designed and commissioned, including marketing, training and educational materials and signage. A communication plan was drafted and indicators developed for recycling reporting.
 - Staff have been encouraged to shift paper orders towards using more 30% and 100% recycled content in their purchasing.
 - All new multi-function printers and photocopiers rolled out in 2010 have the option for double-sided printing and staff was encouraged to use this as a default setting.
 - 11 departments have been set up to use collaborative SharePoint software for electronic editing and viewing.
- **Design - Leadership in Energy and Environmental Design (LEED)**
 - The Czorny Alzheimer Centre Phase 1 in Surrey was LEED NC certified and Phase 2 is under construction with a LEED NC gold target.
 - Other completed LEED NC Gold target projects in 2010 include, Cypress Lodge in Coquitlam, Langley Memorial Cottage in Langley and the Maternity department renovation at Peace Arch Hospital in White Rock.
- **Behavioural**
 - A Workplace Conservation Awareness (WCA) agreement was signed with BC Hydro to implement conservation awareness initiatives at five (5) FHA sites.
 - A Coordinator was hired to lead the Green + Leaders staff engagement program for the Lower Mainland Health Authorities.
 - As part of the consolidation, the VCHA "GreenCare" branding and creative platform was refreshed and adopted to include to all the Lower Mainland Health Authorities.

Plans to Continue Reducing Greenhouse Gas Emissions 2011-2013:

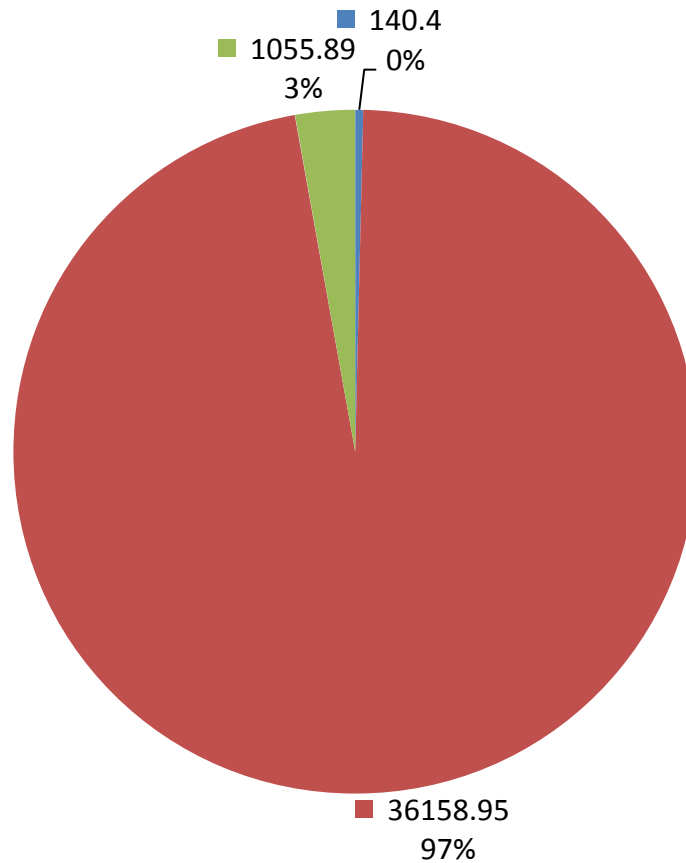
The four organizations, VCHA / FHA / PHSA / PHC, will continue to coordinate, collaborate and integrate energy & environmental initiatives within all operational clinical and non-clinical work. Within those efforts, the following is a list of tasks to be achieved in 2011 – 2013.

- **Energy**
 - Complete the 25 dedicated energy retrofit projects initiated in 2010.
 - Continue to identify inefficient plant and equipment within owned facilities and investigate the potential of renewable technologies.
 - Implementation of the RFQ and Tenant Improvement handbook, which includes a section on High Performance Buildings and LEED requirements.
 - As part of the BC Hydro Continuous Optimization pilot program the energy conservation measures from the 2 selected sites will be implemented.

