



# BC HYDRO 2012 CARBON NEUTRAL ACTION REPORT

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



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Charles Reid, President & CEO

## EXECUTIVE SUMMARY

BC Hydro is pleased to present the 2012 Carbon Neutral Action Report, our fifth annual report outlining actions we are taking to reduce greenhouse gas emissions from our building energy use, vehicle fleet fuel use and paper use. By taking steps to decrease our emissions and by purchasing offsets for our residual emissions through the Pacific Carbon Trust, BC Hydro contributes to the Province's goal of achieving carbon neutrality in the public sector.



BC Hydro, the largest electric utility in British Columbia, serves 95 per cent of B.C.'s population, delivering electricity safely and reliably at competitive rates to approximately 1.9 million customers. We operate an integrated system with 31 hydroelectric facilities and three thermal generating plants, totalling approximately 12,000 megawatts of installed generating capacity. We deliver electricity to our customers through a network of over 75,000 kilometres of transmission and distribution lines and approximately 300 substations. These activities are supported by a vehicle fleet of 2,500 heavy- and light-duty vehicles and over 200 buildings and facilities, which comprise the majority of our carbon neutral program emissions.

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.

Provincial legislation reinforces BC Hydro's commitment to reducing our company-wide greenhouse gas emissions and specifies that our low-carbon electricity generation is to remain at least 93 per cent clean or renewable. In 2012, we successfully passed an independent review of our carbon neutral program emissions reporting, and we continue to pursue cost-effective emission reduction initiatives, such as energy efficiency improvements to our buildings and right-sizing our fleet vehicles. BC Hydro has also invested in a number of initiatives, such as electric vehicle charging infrastructure, to facilitate the

electrification of transportation in B.C. and help reduce overall greenhouse gas emissions.

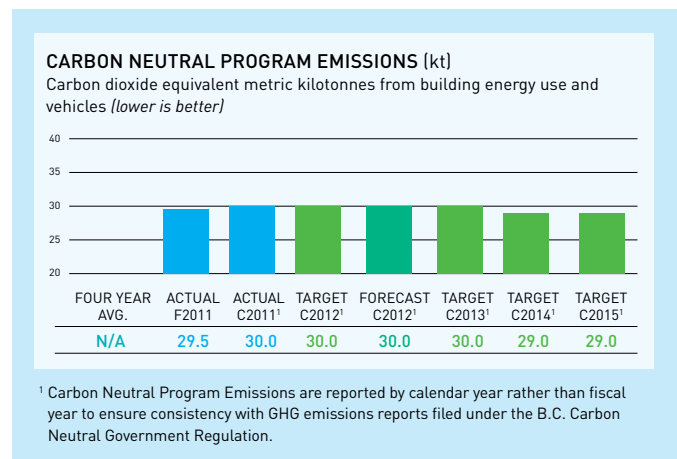
As one of Canada's leading utilities, BC Hydro is mindful of the impacts that climate change may have on our generation and transmission systems. This report outlines the research we are doing and the steps we are taking to prepare for and adapt to the effects of these potential impacts.

### MIND OUR FOOTPRINT

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

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, actively reducing emissions from our operations and offsetting our remaining emissions using offsets from the Pacific Carbon Trust. BC Hydro has established targets for carbon neutral program emissions and publicly reports on our performance against those targets through our Service Plan and Annual Report (see Figure One).

Figure One  
Carbon Neutral Program Emissions Targets



Highlights of our 2012 carbon neutral actions include:

- Replacing older, less efficient vehicles with one electric sedan, two hybrid sedans and one plug-in electric hybrid vehicle;
- Installing direct digital control systems at our Dunsmuir head office and Terrace district office;
- Completing construction of a new energy-efficient district office in Maple Ridge and commencing construction of another in Prince George;

- Decommissioning 30 physical servers and installing 12 new virtual host servers, avoiding the installation of 142 new physical servers and saving 437,000 kilowatt hours of electricity per year; and
- Expanding our Green Team network to 350 members at 38 sites that together represent 90 per cent of all our employees.

In 2012, BC Hydro received two honours that recognize our continued efforts in sustainability and energy conservation:

- We were named one of Canada's Greenest Employers by the editors of Canada's Top 100 Employers project.
- We won the 2012 Most Bike Friendly Business Award from HUB, a recognized cycling organization in Metro Vancouver.

