



BC HYDRO 2010 CARBON NEUTRAL ACTION REPORT

SUBMITTED UNDER THE CARBON NEUTRAL GOVERNMENT REGULATION OF
THE GREENHOUSE GAS REDUCTION TARGETS ACT

Dave Cobb, CEO

BChydro 

FOR GENERATIONS

EXECUTIVE SUMMARY

BC Hydro is pleased to present our *2010 Carbon Neutral Action Report*, our third annual report outlining actions we are taking to reduce greenhouse gas emissions from our building energy use, vehicle fleet and paper use. In addition to reporting on progress made over the past three years, such as greening our vehicle fleet and opening a new Leadership in Energy and Environmental Design (LEED) Gold building, our 2010 report for the first time includes an inventory of our carbon neutral program emissions. By purchasing offsets for our residual emissions through the Pacific Carbon Trust, BC Hydro is proud to contribute to a carbon neutral public sector in British Columbia.

Almost 50 years ago, the Province of B.C. created one unified utility to plan, build and bring clean and reliable electricity to homes and businesses throughout the province. Today, BC Hydro is one of the largest electric utilities in Canada serving 95 per cent of B.C.'s population, delivering electricity safely and reliably at competitive rates to 1.8 million customers. With approximately 6,000 employees stationed throughout the province, we operate 31 hydroelectric facilities and three thermal generating plants, capable of generating 11,800 MW of power. These activities are supported by a vehicle fleet of 2,400 heavy- and light-duty vehicles and over 100 buildings and facilities, which comprise the majority of our carbon neutral program emissions. On July 5, 2010, BC Hydro and the BC Transmission Corporation were integrated into one Crown agency and BC Transmission Corporation assets, liabilities and employees were transferred to BC Hydro, in accordance with the Clean Energy Act.

Today, BC Hydro's vision is to power B.C. with clean, reliable electricity for generations. Our six strategic objectives are to safely keep the lights on, succeed through relationships, mind our footprint, foster economic development, maintain competitive rates and engage a safe and empowered team (see Figure One).

MIND OUR FOOTPRINT

Create a sustainable energy future in B.C. by carefully managing our impacts on the environment and fostering an energy conservation and efficiency culture.

In 2004, BC Hydro established a goal of achieving no net incremental environmental impact in 2024 as compared with 2004. To understand this goal, we have developed metrics to track our progress in addressing the impact of our operations across four categories: air, land, water and climate change. Becoming carbon neutral is an important part of reducing our impact on climate change. To

address carbon neutral program emissions, BC Hydro is accurately measuring our greenhouse gas emissions, aggressively reducing emissions from our operations and offsetting our remaining emissions using high-quality and verifiable offsets from the Pacific Carbon Trust. BC Hydro has set targets for carbon neutral program emissions and publicly reports on those targets through our *Service Plan* and *Annual Report* (see Figure Two).

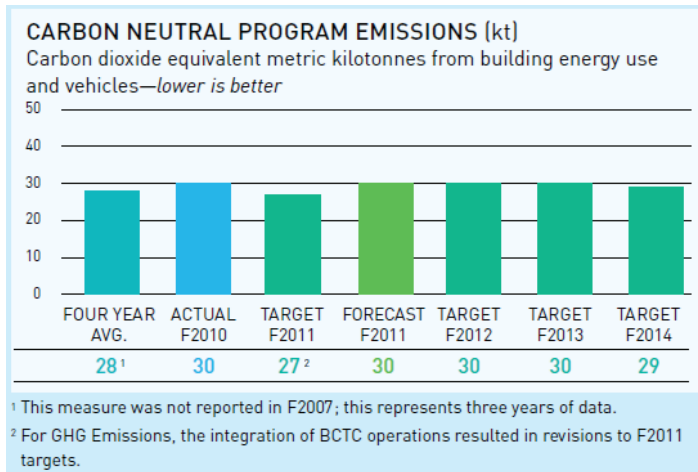
Toward this end, we have developed a carbon neutral action plan, with input from across the organization. Highlights from 2010 actions include:

- developing a Fleet Greening Plan which is forecast to result in a 640 tonne reduction in fleet emissions by 2013/14 compared with business as usual;
- developing a Lead by Example business case targeting electricity savings of 40 GWh by 2015;
- saving 510,289 kWh/yr through server virtualization (the portioning of physical servers into smaller independent virtual servers which optimizes use and reduces hardware needs);
- completing a new LEED Gold district office in Port Alberni; and,
- expanding our Green Team program to include 34 locations across BC Hydro, representing 85 per cent of employees.

Figure One
BC Hydro's Vision, Values and Strategic Objectives



Figure Two
Carbon Neutral Program Emissions Performance Measure



2010 GREENHOUSE GAS EMISSIONS

In calendar year 2010, BC Hydro emitted 30,672 tonnes of carbon dioxide equivalent (CO₂e) from sources covered under the Carbon Neutral Government Regulation (see Figure Three). Of these emissions, 75 per cent came from the vehicle fleet, 24 per cent from heating, cooling and lighting buildings and 1 per cent from paper use.