- As part of the BC Hydro Continuous Optimization multi-site program, 9 of the 12 sites signed up will have been through the investigation phase and 3 sites through the implementation phase.
- A utility database management system will be created to ensure all utility consumption data for owned and leased buildings is recorded and analyzed.
- **Travel**
 - The Green + Leaders program will promote alternative transportation, with a key focus campaign to encourage walking, cycling or public transit for work commute.
- **Waste**
 - Basic recycling programs to be implemented at all FHA acute care sites where waste management contracts are in place. Starting at Royal Columbian Hospital in 2011 and then moving to Burnaby Hospital in 2012.
 - Continue to build partnership with Health Shared Services BC with a focus on increasing recycled paper.
 - Development of a tool to guide the Site Support Managers on implementation of cafeteria composting.
- **Design - Leadership in Energy and Environmental Design (LEED)**
 - Expecting LEED NC gold certification for 3 projects completed in 2010 (Cypress Lodge in Coquitlam, Langley Memorial Cottage in Langley and the Maternity department renovation at Peace Arch Hospital in White Rock).
 - The new Surrey Outpatient Care and Surgical Centre, opening in spring 2011, is expecting LEED NC Gold certification.
 - All new constructions or major renovations will continue to be designed to achieve LEED Gold standards.
- **Behavioural**
 - As part of the BC Hydro Workplace Conservation Awareness (WCA) agreement energy awareness fairs, departmental educational sessions and frequent publication of "green tips" in the electronic FH news will take place in 2011.
 - The Green + Leaders program will be launched in the fall of 2011. The program will recruit and educate staff volunteers on community-based social marketing behaviour-change tools that focus on paper/waste reduction, energy reduction and sustainable transportation.
 - The "Cut the Carbon Community" (C3) will launch in spring 2011. This web site will provide a direct channel of communication and networking with interested staff from across the region.

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



Total Emissions: 37355.24

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

Offsets Applied to Become Carbon Neutral in 2010

Total offsets purchased: **37348.81**. Total offset investment: **\$933,720.25**. Emissions which do not require offsets: **6.43** **

*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.

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Actions Towards Carbon Neutrality							
The actions listed below contribute to a reduction in greenhouse gas emissions from sources for which public sector organizations are responsible under the carbon neutral government regulation of the <i>Greenhouse Gas Reduction Targets Act</i> .							
Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Mobile Fuel Combustion (Fleet and other mobile equipment)							
Vehicle fuel efficiency							
Replace vehicles with more fuel-efficient models	Ongoing/In Progress	12	% of vehicles are fuel- efficient models	No new action steps taken in 2010.	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 2010.	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 to improve fuel-efficiency	Completed in 2010	100	% of vehicles are subject to regular maintenance for fuel efficiency	All fleet vehicles maintained throughout 2010 as per manufacturers schedule.	Continue to maintain fleet to ensure fuel efficiency and vehicle life expectancy	2002	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 in the next 2 years.	2011	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)							
Planning/management							
Reduce office space (square meters) per employee	Ongoing/In Progress			Lease agreement for office space terminated in White Rock. Lease agreement signed for Surrey Central City initiative which will result in the consolidation of 9 leases.	The Surrey Central City initiative will result in an approximate reduction of office leased space in the region of 20%. 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	75	% of buildings have a real time metering system installed	No new real time meters added, but the software (ION) for the PML sub-meters was purchased and installed on a server. Also, agreement signed with BC Hydro for real time meters to be installed on the majority of our sites as part of the Continuous Optimization program.	Real time meters to be installed on the majority of our sites as part of the Continuous Optimization program and PML sub-metering program to continue.	2003	2013
Owned buildings							
Establish energy performance baseline for owned buildings	Completed in 2010	100	% of owned buildings have an established energy performance baseline	Energy performance baseline year agreed (2007-08). All owned buildings have a Building Energy Performance Index (BEPI) compared to the FHA average baseline for Acute and Extended Care/Residential facilities.		2008	2010