## 2012 GREENHOUSE GAS EMISSIONS

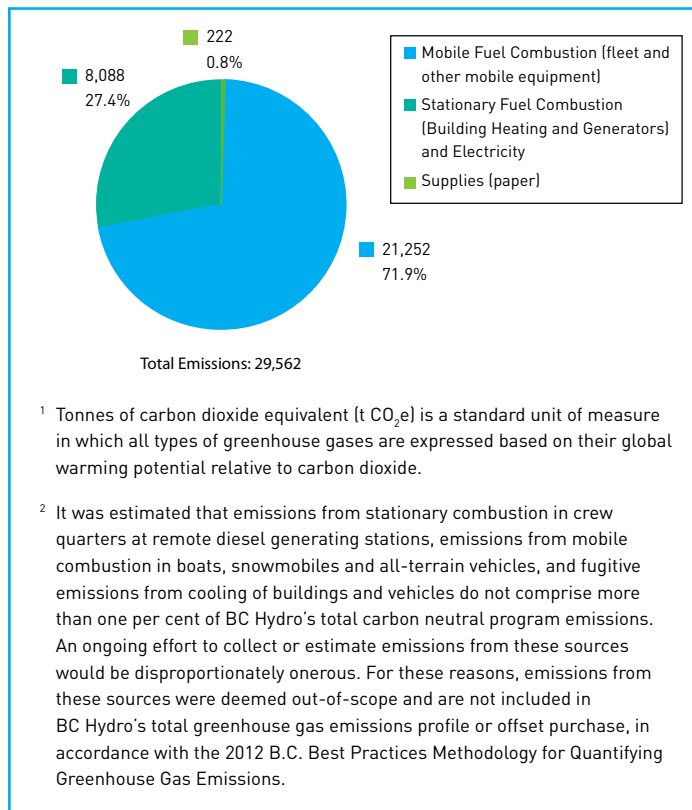
In 2012, BC Hydro emitted 29,562 tonnes of carbon dioxide equivalent (CO<sub>2</sub>e) from sources covered under the Carbon Neutral Government Regulation (see Figure Two). This represents a reduction of four per cent compared with 2011. Of the 2012 emissions, 72 per cent came from the vehicle fleet, 27 per cent from buildings (which includes energy use for heating, cooling, lighting and IT equipment), and one 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 750 tonnes CO<sub>2</sub>e for 2012. Emissions requiring offsets totalled 28,812 tonnes CO<sub>2</sub>e for 2012.

## CHANGES TO EMISSIONS AND OFFSETS REPORTING FROM PREVIOUS YEARS

Following the public release of BC Hydro's 2011 Carbon Neutral Action Report, it was determined that the total emissions for 2011 were overstated by six tonnes CO<sub>2</sub>e. The resulting surplus of six offsets purchased for 2011 has been applied against our 2012 emissions.

**Figure Two**  
BC Hydro Greenhouse Gas Emissions by Source for 2012 (tCO<sub>2</sub>e)



## OVERPAYMENTS TO THE PACIFIC CARBON TRUST

Last year BC Hydro made an overpayment to the Pacific Carbon Trust, resulting in a surplus of 895 offsets that have been applied against our 2012 emissions.

## OFFSETS APPLIED TO BECOME CARBON NEUTRAL IN 2012

BC Hydro has applied the surplus of 901 offsets against our 2012 emissions, equal to the overpayment to the Pacific Carbon Trust for 2011 (895 tonnes) plus the overstatement in 2011 (six tonnes). BC Hydro has purchased an additional 27,911 carbon offsets from the Pacific Carbon Trust to achieve carbon neutrality for the 28,812 tonnes CO<sub>2</sub>e requiring offsets in 2012.

## EMISSION REDUCTION ACTIVITIES



### VEHICLE FLEET

BC Hydro's vehicle fleet contains approximately 2,500 vehicles that are used daily throughout our operations to maintain a safe and secure supply of electricity. In 2012, these vehicles emitted 21,252 tonnes CO<sub>2</sub>e, a reduction of three per cent compared with 2011. This reduction is largely the result of BC Hydro's new transportation model, implemented in the fall of 2011, which transferred the transportation of materials and equipment from BC Hydro's vehicle fleet to contracted transportation vendors that demonstrated fuel saving measures and green business practices. BC Hydro does not track vehicle emissions from its vendors.

BC Hydro follows a three-pronged approach of avoiding, minimizing and offsetting emissions, while at the same time working to ensure reliability and safety in the fleet, evaluate the integration of new vehicle technology, meet the needs of vehicle operators, and protect ratepayers and reduce risk by choosing cost-effective options.

We are improving fleet fuel efficiency by regularly replacing vehicles with newer, more efficient models and performing regular maintenance on all of our vehicles. In 2012, we replaced older, less efficient vehicles with one electric sedan, two hybrid sedans and one plug-in electric hybrid vehicle. We also purchased 23 trucks running on diesel instead of gasoline. This is part of our commitment to purchase diesel power trains when replacing vehicles in order to take advantage of better fuel efficiency and enable the use of biodiesel.

A key focus is to right-size our fleet by replacing larger vehicles with smaller models wherever possible, while still meeting the needs of vehicle end users. In 2012, five of the 88 vehicles that were replaced were down-sized. We work closely with vehicle end users to determine the appropriate size vehicle for each application.

BC Hydro provides programs to promote environmentally friendly vehicle use. In 2012, we continued to provide our employees with Driving Habits and Techniques and Collision Avoidance courses, which include fuel-efficient driving techniques. To reduce vehicle idling time, we equipped two heavy-duty trucks with cab heaters, and one aerial truck with electric power take-off technology to reduce engine running time at worksites.

### BUILDINGS

BC Hydro has over 200 buildings in more than 60 municipalities across the province. In 2012, emissions from heating, cooling, lighting and IT equipment in buildings were 8,088 tonnes CO<sub>2</sub>e, almost six per cent lower than in 2011. This reduction can be attributed to a combination of energy use reduction initiatives within BC Hydro's building portfolio and warmer average temperatures in 2012.