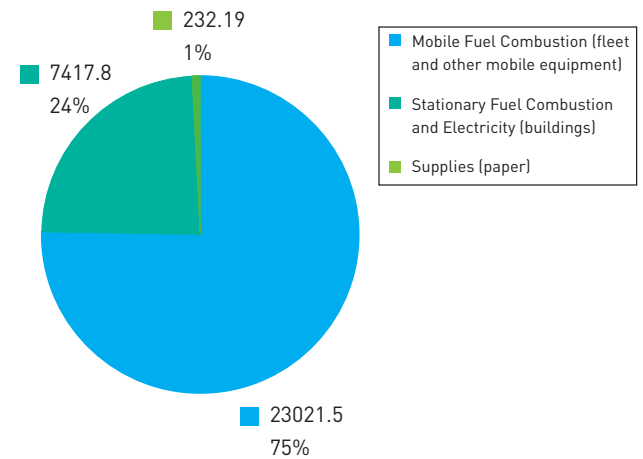
As outlined in the regulation, some emissions must be reported but do not require offsets. For BC Hydro, emissions exempt from offsets are a result of the renewable fuel content in purchased diesel and gasoline and equalled 698 tonnes for 2010. Emissions requiring offsets totalled 29,974 tonnes for 2010.

OFFSETS APPLIED TO BECOME CARBON NEUTRAL IN 2010

BC Hydro has purchased 30,000 carbon offsets from the Pacific Carbon Trust to achieve carbon neutrality, as required by the Greenhouse Gas Reduction Targets Act. The Pacific Carbon Trust, a Crown corporation of the Government of B.C., was created to deliver quality made-in-B.C. offsets to help the public service achieve carbon neutrality.

All offsets are in compliance with the B.C. Emission Offsets Regulation and help to drive the growth of B.C.'s low-carbon economy. More information on specific projects can be obtained from the Pacific Carbon Trust.

Figure Three
BC Hydro Greenhouse Gas Emissions by Source for the 2010 Calendar Year (tCO₂e)^{1,2}

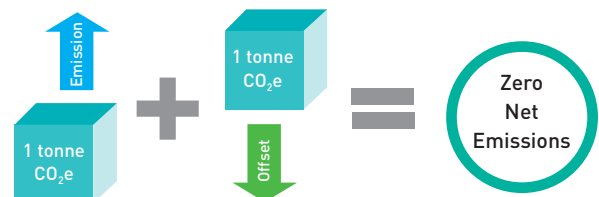


¹ Tonnes of carbon dioxide equivalent (tCO₂e) is a standard unit of measure in which all types greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.

² It was estimated that fossil fuel emissions from crew quarters at the Diesel Generating Stations in Non-Integrated Areas, stationary fugitive emissions from cooling and mobile fugitive emissions each do not comprise more than 1% of BC Hydro's total carbon neutral program emissions and an ongoing effort to collect or estimate emissions from these sources would be disproportionately onerous. For this reason, emissions from these sources have been deemed out-of-scope and have not been included in BC Hydro's total carbon neutral program greenhouse gas emissions profile, in accordance with the Carbon Neutral Regulation rules.

What is a Carbon Offset?

A carbon offset is the reduction, avoidance, or sequestration (permanent storage) of GHG emissions for a specific project to compensate for GHG emissions at another specific source. Each offset equals one tonne of carbon dioxide equivalent.



EMISSION REDUCTION ACTIVITIES

VEHICLE FLEET

BC Hydro's vehicle fleet contains approximately 2,400 vehicles that are used on a daily basis throughout BC Hydro's operations to maintain a safe and secure supply of electricity. In 2010, these vehicles emitted approximately 23,000 tonnes of greenhouse gas emissions, which represents 75 per cent of BC Hydro's carbon neutral program emissions.

In developing plans to take advantage of the opportunity to reduce these emissions, BC Hydro followed an approach of "avoid, minimize and offset" emissions, while balancing the need to ensure reliability and safety in the fleet, demonstrate leadership, understand and evaluate the operational characteristics of new vehicle technology, engage vehicle operators and protect ratepayers and reduce risk by choosing cost-effective options.

To **avoid** emissions, BC Hydro is providing idle-free and driver training programs to employees to encourage reduced vehicle idling time and promote eco-efficient driving techniques. These programs also include additional equipment such as cab-heaters and telematics (electronic monitoring of the vehicle) to support behaviour change. Use of the vehicles is being avoided through the implementation of initiatives such as teleconferencing, carpooling and route optimization.

To **minimize** emissions during required operations, fleet efficiency is being improved by the replacement of vehicles with newer, more efficient models and actively right-sizing wherever possible. As new technology becomes available Fleet Services incorporates vehicles into the fleet that will help to reduce fuel consumption while ensuring service reliability. Our fleet now consists of more than 130 hybrid vehicles, including two heavy duty aerial line trucks.



Additionally, BC Hydro continues to participate in pilot projects providing an opportunity to evaluate emerging technologies that can help us reduce greenhouse gas emissions. Two Mitsubishi i-MiEV cars, North America's first production-ready highway-capable electric cars, were introduced to the fleet in November 2009. BC Hydro has recently partnered with the Electric Power Research Institute to participate in a demonstration project which will bring two Plug-in Hybrid Electric Vehicle (PHEV) F550 trouble trucks with an aerial device into our fleet by 2012. BC Hydro has also been incorporating a 5 per cent blend of biodiesel (B5) into its fuel delivery service for several years. The next step will be to incorporate a higher blend in the next few years, up to B20 where manufacturer's warranties and weather conditions allow. Under the Fleet Greening Plan, fleet emissions are forecast to be reduced by approximately 640 tonnes in 2013/14 compared with business as usual.

Lastly, BC Hydro will offset the remaining vehicle emissions through the purchase of high-quality made-in-B.C. carbon offsets from the Pacific Carbon Trust.