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress	5	% of owned buildings are certified LEED NC Gold or LEED NC Platinum	No new LEED NC Gold Certifications in 2010, but the Czorny Alzheimer Centre in Surrey was certified. Emergency building project at Chilliwack General Hospital built to LEED Standard. Awaiting certification award.	All new constructions or major renovations will be ideally designed and built to LEED Gold standards. Three FHA projects (Cypress Lodge, Langley Memorial Cottage, and Peace Arch Hospital Maternity) are expecting LEED Gold NC certification in 2011. Also the new Surrey Outpatient Care and Surgical Centre will be completed in spring 2011 and is expected to receive LEED NC gold certification.	2005	No End Date (Continuous)
Incorporate integrated design process into new construction or during renovations of owned buildings	Ongoing/In Progress	10	% of buildings built or renovated since start year indicated used the integrated design process	All new construction or renovation projects are subject to a form of IDP. Full IDP workshop held in February for the new Czorny Phase 2 building.	Practise to continue and where applicable incorporated into all new projects.	2005	No End Date (Continuous)
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress	95	% of owned buildings have undergone energy retrofits since start year indicated	Various energy retrofits (detailed below) have been carried out in 2010 with Public Sector Energy Conservation Agreement (PSECA) funding, BC Hydro Incentive funding and internal Capital Improvement funding.	Energy retrofits to continue (detailed below) as identified through energy studies and inefficient practices.	2003	No End Date (Continuous)
Retrofitting owned buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	20	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	Major boiler plant upgrade completed at Fraser Canyon Hospital. Chiller plant upgraded at Mission Memorial Hospital. Ventilation upgrades completed at Fraser Canyon Hospital, Burnaby Hospital, Peace Arch Hospital and Queens Park Care Centre.	Boilers to be replaced at Felburn Care Centre and Weatherby Pavilion (Peace Arch Hospital). Boiler plant upgrade to be carried out at Chilliwack General Hospital. Chilled water plant to be replaced at Burnaby Hospital and Delta Hospital. Ventilation upgrades to be carried out at Chilliwack General Hospital, Mission Memorial Hospital and Eagle Ridge Hospital.	2003	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	90	% of retrofits since start year indicated had lighting systems upgrades	Lighting retrofits completed at Burnaby Hospital (parkade) Felburn Care Centre, Fraser Canyon Hospital, Delta Hospital and Cottage/Worthington Pavilions.	Major lighting retrofits planned for Langley Memorial Hospital, Heritage Village (the only 2 owned sites left with significant T12 fluorescent lighting) and the parkade at Surrey Memorial Hospital. Also, all incandescent being phase out with CFL or LED replacements.	2005	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	25	% of retrofits since start year indicated had control system upgrades or adjustments	Control system upgraded in the ECU at Eagle Ridge Hospital and upgrade work continued from 2009 at Burnaby Hospital and Fraser Canyon Hospital. Also, multi-site agreement signed with BC Hydro for the majority of our sites to go through their Continuous Optimization program.	Major controls upgrade planned for Eagle Ridge Hospital (Acute Building) and Mission Memorial Hospital. Also, adjustments and upgrades to be carried out on the majority of all owned sites, as part of the BC Hydro Continuous Optimization program.	2003	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	5	% of retrofits since start year indicated had insulation improvements	Windows and external doors replaced at Fraser Canyon Hospital. Windows replaced in DJP building at Chilliwack General Hospital and partially at Burnaby Hospital.	Plans to upgrade/replace windows at Surrey Memorial Hospital.	2003	No End Date (Continuous)
Install an on-site renewable energy demonstration project	In Development	0	% of retrofits since start year indicated had on-site renewable energy components	Application submitted for PSECA funding for a solar project at Delta Hospital, but unfortunately the funding was not approved.	Further investigation to be carried out on the potential of solar and wind power.	2010	No End Date (Continuous)
Leased buildings							
Establish energy performance baseline for leased buildings	In Development				Energy consumption data for leased buildings, where separately metered will be added to the Utility Management Database.	2011	No End Date (Continuous)