Whether building new facilities or renovating existing space, we work to reduce the environmental impact of our operations, conserve energy and improve worker health. In 2012, we completed a new energy-efficient district office in Maple Ridge and started construction on a new regional office in Prince George. The standard amount of space per employee in office workstations in new or renovated buildings is 5.9 square metres, down from a range of from 5.9 to 14 square metres in 2007. This is expected to result in considerable energy savings over time.



BC Hydro takes advantage of the opportunity to perform energy efficiency upgrades and reduce resource consumption when renovating existing office space. We target a 30 per cent reduction in water and energy use when renovating office space. Renovations also incorporate environmentally friendly products and materials. In 2012, we renovated some 40,000 square feet of office space using carpets, workstations and chairs made with high levels of recycled content, plus paint and furniture containing low volatile organic compounds. Removed materials are recycled where possible, consistent with LEED requirements.



Efforts to enhance the efficiency of building operations continued in 2012. Our facilities management company, with whom we contracted to manage the heating, cooling and ventilation systems in 41 of our largest buildings, achieved its overall energy savings target of two per cent. New direct digital control systems were installed at our Dunsmuir head office and Terrace district office in 2012.

In a continuing effort to reduce the need for new equipment purchases, 30 physical servers were decommissioned and 12 new virtual host servers were installed in 2012. This avoided the installation of 142 new physical servers and will save 437,000 kilowatt hours of electricity annually. BC Hydro's data centre will be moving to the new Telus facility being built in Kamloops, one of the most energy-efficient data centres of its kind in the world.

### PAPER

BC Hydro continues to promote the use of 100 per cent recycled paper. In 2012, the majority of paper we purchased, 78 per cent, contained 100 per cent recycled content.

We continue to promote paperless communication, for example, by encouraging the use of the SharePoint collaboration tool by our employees through monthly training sessions and internal communications. In addition, our HydroWeb intranet site was redesigned and moved to the SharePoint platform in 2012. We also continue to promote paperless billing to our customers.

### LEADING BY EXAMPLE

BC Hydro encourages employees to identify and implement conservation actions throughout the organization and in the community. In 2012, we expanded our Green Team network to 350 members at 38 sites that represent 90 per cent of all our employees. Together with a marketing consultant, the Green Teams delivered 20 campaigns to employees, more than in any previous year, focusing on sustainable transportation, waste reduction and energy efficiency. In partnership with Call2Recycle, the Green Teams implemented a battery recycling system at 23 BC Hydro locations for used household batteries and cellphones. Since November 2012, nine sites have returned 13 boxes totalling 400 kilograms of recycled items.

In 2012, we held our fourth annual Employee Conservation Leadership Awards, which celebrate BC Hydro employees who go above and beyond to create a culture of conservation within the organization. Next year, the Employee Conservation Leadership Awards will be elevated to the same level as other employee awards that recognize BC Hydro's strategic priorities such as safety.

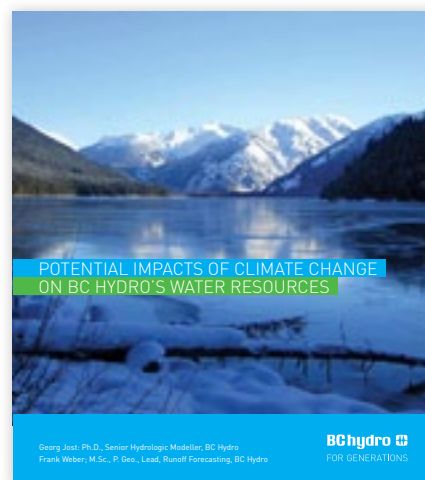
BC Hydro won the 2012 Most Bike Friendly Building Award from HUB, a recognized cycling organization in Metro Vancouver. This recognition represents many different efforts we have taken over the past few years, including the provision of showers and bike lockers, and campaigns encouraging more sustainable commuting. We also saw increased employee participation in our spring and fall Bike to Work Weeks and the Commuter Challenge in June. Our employees set a new company record during the fall Bike to Work Week, with 60 employees logging 313 trips, for a total of 3,659 kilometres traveled. This earned BC Hydro Best in Business honours from HUB.

BC Hydro is proud to have been named one of Canada's Greenest Employers by the editors of Canada's Top 100 Employers project in recognition of our continued efforts in sustainability and energy conservation.

### ADAPTING TO CLIMATE CHANGE

BC Hydro recognizes that global climate change may affect our operations. In order to prepare for possible impacts, we have partnered since 2007 with the Pacific Climate Impacts Consortium and the Western Canadian Cryospheric Network to bring together some of the world's leading scientists in climatology, glaciology, and hydrology to understand how the water supply and timing of runoff might change for three key watersheds important to BC Hydro: Peace, Columbia and Campbell River. The results of these studies were published publicly in 2012 in a summary brochure entitled "[Potential Impacts of Climate Change on BC Hydro-Managed Water Resources](#)." This information is available to support regional adaptation planning efforts.

As well, in 2012 we started incorporating climate change scenarios produced by these studies into our long-term planning, including the John Hart Generating Station replacement project and the Site C environmental assessment.