PORT ALBERNI DISTRICT OFFICE

On December 1, 2010, Port Alberni staff moved into their newly built facility on Tebo Avenue. The 22,000 square foot facility includes an office building, warehouse, workshop and truck bays. The building has been designed to achieve a minimum of a gold rating in accordance with the LEED green building certification system, and will use significantly less energy than code requirements. The building's features include a geexchange heat pump system, solar hot water heating panels and a vegetated roof.

GREENING FACILITIES

BC Hydro has over 100 buildings in more than 60 municipalities across the province. Whether building new facilities or renovating existing space, BC Hydro is working to reduce the environmental impact of our operations, conserve energy and improve worker health.

In 2010, we opened a new LEED Gold district office in Port Alberni and started building a new facility at the Horne Payne substation in Burnaby which will also be LEED Gold. These buildings incorporate many sustainable features, such as:

- high-efficiency heating and cooling systems,
- low flow water fixtures,
- rain water capture,
- storm water recovery, and
- energy-efficient lighting.

A renovated building with extensive energy efficiency improvements will be opened in Chetwynd in May and over the next three years, BC Hydro is planning to start construction of new LEED Gold



district office facilities in Maple Ridge, Prince George and Campbell River. Interior space floor transformations will continue to be consistent with LEED Gold standards and we will be seeking LEED Gold certification upon completion of all floors at our Dunsmuir and Edmonds head office spaces.

Upgrades to interior space include auto-dimming and adjustable lighting functions, high

efficiency T-8 overhead fluorescent lighting, ENERGY STAR® rated office equipment, furnishings that are manufactured using lower impact materials and are more easily reused or recycled and lowered cubicle heights, glass panel inserts and other design features which maximize natural light to improve access to light and lower energy costs. Further upgrades and/or replacement of the Direct Digital Control (DDC) systems are planned for the Dunsmuir and Edmonds locations in 2011. Thirteen energy audits are planned for 2011.



Be a part of
something amazing

LEADING BY EXAMPLE

BC Hydro encourages employees to take initiatives to identify and implement conservation actions and ideas throughout the organization and into the community. BC Hydro has Green Teams established at 34 sites, which collectively have over 300 members including 46 management sponsors who support the teams. In total, 85 per cent of employees work at a site with a Green Team. Workshops were held to help train Green Teams in the principles of social marketing and developing campaigns. Sample campaigns include workstation power-downs (turning off all equipment at night), waste reduction, recycling and composting, closing garage bay doors and the Sustainable Commuter Challenge that recorded 26,843 kilometers of sustainable transport that avoided 7 tonnes of greenhouse gas emissions from single occupancy vehicle travel.

In 2010, we held our first annual Green Living Fair to provide information and resources to staff about greening their lifestyles. We rolled out the Workstation Tune-Up Tool, a fun and interactive learning tool which educates users on conservation and energy efficiency opportunities in the office, workstation, and at home. In total, over 700 employees have used the tool. This year we also piloted a Sustainable Commuter Challenge campaign at our Surrey Campus. Six hundred staff participated in the Commuter Challenge and plans are underway to rollout the campaign across the Lower Mainland in 2011. BC Hydro and Accenture staff receive a conservation message every week through internal publications and our Lead by Example e-newsletter.

Over the next three years, BC Hydro will continue to support and engage employees through our Green Teams, celebrate conservation leadership through the Annual Employee Conservation Leadership Awards, promote sustainability campaigns and assist our customers in conserving energy through our Power Smart program, thereby saving energy costs and reducing environmental impact.

BC HYDRO—2010 CARBON NEUTRAL ACTION REPORT

Actions Towards Carbon Neutrality

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

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	
Vehicle Fuel Efficiency							
Replace vehicles with more fuel-efficient models	Ongoing/In Progress		<p>The BC Hydro fleet currently consists of 2,390 vehicles. In F11, 95 Light and Medium (L&M) duty vehicles were ordered. Of these, 54 were diesel powertrain instead of gasoline in order to take advantage of better fuel efficiency and enable the use of biodiesel. Five of the 7 sedans ordered were hybrids along with 2 hybrid compact SUV's.</p> <p>There are now 130 hybrid vehicles in BC Hydro's fleet. Of these, 128 are L&M vehicles and 2 are Heavy Duty line trucks with aeriels. Three Toyota Prius' have been upfitted with an aftermarket Plug-in kit and 2 fully electric Mitsubishi sedans were added to the fleet in 2009 on a trial basis. BC Hydro also owns 2 hydrogen-powered pickup trucks.</p>	At vehicle ordering time the New Vehicle team works with users to identify opportunities to correctly select engine type/size (new engines offered for 2011 model year vehicles) and also look to appropriately place hybrid and electric vehicles in the fleet. New technology vehicles will be incorporated as part of the regular vehicle replacement cycle as appropriate and when possible. Plans include 2 Plug-in Hybrid trouble trucks (F550 with Aerial device), up to 10 Electric Sedans, and up to 15 light-duty hybrid vehicles. Number of vehicles incorporated will depend on suitable replacement spots, vehicle pricing and availability.	2008	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	In F11, vehicle orders were heavily focused on working trucks (68%) such as service bodies and flat decks as opposed to "people movers" such as sedans. This resulted in limited opportunities for down-sizing. Out of 95 L&M orders, 9 units were down-sized.	At vehicle ordering time work, Fleet Services works with users to identify opportunities to correctly select engine type and size. Examples include downsizing passenger vans to sedans, switching to lighter duty pick-ups (e.g. 1 tonne to ¾ tonne), smaller displacement engines and large SUV's to compact SUV's.	2009	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/In Progress	100	% of vehicles are subject to regular maintenance for fuel efficiency	All L&M duty vehicles are tracked for Preventative Maintenance (PM) according to manufacturer's specifications. The Heavy Duty (HD) fleet is inspected and PM performed 3 times per year. The fleet management contractor, ARI, tracks PM schedules for the HD fleet and notifies users when PM is required. For 2010, 89% of HD PM's were completed within 21 days of the scheduled date. Tracking of the L&M PM's has begun. Vehicles which are non-compliant with the PM schedule are reported to management and follow up with vehicle managers is undertaken.	HD PM's will continue to be tracked throughout the year. Detailed tracking and reporting of PM's for the L&M fleet is being developed for implementation in F12.	2008	No End Date (Continuous)