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Lease space with commercial interiors performance labelling/certification (e.g., LEED CI)	In Development			The Lower Mainland consolidated Real Estate team drafted an RFQ and Tenant Improvement handbook, which included a section on High Performance Buildings and LEED requirements.	The RFQ and Tenant Improvement handbook, complete with LEED requirements to be finalised and approved.	2010	No End Date (Continuous)
Lease space in buildings with new construction performance labelling/certification (e.g., LEED NC)	In Development			The Lower Mainland consolidated Real Estate team drafted an RFQ and Tenant Improvement handbook, which included a section on High Performance Buildings and LEED requirements.	A RFQ and Tenant Improvement handbook, complete with LEED requirements to be finalised and approved.	2010	No End Date (Continuous)
Develop a green lease policy that requires green features to conserve energy be included in all lease negotiations	In Development				No green policy, but the Tenant Improvement Handbook will include a number of energy conservation features related to ASHRAE 90.1.	2011	No End Date (Continuous)
IT power management							
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		Still 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	Servers virtualized at Surrey Memorial Hospital and Royal Columbian Hospital as part of a BC Hydro Incentive Agreement.	Investigation to be carried out to review potential server virtualization across Lower Mainland as part of a BC Hydro Incentive Agreement for HSSBC.	2009	2013
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress	0	% of computers have auto-sleep settings applied	No auto-sleep settings on PC as per IM policy. All monitors have a default auto-sleep setting of 20 minutes.	Still under review by Customer Technology & Service department of the Health Shared Services BC (HSSBC).	2008	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 2010.	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 2010.	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	2011
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress	100	% of computers are ENERGY STAR rated	PC upgrades and roll out program initiated. All PCs were already Energy Star rated, but the new models have a higher efficiency rating.	Roll out to continue through 2011.	2003	No End Date (Continuous)
Appliances and electronic devices							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress	55	% of fridges are ENERGY STAR rated	All consumer grade refrigerators purchased in 2010 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 2010 where energy star models	Practise to continue	2007	No End Date (Continuous)
Replace desk lamp incandescent bulbs with compact fluorescent (CFL) bulbs or source more efficient desk lamps for future purchases	Completed in 2010			Purchase of Incandescent desk lamps not supported by FHA Plant Services. Incandescent lamps no longer available to purchase.		2003	2010
Behaviour change program							

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress			Workplace Conservation Awareness (WCA) agreement signed with BC Hydro for 5 pilot sites (Royal Columbian Hospital, Langley Memorial Hospital, Ridge Meadows Hospital, Eagle Ridge Hospital and Queens Park Care Centre). One of the initiatives will be to provide departments with 'lunch and learn' education sessions to remind staff to switch off and unplug unused electrical equipment.	As part of the WCA, Energy Awareness fairs planned at the beginning of the calendar year and staff educational sessions will be carried out in the summer of 2011. Green + Leaders program, including a focus on energy reduction, will be rolled out in the fall of 2011. An online Cut the Carbon Community being launched in spring of 2011, which includes a staff committment to unplug unused electrical equipment.	2009	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	In Development				Information will be passed onto to staff at the Energy Awareness fairs as part of the WCA	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			Workplace Conservation Awareness (WCA) agreement signed with BC Hydro for 5 pilot sites (Royal Columbian Hospital, Langley Memorial Hospital, Ridge Meadows Hospital, Eagle Ridge Hospital and Queens Park Care Centre). One of the initiatives will be to provide staff with 'green' tips on a regular basis in the electronic FH News.	As part of the WCA, Energy Awareness fairs planned at the beginning of the calendar year and 'green' tips will be issued on a regular basis the FH News. Green + Leaders program, including a focus on energy reduction, will be rolled out in the fall of 2011. An online Cut the Carbon Community being launched in spring of 2011, which will include tips and community discussion around energy reduction.	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			Workplace Conservation Awareness (WCA) agreement signed with BC Hydro for 5 pilot sites (Royal Columbian Hospital, Langley Memorial Hospital, Ridge Meadows Hospital, Eagle Ridge Hospital and Queens Park Care Centre). One of the initiatives will be to remind staff to turn off lights when not required.	As part of the WCA, Energy Awareness fairs planned at the beginning of the calendar year and a sticker campaign being considered for the summer of 2011. Green + Leaders program, including a focus on energy reduction, to be rolled out in the fall of 2011. An online Cut the Carbon Community being launched in spring of 2011, which will include information and messaging regarding lighting.	2009	No End Date (Continuous)
Promote hot water conservation	In Development				As part of the WCA, Energy Awareness fairs planned at the beginning of the calendar year, including Terasen Gas (Fortis BC) with a focus on hot water conservation. Green + Leaders program, including a focus on energy reduction, to be rolled out in the fall 2011. An online Cut the Carbon Community being launched in spring of 2011, which will include information regarding hot water conservation.	2009	No End Date (Continuous)
Other Stationary Fuel Combustion and Electricity Actions							