# BC Hydro—2012 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	Steps Taken	Steps Planned	Start Year	End Year
<b>Mobile Fuel Combustion (Fleet and other mobile equipment)</b>					
<b>Vehicle fuel efficiency</b>					
Replace vehicles with more fuel-efficient models	Ongoing/ In Progress	In fiscal year 2013, several of the new vehicles ordered by BC Hydro incorporated technology aimed at improving fuel efficiency: <ul style="list-style-type: none"> <li>- one electric sedan,</li> <li>- two hybrid sedans and one plug-in electric hybrid,</li> <li>- one aerial truck with an electric power take-off system installed to reduce engine running time at the worksite,</li> <li>- two heavy-duty aerial trucks with cab heaters installed to reduce engine running time, and</li> <li>- 23 trucks (3/4-tonne and up) powered by diesel instead of gasoline.</li> </ul> <p>BC Hydro has made a commitment to purchase diesel power trains as part of the vehicle replacement strategy, to take advantage of better fuel efficiency and enable the use of biodiesel.</p>	When ordering vehicles, BC Hydro's New Vehicle team works with users to identify opportunities to correctly select engine type and size and 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, depending 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	In fiscal year 2013, a total of 88 vehicles were replaced. BC Hydro worked with end users to determine the appropriate size vehicle for each application. In fiscal year 2013, five of the 88 vehicles were replaced with smaller or down-sized vehicles.	BC Hydro is developing an integrated planning process that will entail performing an annual detailed analysis of each Business Group's allocation of vehicles. This will allow BC Hydro to determine the correct size, type and number of vehicles required in each area.	2009	No End Date (Continuous)
Perform regular fleet maintenance to improve fuel-efficiency	Ongoing/ In Progress	The heavy-duty vehicle fleet is inspected and Preventive Maintenance (PM) performed three times per year. In 2012, 93 percent of heavy-duty PMs were completed within 14 days of the due date. <p>All light- and medium-duty vehicles are tracked for PM according to manufacturers' specifications. In 2012, 97 per cent of all light-and medium-duty vehicles had PM within 60 days of the due date. Managers of vehicles that are overdue for PM are notified for followup on a monthly basis.</p>	BC Hydro will continue to track and report on PM compliance for all of BC Hydro's vehicles.	2008	No End Date (Continuous)
<b>Behaviour change program</b>					
Provide fleet driver training to reduce fuel use	Ongoing/ In Progress	"Driving Habits and Techniques", an online driver training module that includes fuel-efficient driving techniques, continued to be required for all personnel who drive at BC Hydro. The hands-on driver training course "Collision Avoidance Driving", which also includes a component for fuel-efficient driving techniques, continued to be used with all new hires and those who are new to a role that requires driving.	BC Hydro will monitor and provide ongoing support for driver training modules.	2010	No End Date (Continuous)

Action	Status	Steps Taken	Steps Planned	Start Year	End Year
<b>Other mobile fuel combustion actions</b>					
Demonstrate telematics equipment	In Development	BC Hydro continued to review options to select and demonstrate telematics equipment throughout its vehicle fleet. This would provide valuable vehicle performance feedback and allow for evaluation of other options such as cab heaters and new engine technologies in some pickup trucks.	Next steps are contingent on a decision whether to proceed with demonstration of telematics.	2009	No End Date (Continuous)
Right-size the vehicle fleet to meet operational requirements	In Development	BC Hydro started to develop a vehicle return plan with its Accenture business partner to ensure that near end-of-life fleet assets are returned and disposed of properly.	Approximately 150 light- and medium-duty vehicles will be removed from BC Hydro's fleet during 2013 as a result of the reduced service level agreement with Accenture Business Services for Utilities.	2012	2013
<b>Stationary Fuel Combustion, Electricity and Fugitive Emissions (Buildings)</b>					
<b>Planning/management</b>					
Reduce office space (square meters) per employee	Ongoing/In Progress	By establishing interior space standards, the standard cubicle size for BC Hydro employees has been reduced to 5.9 square metres from a range of 5.9 to 14 square metres in 2007. Offices have been eliminated for most employees.	BC Hydro will continue to implement 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	Real-time meters and direct digital control systems continued to be standard in new buildings and continued to be evaluated for installation during major heating, ventilation and air conditioning system replacement projects.	Real-time energy tracking is planned for all new buildings.	2009	No End Date (Continuous)
<b>Owned buildings</b>					
Register for performance labelling/certification for commercial interiors of owned buildings (e.g., LEED CI)	Ongoing/In Progress	All head office floor transformation projects continued to be completed consistent with provincial energy efficiency guidance.	BC Hydro will continue to complete all floor transformation projects consistent with provincial energy efficiency guidance.	2006	No End Date (Continuous)
Achieve LEED NC Gold certification at a minimum for new construction or major renovations	Ongoing/In Progress	A new district office in Maple Ridge was completed consistent with LEED Gold requirements and a new regional office in Prince George was under construction consistent with LEED Gold requirements.	Permanent new facilities will be completed consistent with LEED requirements.	2009	No End Date (Continuous)
Perform energy retrofits on existing, owned buildings	Ongoing/In Progress	New direct digital control systems were installed at our Dunsmuir head office and Terrace district office in 2012. In addition, two small lighting upgrade projects were performed.	BC Hydro will continue to seek opportunities for energy reduction, with an emphasis on opportunities with shorter payback periods.	2007	No End Date (Continuous)
Incorporate a refrigerant management strategy into regular building management/maintenance to reduce fugitive emissions	In Development	BC Hydro's facilities management company continued to utilize best management practices for the inspection and maintenance of heating, ventilation and air conditioning systems.	BC Hydro plans to explore the development of a refrigerant inventory and management system.	2011	No End Date (Continuous)