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
Behaviour Change Program						
Provide fleet driver training to reduce fuel use	In Development		Finalized development of on-line driver training modules and content for hands-on driver training. Early adopters taking part in hands-on training. In 2010, 60 employees completed the hands-on training.	F12: roll-out of driver training program across BC Hydro. All drivers to complete either on-line or hands-on training.	2010	No End Date (Continuous)
Introduce anti-idling policy and/or raise anti-idling awareness for fleet drivers (e.g., signs, stickers, messages)	Ongoing/In Progress		Idle-free Zone signs have been posted at various facilities across the province. Information on reducing idling is provided on the Green Smart Intranet page. Awareness-raising materials such as information cards, biodegradable vehicle garbage bags and vehicle card holders have been distributed. Idle-free messaging has been incorporated into the Safe Work Observation Program environmental checklist used multiple times per year by over 120 field managers.	F12: development and roll-out of idle-free campaign ideas for use by Green Teams; development of targeted messaging to the HD fleet users.	2009	No End Date (Continuous)
Other Mobile Fuel Combustion Actions						
Demonstrating telematics equipment	Ongoing/In Progress		Completed a one year demonstration of third-party telematics equipment installed on the vehicle post-ordering. Project focus was to evaluate the data and equipment.	F12: A select group of vehicles will be outfitted with OEM telematics equipment at the time of ordering. This will provide valuable vehicle performance feedback and allow for evaluation of other options such as cab-heaters and newly available engine options in some pick-up trucks.	2009	No End Date (Continuous)
Development of Fleet Greening Strategy and Business Case	Completed in 2010		An Excel-based model was developed which allows BC Hydro to analyze fleet fuel consumption by vehicle type and evaluate fleet greening initiatives. Using the model, Fleet Services developed a Fleet Greening strategy and capital business case (F12-F14) to pursue initiatives for new technology vehicles and equipment.	Incorporate new vehicle technologies and equipment into the vehicle fleet according to the fleet greening strategy in conjunction with vehicle replacement cycles. Continuous update of model and ongoing analysis to adjust vehicle and equipment implementation to align with vehicle replacements.	2010	No End Date (Continuous)
Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)						
Planning/Management						
Enrol in a building energy benchmarking program (e.g., GREEN UP)	Ongoing/In Progress		Participated in benchmarking programs through the International Facility Management Association.	Annual benchmarking through the International Facility Management Association.	2009	No End Date (Continuous)

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	
Reduce office space (square meters) per employee	Ongoing/In Progress	12	is the current average rentable square meters per employee	Interior Space Standards have optimized space used per employee in office workstations. Standard cubicle size has been reduced to 5.9 square meters in 2010 from a range of 5.9 to 14 square meters in 2007. Note—the estimate of rentable space per employee is approximate and based on head office space in the Lower Mainland.	Ongoing floor transformations using Interior Space Standards.	2007	No End Date (Continuous)
Install a real time metering system (e.g. Pulse, Reliable Controls, Houle Controls)	Ongoing/In Progress	3	% of buildings have a real time metering system installed	Installation of real time energy displays in three buildings (Edmonds, Dunsmuir and Powertech Labs).	Planned for all new buildings.	2009	No End Date (Continuous)
Owned Buildings							
Establish energy performance baseline for owned buildings	Completed in 2010	100	% of owned buildings have an established energy performance baseline	All Properties-managed buildings have a baseline established or estimated.		2009	No End Date (Continuous)
Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI)	Ongoing/In Progress	40	% of commercial interiors in owned buildings have labelling	All head office floor transformation projects are consistent with LEED Gold requirements. Application for certification will be made once all building floors in a building have been completed. Buildings included are Dunsmuir, Edmonds and Edmonds Annex.	Continue to have all floor transformation projects be LEED Gold certified.	2006	No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress	1	% of owned buildings are certified LEED NC Gold or LEED NC Platinum	All new office buildings are LEED Gold certified. Port Alberni building completed in 2010. Horne Payne and Chetwynd buildings under construction.	Horne Payne and Chetwynd to be completed in 2011. Other new facilities will also be designed to meet new or exceed LEED Gold: Prince George, Maple Ridge and Campbell River.	2009	2010
Incorporate integrated design process into new construction or during renovations of owned buildings	Ongoing/In Progress	100	% of buildings built or renovated since start year indicated used the integrated design process	Established Integrated design process (IDP) in 2009 as a way of doing business for new designs and major renovations and incorporated into Draft Building Standards for new construction and major renovations.	New building standards that mandate IDP to be finalized and approved.	2010	No End Date (Continuous)