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
BC Hydro Energy Management Assessment (EMA)	Ongoing/In Progress			As part of BC Hydro's Energy Manager Agreement an EMA is carried out on an annual basis to help develop an Action Plan and Road Map to continuous energy improvements. No EMA was carried in 2010, due to the Lower Mainland Facilities Management consolidation; however, the Actions from 2009 EMA were completed in 2010.	EMA planned for the spring in 2011.	2008	No End Date (Continuous)
Utility Management Database	In Development				A utility database management system will be created in 2011 to ensure all utility consumption data for owned and leased buildings is recorded and analyzed	2010	2011
BC Hydro Continuous Optimization Program (COp)	Ongoing/In Progress			A multi-site agreement was signed with BC Hydro for 9 acute sites and 3 residential sites to be part of their COp.	As part of the BC Hydro COp multi-site program, 9 of the 12 sites signed up will have been through the investigation phase and 3 sites through the implementation phase by 2013.	2009	No End Date (Continuous)
Supplies (Paper)							
Paper Type							
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	10	% of total paper purchased contains 30% recycled content	Quantities determined as part of the SMARTtool requirement.	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	Quantities determined as part of the SMARTtool requirement.	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)
Printer/document settings							
Switch networked printers and photocopiers to automatic double-sided	Ongoing/In Progress	0	% of network printers or photocopiers are set to automatic double-sided	All printers and photocopies rolled out in 2010 have an option for double sided printing.	New devices will continue to be rolled out as part of the tech refresh. In addition the IM department will be evaluating the networked printers and identify which could be set to automatically default to double sided.	2009	No End Date (Continuous)
Reduce default margin size in standard document templates (e.g., letters, briefing notes, forms, etc.)	Ongoing/In Progress			No new action steps in 2010.	Will continue to promote throughout FHA for all common documents and forms.	2009	No End Date (Continuous)
Electronic media in place of paper							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress	100	% of staff workstations with software installed	Eleven departments have been set up to use SharePoint	Practise to continue and SharePoint to be rolled out to all departments as required.	2008	No End Date (Continuous)
Post materials online that were previously printed	Ongoing/In Progress			Fraser Health intranet site updated.	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)
Behaviour change program							
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			No new action steps in 2010.	The roll out of the Green + Leaders program will promote the encouragement of paperless meetings.	2008	No End Date (Continuous)
Encourage re-use of scrap paper	Ongoing/In Progress			No new action steps in 2010.	The roll out of the Green + Leaders program will promote the reduction of paper use.	2008	No End Date (Continuous)