Action	Status	Steps Taken	Steps Planned	Start Year	End Year
<b>Retrofit details for owned buildings</b>					
Upgrade mechanical systems (heating, cooling, ventilation) during retrofits	Ongoing/In Progress	New direct digital control systems were installed at our Dunsmuir head office and Terrace district office in 2012. Ventilation improvements were made as part of floor renovations.	The Edmonds cooling tower and direct digital control system will be upgraded during a retrofit in 2013. BC Hydro will continue to improve ventilation on renovated floors.	2007	No End Date (Continuous)
Upgrade lighting systems during retrofits	Ongoing/In Progress	All floor transformations involved lighting upgrades, and two lighting-specific upgrades were completed in 2012.	Lighting upgrades will be performed as part of building improvements and floor transformations.	2007	No End Date (Continuous)
Upgrade/adjust control systems during retrofits	Ongoing/In Progress	All retrofits to lighting and heating, ventilation and air conditioning systems involved upgrades to the control systems.	Where possible, heating, ventilation and air conditioning system upgrades will involve adjustments to or activation of local direct digital control systems.	2007	No End Date (Continuous)
Improve building insulation (including windows) during retrofits	Ongoing/In Progress	One building envelope was replaced in 2012.	BC Hydro plans to continue to implement end-of-life roof replacements, reglazing and envelope updates that are identified through building audits.	2007	No End Date (Continuous)
<b>Leased buildings</b>					
Lease space with commercial interiors performance labelling/certification (e.g., LEED CI)	Ongoing/In Progress	Renovated interiors in leased spaces continued to be completed consistent with the level and quality of finish of owned interiors. Certification will not be sought due to cost.	BC Hydro currently has no plans to lease additional space.	2007	No End Date (Continuous)
<b>IT power management</b>					
Implement server virtualization	Ongoing/In Progress	In 2012, 30 physical servers were removed, 12 new ESX hosting servers were added and 142 new physical servers were avoided. This reduced BC Hydro's total server power requirements by an estimated 437,000 kWh per year and lowered its electrical demand by 50 kW in 2012.	BC Hydro plans to increase virtual server counts and install higher-powered blade ESX servers.	2007	No End Date (Continuous)
<b>Behaviour change program</b>					
Help staff reduce personal energy use through "workstation tune-ups"	Ongoing/In Progress	The Workstation Resource tool was updated to reflect new office space features and IT upgrades.	BC Hydro plans to introduce the new Workstation Resource tool to the 75 per cent of employees whose office spaces have features that enable employees to take action to optimize energy efficiency.	2010	No End Date (Continuous)
Ask staff to unplug electrical equipment or switch off power bars when not in use	Ongoing/In Progress	Employees were reminded to unplug equipment as much as possible through an "Earth Hour" campaign in March, "Turn Off Monitor" campaign in April, "Myths Busted" online quiz in October and Space Heater Guidelines in November.	BC Hydro will look at building systems to address areas with many space heaters, launch the Workstation Resource tool to increase awareness, and participate in "Earth Hour" and "Power Smart Month" campaigns.	2008	No End Date (Continuous)



Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Ask staff to close blinds at end of work day to reduce heating/cooling demands	Ongoing/In Progress	BC Hydro conducted a "Close the Blinds Challenge" in July and August 2012.	BC Hydro will use the Workstation Resource tool to encourage the closing of blinds each night.	2008	No End Date (Continuous)
Encourage staff to use air dry setting on dishwashers	Ongoing/In Progress	The "Myths Busted" online quiz in October 2012 provided information on improving the energy efficiency of dishwasher usage.	BC Hydro will continue to provide Power Smart articles and reminders for dishwashers.	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	The Workstation Resource tool was updated to provide employees with tips on how to maximize the energy efficiency and comfort of their work spaces.	BC Hydro plans to launch the Workstation Resource tool to the 75 per cent of employees whose office spaces have features that enable employees to take action to optimize energy efficiency.  Direct digital control system upgrades will enable greater after-hours energy savings through zonal heating and lighting and will provide occupants with information on these measures.	2008	No End Date (Continuous)
Encourage use of stairs instead of elevators	Ongoing/In Progress	Stickers are placed in front of elevators to remind people to take the stairs between floors at the three largest sites where 75 per cent of BC Hydro staff work. A "Commuter Challenge" in June 2012 reinforced using the stairs.	The Workstation Resource tool will encourage employees to use the stairs when feasible.	2010	No End Date (Continuous)
Provide reminders for turning off lights (e.g., signs, stickers, messages)	Ongoing/In Progress	BC Hydro conducted a "Stay Bright by Daylight" campaign in July and August 2012, encouraging employees to turn off their ergolights during long summer days.	BC Hydro will use the Workstation Resource tool to ensure that all employees install and use their ergolight controls to minimize the use of lights by turning them off when they are away from their desks and dimming lights when possible.	2008	No End Date (Continuous)
Promote hot water conservation	Ongoing/In Progress	The "Myths Busted" online quiz in October 2012 provided information on achieving hot water savings.	BC Hydro will continue to provide Power Smart tips on hot water savings to employees.	2008	No End Date (Continuous)