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	
Complete energy retrofits on existing, owned buildings	Ongoing/In Progress	49	% of owned buildings have undergone energy retrofits since start year indicated	Twenty-two energy saving projects in 2010 at 13 buildings (i.e. HVAC upgrade/replacement, roofing upgrade/replacements, and Headquarter Improvement (HI) floors). Buildings include Golden, Lillooet, Surrey Fleet, Valemont, Edmonds Annex, Kamloops, Victoria, Terrace, Cranbrook, Dawson Creek, Dunsmuir and Edmonds. (Note 33 HVAC, 5 roofs, and 4 Headquarter Improvement (HI) floors completed in 2009). (Note: percentage indicates Facilities-managed portfolio only).	Buildings planned to undergo renovations will consider energy savings (i.e. lighting upgrade, HVAC upgrade/replacement or roofing upgrade/replacement). Two Digital Direct Control (DDC) systems to be installed in 2011. Edmonds cooling tower upgrade planned in 2011. Thirteen energy audits planned for 2011.	2007	No End Date (Continuous)
Retrofitting Owned Buildings							
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	54	% of retrofits since start year indicated had heating, cooling, and ventilation systems upgrades	Five HVAC upgrades completed in 2010—Kamloops, Victoria, Terrace, Cranbrook and Dawson Creek.	Five to 10 HVAC projects for each year for F12-F13.	2007	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	31	% of retrofits since start year indicated had lighting systems upgrades	All floor transformations involved lighting upgrades and one lighting specific upgrade completed in 2010.	Lighting upgrades as part of building improvements or floor transformations. Major lighting upgrade planned for Surrey Campus in 2011.	2007	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	85	% of retrofits since start year indicated had control system upgrades or adjustments	All retrofits involving HVAC and lighting had upgrades to the control systems.	Direct Digital Control (DDC) retrofits are scheduled for two major office towers (Edmonds and Dunsmuir) in 2011/2012. Where possible HVAC upgrades will involve adjustments to or local DDC activation.	2007	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	15	% of retrofits since start year indicated had insulation improvements	5% of buildings underwent re-roofing, which also improved insulation value. No projects included windows.	Approximately 3% of buildings to undergo re-roofing in 2011. End of life roof replacements/reglazing and envelope updates identified through building audits to continue thereafter.	2008	No End Date (Continuous)
Install an on-site renewable energy demonstration project	Ongoing/In Progress	1	% of retrofits since start year indicated had on-site renewable energy components	Renewable energy is considered in all projects. New Port Alberni district office had a groundsource heat pump installed.	Facilities expected to be completed in 2010/2011 with solar hot water preheat and take advantage of solar thermal massing in their structures. Photovoltaics will be incorporated into the Horne Payne building.	2009	No End Date (Continuous)

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
Leased Buildings						
Establish energy performance baseline for leased buildings	Ongoing/In Progress	100	% of leased buildings have an established energy performance baseline	Improved accuracy of inventory of leased buildings. Upgraded Property Information Management system to accommodate leased data, improved energy use database to begin to include energy use of leased buildings. Baseline energy use established in 2010.	Collect monthly utility data going forward.	2009 No End Date (Continuous)
Lease space with commercial interiors performance labelling/certification (e.g., LEED CI)	In Development	40	% of leased buildings have commercial interiors labelling/certification	HI leased interiors are consistent with the level and quality of finish of owned interiors. Note—certification not yet complete. Certification will be obtained when all floors in a building have been completed. Buildings include Bentall, Glenlyon, CPP, Metrotower and Patterson.	Continue to have all floor transformation projects be LEED Gold certified.	2007 No End Date (Continuous)
IT Power Management						
Install power management software which shuts down computers outside of regular business hours	Completed in 2010	100	% of computers shut down automatically outside of regular business hours	Faronics software, a power management software, is installed on computers at BC Hydro.	Client Modernization Program being rolled out, which will include installing Windows 7 on all computers. Windows 7 has better power management capability built into operating system.	2011 2012
Implement server virtualization	Completed in 2010			Server virtualization avoided the installation of 176 servers, saving 510,289 kWh/yr.	Estimating avoidance of 170 servers per year through virtualization at estimated savings of 500,000 kWh/yr.	2011 2013
Apply auto-sleep settings on computer monitors and CPUs	Ongoing/In Progress			Sleep mode settings established for all monitors and partial CPUs.	Client Modernization Program being rolled out, which will include installing Windows 7 on all computers. Windows 7 has better power management capability built into operating system.	2011 2012
Remove stand-alone printers, copiers, and/or fax machines and install multi-function devices	Completed in 2010			Multi-function devices are default for each floor.	Continue to only install multi-function devices.	2010 No End Date (Continuous)
Apply auto-sleep settings on printers, copiers, fax machines, and/or multi-function devices	Ongoing/In Progress			Auto-sleep settings are set as the default on all multi-function devices.	Auto-sleep settings will continue to be set as the default on all multi-function devices.	2010 No End Date (Continuous)
Replace computers with ENERGY STAR models during regular computer upgrades	Ongoing/In Progress			All new computers are ENERGY STAR models.	All new computers will continue to be ENERGY STAR models.	2010 No End Date (Continuous)