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Actions to Reduce Provincial Emissions and Improve Sustainability							
The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the <i>Greenhouse Gas Reduction Targets Act</i> . Public sector organizations can optionally use this section to report on actions that will help British Columbia meet its provincial greenhouse gas reduction targets, engage the public, and improve environmental sustainability across all aspects of their organization.							
Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Business Travel							
Policy and budgeting							
Create a low-carbon travel policy or travel reduction goal	Ongoing/In Progress			A general Environmental Sustainability Policy has been approved for the Health Authorities across the Lower Mainland.	Travel reduction goals to be investigated and established	2010	No End Date (Continuous)
Virtual meeting technology							
Install web-conferencing software (e.g., Live Meeting, Elluminate, etc.)	Completed in 2010	100	% of computers have web-conferencing software installed	Live Meeting and Office Communicator rolled out to all PCs and Laptops.		2009	2010
Make desktop web-cameras available to staff	Ongoing/In Progress	0	% of staff have access to a desktop web-camera	Software available as part of the web-conferencing software roll out.	Hardware to be purchased by department as required.	2009	No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Completed in 2010	100	% of meeting rooms have access to video-conferencing equipment	There are 52 video conferencing devices distributed throughout Fraser Health. There is at least one default video conferencing meeting room per site.		2009	2010
Behaviour change program							
Train staff in web-conferencing	Completed in 2010	100	% of staff are trained web-conferencing	Help documents and videos posted in the Fraser Health Intranet and all staff have access to technical support staff if required.		2009	2010
Train staff in video-conferencing or provide technical support for video-conferencing set-up	Completed in 2010	100	% of staff are trained in video-conferencing or have access to technical support	Help documents and videos posted in the Fraser Health Intranet and all staff have access to technical support staff if required.		2009	2010
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress			No new action steps in 2010.	Green + Leaders program to be rolled out in the fall and will include Sustainable Transportation campaign designed to encourage staff to hold virtual meetings instead of travelling from site to site.	2009	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress			No new action steps in 2010.	Green + Leaders program to be rolled out in the fall and will include Sustainable Transportation campaign designed to encourage staff to consider alternatives to SOVs when travelling to meetings.	2008	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress			No new action steps in 2010.	Green + Leaders program to be rolled out in the fall and will include Sustainable Transportation campaign designed to encourage staff to consider alternatives to SOVs when travelling to meetings. Idea being considered to trial a shuttle service between some of the sites in Surrey.	2008	No End Date (Continuous)
Education, Awareness, and Engagement							
Team-building							

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	Ongoing/In Progress			A new Energy and Environmental Sustainability team was established as part of the Lower Mainland Facilities Management consolidation.	Green+Leaders program will be launched in the fall of 2011. Estimated that 90 volunteers will be recruited, oriented and trained by end of 2013.	2010	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress			A Green + Leader program coordinator and a Reduction & Recycling coordinator employed by the consolidated Energy and Environmental Sustainability team.	The Energy and Environmental Sustainability team and in particular the Green + Leaders program coordinator, will provide support to staff volunteers.	2010	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	In Development				As part of the Green + Leaders program, community-based social marketing behaviour change tools will be developed that focus on paper/waste reduction, energy reduction and sustainable transportation.	2011	No End Date (Continuous)
Awards/Recognition							
Establish a sustainability/green awards or recognition program	In Development				As part of the Green + Leaders program, six annual events will be held to recognize staff volunteers for their efforts.	2011	No End Date (Continuous)
Staff Professional Development							
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress			A large number of the Facilities Management team attend two "Environmental Sustainability" events. The first one was the National Canadian Healthcare Engineers Society in September and the second was the annual BC Hydro Power Smart forum in October. Both events featured educational breakout sessions on environmental sustainability and energy conservation.	Practise to continue as green professional development is strongly supported by Executive Directors in Facilities Management. In addition, FM staff across the Lower Mainland have unlimited access to all upcoming live and archived webinars for the next 12 months from Practice Greenhealth.	2009	No End Date (Continuous)
Staff awareness/education							
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress			Workplace Conservation Awareness (WCA) agreement signed with BC Hydro for 5 pilot sites (Royal Columbian Hospital, Langley Memorial Hospital, Ridge Meadows Hospital, Eagle Ridge Hospital and Queens Park Care Centre). A recycling program was designed and commissioned, including marketing /training/educational materials and signage. A communication plan was drafted and indicators developed for recycling reporting.	As part of the WCA, Energy Awareness fairs planned at the beginning of the calendar year and staff educational sessions will be carried out in the summer of 2011. Green + Leaders program, including a focus on paper/waste reduction, energy reduction and sustainable transportation, will be rolled out in the fall 2011. An online Cut the Carbon Community is being launched in the spring of 2011 for all staff in the Lower Mainland Health Authorities. The site will include educational material on environmental sustainability topics. Recycling promotion and awareness days will be held at Royal Columbian Hospital. Educational material and training to be delivered to employees in 2011. Program to be rolled out at Burnaby Hospital in 2012 and other sites to follow.	2009	No End Date (Continuous)
Provide green tips on staff website or in newsletters	In Development				Green' tips will be issued on a regular basis in the FH News. Green + Leaders program will be rolled out in the fall of 2011 and monthly newsletters will be sent to all volunteers. An online Cut the Carbon Community being launched in spring 2011, which will include tips and community discussion around environmental sustainability and energy conservation.	2011	2013