Action	Status	Steps Taken	Steps Planned	Start Year	End Year
<b>Supplies (Paper)</b>					
<b>Paper type</b>					
Purchase 30% post-consumer recycled paper	Ongoing/In Progress	BC Hydro prefers to order 100 per cent recycled paper. If 100 per cent recycled paper is not available to meet a certain requirement (e.g., colour, size), paper with a lower recycled content is ordered. In 2012, 20 per cent of total paper purchased contained 30 per cent recycled content.	BC Hydro will continue to internally promote the use of 100 per cent recycled paper.	2009	No End Date (Continuous)
Purchase 40% post-consumer recycled paper	Ongoing/In Progress	BC Hydro prefers to order 100 per cent recycled paper. If 100 per cent recycled paper is not available to meet a certain requirement (e.g., colour, size), paper with a lower recycled content is ordered. In 2012, BC Hydro did not purchase any paper containing 40 per cent recycled content.	BC Hydro will continue to internally promote the use of 100 per cent recycled paper.	2009	No End Date (Continuous)
Purchase 100% post-consumer recycled paper	Ongoing/In Progress	BC Hydro prefers to order 100 per cent recycled paper. In 2012, 78 per cent of total paper purchased contained 100 per cent recycled content.	BC Hydro will continue to internally promote the use of 100 per cent recycled paper.	2009	No End Date (Continuous)
<b>Behaviour change program</b>					
Train staff to use collaborative software for electronic editing (e.g. SharePoint, Groove, etc.)	Ongoing/In Progress	BC Hydro continued its upgrade to SharePoint 2010, and associated training materials were updated accordingly. Existing users were provided with "What's New" training on the upgraded version. Training for new users was provided on a monthly basis. In addition, BC Hydro's HydroWeb intranet site was redesigned and moved to the SharePoint 2010 platform in 2012.	BC Hydro will continue to maintain existing SharePoint training materials, provide user support and offer monthly training courses for new employees.	2010	No End Date (Continuous)
Encourage staff to hold paperless meetings or presentations (i.e., no handouts)	Ongoing/In Progress	Paper reduction messaging and tips continued to be included in BC Hydro's Workstation Tune-Up Tool, Lead By Example web pages and Green Team campaigns.	Paper reduction tips will be provided in the Workstation Resource tool. Green Team campaign materials (emails, online newsletter and SharePoint filing system) are all electronic.	2009	No End Date (Continuous)

## BC Hydro—2012 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*.

Action	Status	Steps Taken	Steps Planned	Start Year	End Year
<b>Business Travel</b>					
<b>Virtual meeting technology</b>					
Make desktop web-cameras available to staff	Ongoing/In Progress	As of the end of 2011, about 2,500 laptops had web-cameras, and web-cameras continued to be included in the specifications for all new laptops.	BC Hydro will continue to include web-cameras in the specifications for all new laptops.	2009	No End Date (Continuous)
<b>Behaviour change program</b>					
Encourage staff to consider virtual attendance/presentation at events where possible	Ongoing/In Progress	Virtual attendance at meetings continued to be encouraged in BC Hydro's Workstation Tune-Up Tool and conservation video.	BC Hydro will continue to promote virtual attendance via its Lead By Example program.	2009	No End Date (Continuous)
Encourage carpooling to meetings	Ongoing/In Progress	BC Hydro held a "Commuter Challenge" in June 2012 at all BC Hydro sites in the Lower Mainland.	BC Hydro will continue to promote carpooling via its Lead by Example program.	2009	No End Date (Continuous)
Encourage alternative travel to meetings (e.g., bicycles, public transit, walking)	Ongoing/In Progress	BC Hydro held a "Commuter Challenge" in June 2012 at all BC Hydro sites in the Lower Mainland. BC Hydro continued its corporate travel policy of reimbursing staff travelling between sites in Lower Mainland only the price of a transit ticket. Bike lock-ups and showers continued to be offered at most BC Hydro sites and in all new building designs.	BC Hydro will continue to promote carpooling via its Lead by Example program.	2009	No End Date (Continuous)
<b>Education, Awareness, and Engagement</b>					
<b>Team-building</b>					
Create Green, Sustainability, Energy Conservation, or Climate Action Teams with executive endorsement	Ongoing/In Progress	BC Hydro expanded its Green Team network to 38 sites (up from 35) with over 350 members at sites representing 90 per cent of employees. An annual Green Team leadership meeting was held in September 2012 with the attendance of over 18 sites and 50 leaders. BC Hydro engaged Turnleaf Consulting to add new campaigns and share customer best practices from its experience with over 40 Power Smart commercial customer behaviour programs. The Green Team network delivered 20 conservation campaigns.	BC Hydro plans to continue developing and strengthening its Green Team network. BC Hydro will focus on one to two priority conservation initiatives and develop a strategic, sustained campaign for 2013 to promote and measure the impact of behaviour change.	2009	No End Date (Continuous)
Provide resources and/or dedicated staff to support teams	Ongoing/In Progress	BC Hydro's Green Teams were supported by one person in Lead by Example and a consultant who supports Power Smart commercial customers in employee engagement. Green Team leaders are provided with turn-key campaigns to implement at their locations, supported by corporate communications and executive endorsement. Management sponsors provide support for employee participation in Green Team program delivery efforts.	BC Hydro plans to continue to support Green Teams with a Lead by Example employee and consulting resources.	2009	No End Date (Continuous)

Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Providing behaviour change education/training to teams (e.g., community-based social marketing)	Ongoing/In Progress	A full-day Green Team leadership event was held in September 2012, featuring sustainability speakers from Mountain Equipment Co-op, community-based social marketing experts and in-house conservation marketing specialists.	A full-day training session and additional training for specific groups and specific topics are planned for 2013.	2009	No End Date (Continuous)
<b>Awards/recognition</b>					
Establish a sustainability/green awards or recognition program	Ongoing/In Progress	Twenty nominations were received for BC Hydro's annual Employee Conservation Leadership Awards and four awards were given. Nearly 1,000 employees voted for the "Conservation Idol", the people's choice winner. Winners received their awards at an event hosted by BC Hydro's Executive Team.	Employee Conservation Leadership Awards will become part of BC Hydro's Employee Awards that recognize exemplary action on BC Hydro's key strategic priorities, including safety, business and conservation.	2009	No End Date (Continuous)
<b>Staff professional development</b>					
Support green professional development (e.g., workshops, conferences, training)	Ongoing/In Progress	BC Hydro held a full-day Green Team leader session in September 2012 that featured speakers on sustainability, best practices and lessons learned and provided opportunities for networking. Green Team leadership is supported as part of professional development in employee professional development goals.	A full-day training session and additional training for specific groups and specific topics are planned in 2013.	2009	No End Date (Continuous)
Include green options in employee performance measurement system	Ongoing/In Progress	Green Team participation continued to be recognized by Human Resources as a career development opportunity, and conservation targets are encouraged as part of employee performance goals.	BC Hydro will continue to support using Green Team membership and conservation initiatives as part of personal performance metrics.	2009	No End Date (Continuous)
<b>Staff awareness/education</b>					
Provide education to staff about the science of climate change	Ongoing/In Progress	BC Hydro published the results of a multi-year climate change adaptation research study in its internal newsletter and on its internal and external websites.	BC Hydro will continue to provide climate change information to staff on its internal website.	2007	No End Date (Continuous)
Provide education to staff about the conservation of water, energy, and raw materials	Ongoing/In Progress	Conservation awareness was raised through communications, campaigns and lunch seminars. Information on energy efficiency, sustainable transportation and zero waste was provided through multiple campaigns (e.g., "Myths Busted" online quiz, revolving door signage), 30 articles, and 10 lunch presentations.	Continued communications, campaigns, presentations and an online employee resource will keep conservation knowledge and priority actions current and top-of-mind with employees.	2007	No End Date (Continuous)
Provide green tips on staff website or in newsletters	Ongoing/In Progress	Green Teams provided green tips to their staff through emails, campaigns, posters, online articles and reminders (conservation audits). Green tips are also available on BC Hydro's Green Team SharePoint site and Lead by Example internal website.	BC Hydro plans to continually update and provide Green Tips on BC Hydro's Lead by Example internal website and in internal publications and emails.	2009	No End Date (Continuous)
Provide sustainability education during new staff orientation	Ongoing/In Progress	Conservation presentations were made as part of new employee orientation for full-time staff, co-op students, Outreach students and Engineers in Training.	BC Hydro plans to continue to offer presentations on Lead by Example and conservation resources and initiatives in new staff orientations.	2007	No End Date (Continuous)

Action	Status	Steps Taken	Steps Planned	Start Year	End Year
<b>Other Education, Awareness, and Engage</b>					
Provide education to clients/public about the conservation of energy	Ongoing/In Progress	BC Hydro's Power Smart program continued to lead conservation and energy efficiency efforts. Power Smart assists customers in conserving energy, thereby saving energy costs and reducing environmental impact.	Through the Power Smart program, BC Hydro will continue to work with its residential, commercial and industrial customers on conservation objectives.	Before 1995	No End Date (Continuous)
Provide green tips on client/public website or in newsletters	Ongoing/In Progress	Green tips continued to be provided on BC Hydro's website, on BC Hydro's Facebook page, in Team Power Smart newsletters and in Power Smart advertisements and campaigns.	BC Hydro will continue to provide green tips on BC Hydro's website, on BC Hydro's Facebook page, in Team Power Smart newsletters, and in Power Smart advertisements and campaigns.	Before 1995	No End Date (Continuous)
Provide an optional Health and Sustainability Account as an employee benefit	Ongoing/In Progress	BC Hydro offered an optional Health and Sustainability Account for Management and 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 rain barrels; Energy Star appliances and carbon offsets. Over half of eligible staff allocated funds to the Health and Sustainability Account.	BC Hydro will evaluate expanding the conservation options that employees may use their Health and Sustainability Account funds for.	2010	No End Date (Continuous)
<b>Other Sustainability Actions</b>					
<b>Water conservation</b>					
Establish a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models	Ongoing/In Progress	Water-efficient fixtures and appliances continued to be installed in new buildings and major renovations.	BC Hydro will continue to install water-efficient fixtures and appliances in new buildings and major renovations.	2010	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	BC Hydro's new Maple Ridge district office, completed in 2012, incorporates several water conservation features, which should reduce the use of potable water by greater than 50 per cent below current B.C. plumbing code requirements. These features include low and ultra-low-flow plumbing fixtures, infrared controls on washroom fixtures and rainwater collection and filtration for toilet flushing and vehicle washing.	Grey water use in toilets and other water efficiency measures will be considered for new buildings.	2010	No End Date (Continuous)



Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Introduce a stormwater management landscape strategy (e.g., vegetated roofs, permeable paving, rain gardens, bioswales)	In Development	BC Hydro's new Maple Ridge district office, completed in 2012, uses interconnecting stormwater techniques to maximize rainwater collection with a green roof, permeable paving and rain garden systems.	Water efficiency measures will be considered for new buildings.	2011	No End Date (Continuous)
<b>Waste reduction/diversion</b>					
Put in place an operations policy to facilitate the reduction and diversion of building occupant waste from landfills or incineration facilities	In Development	BC Hydro's new facilities service provider has established a baseline waste diversion rate to be used to assess future improvement.	BC Hydro intends to increase the waste diversion rate by offering recycling alternatives at sites managed by its facilities service provider.	2011	No End Date (Continuous)
Implement a hazardous waste reduction and disposal strategy	In Development	BC Hydro has developed a hazardous waste long-term strategy (including PCB oil regeneration for re-use) and in 2012 issued a request for proposals for potential vendors to implement the services to meet this strategy.	BC Hydro will work with the selected vendor to implement the hazardous waste long-term strategy.	2011	No End Date (Continuous)
<b>Procurement (non-paper supplies)</b>					
Establish green standards for goods that are replaced infrequently and/or may require capital funds to purchase (e.g., office furniture, carpeting, etc.)	Ongoing/ In Progress	BC Hydro renovated approximately 40,000 square feet with 60 percent recycled content carpeting, and replaced approximately 300 workstations made from recycled content and 500 chairs with 70 per cent recycled content. All paint and furniture contain low amounts of volatile organic compounds.	BC Hydro plans to renovate an additional 90,000 square feet over two years with same specifications.	2012	No End Date (Continuous)
Implement sustainable purchasing program for cleaning products, disposable paper products and trash bags	Ongoing/ In Progress	The use of Green Seal-certified cleaning products was made a requirement for facility service providers.	BC Hydro intends to keep these requirements in place.	2010	No End Date (Continuous)
<b>Building construction, renovation and leasing</b>					
Establish a policy to reuse materials where possible and divert construction and demolition debris from landfills and incineration facilities	Ongoing/ In Progress	During floor renovations, 90 per cent of wood fibre was recycled or reclaimed. New district offices diverted waste from landfill consistent with LEED requirements.	Consistent with LEED requirements, construction and demolition debris will be diverted from landfills where possible.	2009	No End Date (Continuous)

Action	Status	Steps Taken	Steps Planned	Start Year	End Year
Incorporate lifecycle costing into new construction or renovations	Ongoing/In Progress	BC Hydro continued to use Structured Decision-Making, originally adopted in 2008, in all major business cases (including new buildings and major retrofits). This incorporates life cycle costing over all three bottom lines: financial, environmental and social.	BC Hydro plans to continue to use Structured Decision-Making in all major business cases.	2008	No End Date (Continuous)
<b>Commuting to and from home</b>					
Encourage commuting by foot, bicycle, carpool or public transit	Ongoing/In Progress	In 2012, BC Hydro won a HUB "Bike Friendly Business Award" for its bike-friendly Dunsmuir office location. Free showers and secure bike lock-ups continued to be provided at all major locations. BC Hydro continued to participate in the TransLink Employer Pass Program. Carpool incentives remained in place at BC Hydro's Edmonds and Dunsmuir offices, and an online carpool website was available to help staff find a carpool. BC Hydro saw increased employee participation in "Bike to Work Week" (spring and fall) and the "Commuter Challenge" (June). Sustainable transportation presentations were made to employees at four sites representing 75 per cent of staff.	BC Hydro will continue its participation in the TransLink Employer Pass Program and will continue to offer carpooling incentives. A sustainable commuting campaign will be offered each year to encourage alternatives to single-occupant vehicles.	2009	No End Date (Continuous)
<b>Adaptation to Climate Change</b>					
Assess whether extreme weather events and/or long term changes in climate will affect the organization's business areas	Ongoing/In Progress	From 2007 to 2011, BC Hydro partnered with the Pacific Climate Impacts Consortium and the Western Canadian Cryospheric Network to bring together some of the world's leading scientists in climatology, glaciology, and hydrology to understand how the water supply and timing of runoff might change for three key watersheds important to BC Hydro: Peace, Columbia and Campbell River. The results of these studies were published in 2012 in a summary brochure entitled "Potential Impacts of Climate Change on BC Hydro-Managed Water Resources," available on BC Hydro's website.	This work will continue, as BC Hydro seeks to evaluate how the projected hydrological changes may impact hydroelectric power generation in the province.	2006	No End Date (Continuous)
Integrate considerations of extreme weather events and/or long term changes in climate into the organization's decision making	Ongoing/In Progress	The climate change scenarios produced by these studies are starting to be incorporated into long-term planning at BC Hydro. These studies have informed regulatory applications for the John Hart Generating Station Replacement Project and the Site C Environmental Assessment.	The Columbia River Treaty Review will incorporate climate change scenarios influenced by BC Hydro's studies. BC Hydro's Integrated Resource Plan that is due in 2013 will include considerations of long-term changes in water availability.	2012	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.

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