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
Appliances and Electronic Devices							
Replace refrigerators with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress			All new refrigerators are ENERGY STAR models.	All new refrigerators will continue to be ENERGY STAR models.	2010	No End Date (Continuous)
Replace other appliances or electronic devices with ENERGY STAR models or source ENERGY STAR models for future purchases	Ongoing/In Progress			All new appliances are ENERGY STAR models.	All new appliances will continue to be ENERGY STAR models.	2010	No End Date (Continuous)
Behaviour Change Program							
Help staff reduce personal energy use through “workstation tune-ups”	Ongoing/In Progress	10	% of current staff have completed a workstation tune-up	In 2010, 703 staff used the Workstation Tune-Up tool.	F12: Continue to promote the Workstation Tune-Up tool through the Lead by Example (LBE) program and the Green Teams.	2010	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress			Promoted as part of the LBE program and through the Green Teams.	Continued promotion as part of the LBE program and through the Green Teams.	2008	No End Date (Continuous)
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress			Promoted as part of the LBE program and through the Green Teams.	Continued promotion as part of the LBE program and through the Green Teams.	2008	No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	Ongoing/In Progress			Promoted as part of the LBE program and through the Green Teams.	Continued promotion as part of the LBE program and through the Green Teams.	2010	No End Date (Continuous)
Provide tips to staff on saving energy in the office while working outside of regular business hours	Ongoing/In Progress			Promoted as part of the LBE program and through the Green Teams.	Continued promotion as part of the LBE program and through the Green Teams.	2008	No End Date (Continuous)
Encourage use of stairs instead of elevators	Ongoing/In Progress			Co-campaign with Health & Wellness in June, 2010, to encourage the use of the stairs.	Continued promotion as part of the LBE program and through the Green Teams.	2010	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress			Promoted as part of the LBE program and through the Green Teams.	Continued promotion as part of the LBE program and through the Green Teams.	2008	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress			Promoted as part of the LBE program and through the Green Teams.	Continued promotion as part of the LBE program and through the Green Teams.	2008	No End Date (Continuous)

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
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Other Stationary Fuel Combustion and Electricity Actions

Adoption of base building energy efficiency standards for new construction. Energy consumption of newly constructed buildings will be 75 percent lower than energy consumption for standard new construction.	Ongoing/In Progress	1	Number of buildings constructed to new standard	Completion of the Port Alberni District Office to new standard.	Other new facilities will also be designed to meet new or exceed energy efficiency target: Prince George, Maple Ridge and Campbell River.	2009	No End Date (Continuous)
Adoption of base building energy efficiency standards extensive renovations. Buildings undergoing extensive renovations will target 50% reduction in base building energy consumption.	Ongoing/In Progress	0	Number of buildings constructed to new standard	Chetwynd district office under construction and scheduled for completion in 2011.	Completion of Chetwynd district office. Other new facilities will also be designed to meet new or exceed energy efficiency standard.	2009	No End Date (Continuous)

Supplies (Paper)

Paper Type

Purchase 30% post-consumer recycled paper	Completed in 2010	0	% of total paper purchased contains 30% recycled content	100% recycled paper is the standard for BC Hydro. If 100% is not available to meet a certain requirement (e.g. colour, size), then the alternate of 40% recycled content is ordered. Of the paper purchased in 2010, 6.8% was 40% recycled and 91.5% was 100% recycled.		2009	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Completed in 2010	91	% of total paper purchased contains 100% recycled content	100% recycled paper is the standard for BC Hydro. If 100% is not available to meet a certain requirement (e.g. colour, size), then the alternate of 40% recycled content is ordered. Of the paper purchased in 2010, 6.8% was 40% recycled and 91.5% was 100% recycled.		2009	No End Date (Continuous)

Printer/Document Settings

Switch networked printers and photocopiers to automatic double-sided	Completed in 2010	100	% of network printers or photocopiers are set to automatic double-sided	All network printers and photocopiers are set to automatic double-sided.		2010	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
Electronic Media in Place of Paper							
Install collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Completed in 2010	100	% of staff workstations with software installed	Collaborative software installed.		2010	No End Date (Continuous)
Post materials online that were previously printed	Completed in 2010			Discontinued printing job postings, all job postings available on-line. Materials for Board of Directors meetings are now available on-line, saving approximately 47 packages of paper per meeting.		2010	No End Date (Continuous)
Behaviour Change Program							
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Completed in 2010			Paper reduction messaging and tips are included in the Workstation Tune-Up tool, Lead by Example (LBE) webpages and Green Team campaigns.		2009	No End Date (Continuous)
Encourage re-use of scrap paper	Completed in 2010			Messaging to encourage the re-use of scrap paper is included in the Workstation Tune-Up tool, LBE webpages and Green Team campaigns.		2009	No End Date (Continuous)

BC HYDRO—2010 CARBON NEUTRAL ACTION REPORT

Actions to Reduce Provincial Emissions and Improve Sustainability

The actions listed below contribute to a reduction in greenhouse gas emissions from sources that fall outside of the reporting requirements defined in the carbon neutral government regulation of the 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 12/31/10)	Performance to Date (as of 12/31/10)	Steps Taken in 2010	Steps Planned for 2011–2013	Start Year	End Year
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Business Travel

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 Communicator installed in all BC Hydro computers.		2010	No End Date (Continuous)
Install video-conferencing units in meeting rooms or provide mobile video-conferencing units	Completed in 2010			Meeting rooms equipped with video-conferencing units.		2010	No End Date (Continuous)