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Other Sustainability Actions							
Water conservation							
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Ongoing/In Progress	50	% of low flow devices installed within owned facilities	Water consumption recorded and compared to previous years.	Site water consumption data to be analysed, survey to be carried out and general water conservation strategy to be developed in 2012.	2005	No End Date (Continuous)
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	In Development				General water conservation strategy to be developed in 2012.	2011	No End Date (Continuous)
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	In Development				Survey to be carried out on all sites with landscape irrigation by SMART Watering Systems Ltd.	2011	No End Date (Continuous)
Waste reduction/diversion							
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	Ongoing/In Progress			A general Environmental Sustainability Policy has been approved for the Health Authorities across the Lower Mainland. A Reduction & Recycling Coordinator was hired to implement recycling programs. A recycling program was designed and commissioned, including marketing /training/educational materials and signage. A communication plan was drafted and indicators developed for recycling reporting. An audit was carried out of the biomedical waste and materials were identified which should have been in recycling or general waste stream.	Basic recycling programs to be implemented at all FHA acute care sites where waste management contracts are in place. Starting at Royal Columbian Hospital and then moving to Burnaby Hospital. Further investigation into additional recycling streams and systems to be carried out and implemented. Education and awareness program to be delivered to all staff groups.	2004	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	Ongoing/In Progress			Site specific disposal processes continued for all FHA sites.	Waste management strategy, including hazardous waste to be completed and rolled out for all Lower Mainland consolidated healthcare facilities.	2003	No End Date (Continuous)
Procurement (non-paper supplies)							
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/In Progress			57% of the chemicals used by ARAMARK (contracted housekeeping services provider) in FHA 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				All food purchasing is through HSSBC and sustainability is considered as a component for RFPs. In addition, fresh produce and meat is purchased through our distributor, GFS and they use local producers as much as possible.	2009	No End Date (Continuous)
Building construction, renovation, and leasing							
Incorporate lifecycle costing into new construction or renovations	Ongoing/In Progress			Lifecycle costing incorporated on new projects in 2010 on an ad hoc basis. General sustainability section added to Business Case template.	Standards to be created and LCC to be adopted for all new projects	2010	2013
Indoor air quality							
Incorporate low volatile organic compounds (VOCs) standards into procurement policy for products such as paints, carpets, and furniture	In Development				Standards to be incorporated into general Procurement Policy.	2011	2013

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Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011 -2013	Start Year	End Year
Commuting to and from home							
Introduce telework/work from home policy	In Development			A large number of the Facilities Management team completed a survey in 2010 (using the a tool called Teletrips) to help identify work needs and how these needs could be adapted in a way that embraces best practices in work environment.	Being investigated by certain departments.	2010	No End Date (Continuous)
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress			In partnership with Translink a Transit Pass Program has introduced, which offer staff discounted Translink rates. Bike cage and motorcycle parking locations added to the FHA intranet.	Green + Leaders program will be launched in the fall of 2011. Estimated that 90 volunteers will be recruited, oriented and trained by end of 2013. One of their focus areas will be to encourage staff to use alternative transportation.	2008	No End Date (Continuous)
Provide secure bicycle storage	Ongoing/In Progress	85	% of acute hospitals now have secure bike cages	A number of the existing bike cages were upgraded to make them more secure by installing additional locking devices, such as proximity readers.	Plans to extend and add bike cages as required throughout the region.	2009	No End Date (Continuous)
Modify parking fees or parking availability for staff/students	In Development				The Traffic Demand Management (TDM) team are looking to implement a program to match the other Lower Mainland health authorities, whereby the revenue from parking fees will be used to subsidize bus passes and cover costs related to increasing knowledge and opportunities to commute car free.	2011	No End Date (Continuous)
Other Sustainability Actions							
Composting Initiatives	In Development				Develop a tool to guide Site Support Managers on implementation of cafeteria composting	2011	No End Date (Continuous)
Environmental Sustainability Policy	Completed in 2010			Environmental Sustainability Policy developed and approved by senior executives.		2010	2010