Behaviour Change Program

Train staff in web-conferencing	Completed in 2010			Training sessions held for Live Meeting. On-line learning resources available. Live Meeting information cards given away by LBE during events. Workstation Tune-up includes component about sustainable and alternate transport.	On-line learning resources available.	2010	No End Date (Continuous)
Train staff in video-conferencing or provide technical support for video-conferencing set-up	Ongoing/In Progress			Green Team campaigns promoted use of virtual attendance using Live Meeting and video-conferencing. Pilot Commuter Challenge campaign involving 600 staff completed at Surrey Campus location. Live Meeting information cards given away by LBE during events. Workstation Tune-up includes component about sustainable and alternate transport.	F12: roll out of Commuter Challenge throughout Lower Mainland; continued promotion of virtual attendance via LBE program.	2010	No End Date (Continuous)
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress			Green Team campaigns promoted use of virtual attendance using Live Meeting. Pilot Commuter Challenge campaign involving 600 staff completed at Surrey Campus location.	F12: roll out of Commuter Challenge throughout Lower Mainland; continued promotion of virtual attendance via LBE program.	2009	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress			Green Team campaigns promoted carpooling. Pilot Commuter Challenge campaign involving 600 staff completed at Surrey Campus location.	F12: roll out of Commuter Challenge throughout Lower Mainland; continued promotion of carpooling via LEB program.	2009	No End Date (Continuous)

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
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress			Corporate policy reimburses employees travelling between locations in Burnaby and Vancouver only for the price of a transit ticket. Green Team campaigns promoted use of alternate travel. Pilot Commuter Challenge campaign involving 600 staff completed at Surrey Campus location.	F12: roll out of Commuter Challenge throughout Lower Mainland; continued promotion of alternative travel via LEB program.	2009	No End Date (Continuous)

Education, Awareness, and Engagement

Team-building

Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	Ongoing/In Progress	85	Percentage of staff working at a site with a Green Team	BC Hydro has Green Teams established at 34 sites, which collectively have over 300 members. In 2010, 46 management sponsors joined the Teams. In total, 85% of employees work in a site with a Green Team.	Continued recruitment and activation of current Green Teams to engage management sponsor and run energy efficiency, waste reduction, idle-free, and recycling campaigns and activities.	2011	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress			BC Hydro's LBE department has 2 dedicated staff to support the Green Teams and 3 contract staff. LBE webpages and a Sharepoint site provide resources to the Green Teams to support campaigns and initiatives.	Promote resources to Green Teams. Facilitate the uptake and usage of Hydroshare (SharePoint) and design new campaigns for future years.	2011	No End Date (Continuous)
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress			Three Green Team events were held in 2010 which provided behaviour change and social marketing training. Literature and resources on supporting behaviour change are available to Green Teams through the LBE department.	Continue to hold Green Team events (2 per year). Continue to develop campaigns and education material for use by Green Teams.	2011	No End Date (Continuous)

Awards/Recognition

Establish a sustainability/green awards or recognition program	Completed in 2010			BC Hydro's Employee Conservation Leadership Awards were established in 2009 and are held annually. An awards ceremony takes place in April each year.	Continue with the momentum of the Employee Conservation Leadership Awards. Evaluate whether this event is better served as a bi-annual event.	2009	No End Date (Continuous)
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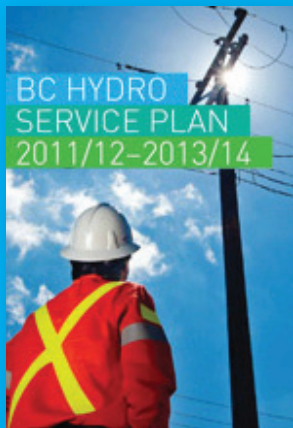
Staff Professional Development

Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress			Three Green Team events were held in 2010 which provided behaviour change and social marketing training. Literature and resources on supporting behaviour change are available to Green Teams through the LBE department.	Continue with Green Team events, Lunch & Learns, suggested literature, and LBE meetings to support education, training, and employee development.	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
Include green options in employee performance measurement system	Ongoing/In Progress		Green Team participation is recognized by Human Resources as a skills development opportunity. Greening initiatives included in performance measurement on a voluntary basis.	Evaluate incentives for COPE employees.	2011	No End Date (Continuous)
Staff Awareness/Education						
Provide education to staff about the science of climate change	Ongoing/In Progress		Two BC Hydro-wide presentations on aspects of climate held in 2010 as part of the Climate Change Seminar Series. Seminars are offered via Live Meeting and presentations are posted on an internal website.	Quarterly presentations as part of the Climate Change Seminar Series.	2007	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress		Education materials provided to Green Teams on the Lead by Example (LBE) webpages and the Green Team SharePoint site. In 2010, BC Hydro held its first annual Green Living Fair to provide information to staff about greening their lifestyle.	Green Living Fair scheduled for 2011. Further develop training in continual optimization of facilities, education on infrastructure upgrades and continued development of Green Team resources and campaigns. Update for the Workstation Tune-up Tool.	2007	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress		Green Tips provided on LBE webpages and in a e-newsletter. Web pages receive an average of 400 hits per month. The LBE newsletter is sent to 6,500 staff at BC Hydro, Powerex, Powertech and Accenture. Ten newsletters are sent each year.	Continue involvement with a LBE presence at employee orientation events and update for the Workstation Tune-up tool to present to new employees.	2011	No End Date (Continuous)
Provide sustainability education during new staff orientation	Ongoing/In Progress		Conservation information provided to new employees during orientation, to employees in new roles (e.g. supervisors) and co-op students. Presentations to approximately 1,000 people per year. Conservation video developed to raise awareness about the conservation culture at BC Hydro. One-page information sheet provided for BCTC integration orientation, approximately 500 people.	Continued presentations to new employees and employees in new roles.	2007	No End Date (Continuous)
Client/Public Awareness/Education						
Provide education to clients/public about the science of climate change	Ongoing/In Progress		BC Hydro participates in the annual Earth Hour campaign to support action on climate change and energy conservation. Two articles in external publication, Bright Ideas, about carbon neutral program; one focused on greening buildings and one focused on greening the fleet. Updated information on BC Hydro's Climate Action Strategy provided at www.bchydro.com .	BC Hydro will participate in Earth Hour for 2011 and in National Sweater Day to support action on climate change and energy conservation.	2011	No End Date (Continuous)

Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)	Steps Taken in 2010	Steps Planned for 2011–2013	Start Year	End Year
Provide education to clients/public about the conservation of water, energy, and raw materials	Ongoing/In Progress		Power Smart, BC Hydro's Demand Side Management (DSM) initiative, is responsible for leading BC Hydro's conservation and energy efficiency efforts. Power Smart assists customers in conserving energy, thereby saving energy costs and reducing environmental impact.	See bchydro.com for BC Hydro's Electricity Conservation Report.	Started before 1995	No End Date (Continuous)
Provide green tips on client/public website or in newsletters	Ongoing/In Progress		Green tips provided on public website, bchydro.com, in bill inserts and as part of Team PowerSmart campaign.	See bchydro.com for Power Smart programs, tips and incentives.	Started before 1995	No End Date (Continuous)
Other Education, Awareness, and Engagement Actions						
Health & Sustainability Account	Completed in 2010		In 2010, BC Hydro established an optional Health & Sustainability Account for Management & Professional staff that can be used to reimburse expenses for items and activities that encourage employees to be physically active, use sustainable transport more often, reduce electricity consumption and reduce waste. Eligible expenses include transit passes; bicycles, bicycle equipment and bike maintenance fees; running, walking and cycling shoes; home energy audits; home composters and rainbarrels; ENERGY STAR appliances and carbon offsets.		2010	No End Date (Continuous)
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		Water efficient fixtures part of new floor redesigns.	Water efficient fixtures part of new floor redesigns.	2010	No End Date (Continuous)
Building Construction, Renovation, and Leasing						
Incorporate lifecycle costing into new construction or renovations	Ongoing/In Progress	100	% of business cases incorporating lifecycle costing since start year indicated	BC Hydro began using Structured Decision Making in all major business cases in 2008. This incorporates lifecycle costing over all three bottom lines—financial, environmental and social.	Continued use of Structured Decision-Making.	2008 No End Date (Continuous)
Commuting To and From Home						
Introduce telework/work from home policy	Completed in 2010		Telework policy established.		2009	No End Date (Continuous)

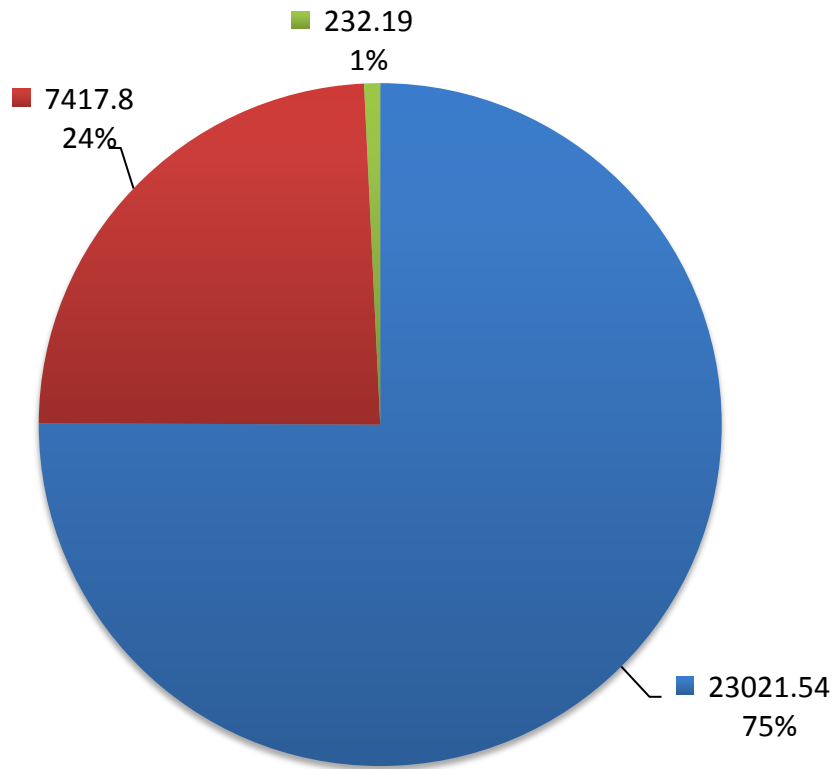
Action	Status (as of 12/31/10)	Performance to Date (as of 12/31/10)		Steps Taken in 2010	Steps Planned for 2011–2013	Start Year	End Year
Encourage commuting by foot, bicycle, carpool or public transit	Completed in 2010			BC Hydro participates in the Translink Discount Bus Pass Program; carpool incentives in place at Edmonds and Dunsmuir; on-line carpool website available to help staff find a carpool; Health & Sustainability Account established for M&P staff; free showers and secure bicycle lockup provided at all major locations.		2009	No End Date (Continuous)
Provide shower or locker facilities for staff/students who commute by foot or by bicycle	Completed in 2010			Free showers and lockers provided at all major locations.		2009	No End Date (Continuous)
Provide secure bicycle storage	Completed in 2010			Secure bicycle lockup provided at all major locations.		2009	No End Date (Continuous)



More information on BC Hydro's performance measures and sustainability initiatives can be found as part of BC Hydro's Service Plan and our triple-bottom line Annual Report.

BC Hydro

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



Total Emissions: 30671.53

- 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: **29973.78**. Total offset investment: **\$749,344.50**. Emissions which do not require offsets: **697.75** **

*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.