



BC HYDRO 2013 CARBON NEUTRAL ACTION REPORT

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



BChydro 

FOR GENERATIONS

BC HYDRO 2013 CARBON NEUTRAL ACTION REPORT

BC Hydro is pleased to present our 2013 Carbon Neutral Action Report. This report contains information on our 2013 emissions from corporate operations, offsets purchased, actions we have taken in 2013 to reduce our greenhouse gas (GHG) emissions and our plans to continue reducing emissions in 2014 and beyond.

SUMMARY OF BC HYDRO'S GHG EMISSIONS AND OFFSETS FOR 2013

GHG emissions created in calendar year 2013	
Total emissions (tonnes CO ₂ e)	27,761
Total emissions for offsets (tonnes CO ₂ e)	27,017
Adjustments to GHG emissions reported in previous years	
Total emissions (tonnes CO ₂ e)	0
Total emissions for offsets (tonnes CO ₂ e)	0
Credit owing from the Pacific Carbon Trust at end of the 2012 reporting year	
Credit owing (tonnes of offsets)	0
Total emissions for offsets for the 2013 reporting year	27,017

Note: Tonnes of carbon dioxide equivalent (CO₂e) are a standard unit of measure in which all types of greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.



Charles Reid, President & CEO

OVERVIEW

BC Hydro is a Provincial Crown corporation and one of Canada's largest electric utilities, serving 95 per cent of B.C.'s population and 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. Our customers benefit from our low-carbon electricity generation, with more than 93 per cent of electricity generated from clean or renewable resources. We deliver electricity to our customers through a network of over 75,000 kilometres of transmission and distribution lines and more than 300 substations. These activities are supported by a vehicle fleet of over 2,400 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.

Figure One
Carbon Neutral Program Emissions Targets

CARBON NEUTRAL PROGRAM EMISSIONS (kt)

Carbon dioxide equivalent metric kilotonnes from building energy use and vehicles (*lower is better*)



Note: Carbon Neutral Program Emissions are reported by calendar year rather than fiscal year to ensure consistency with GHG emissions reports filed under the B.C. *Carbon Neutral Government Regulation*.

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.

At BC Hydro, we mind our footprint by investing in energy conservation and efficiency programs; incorporating effective design in capital projects by managing, understanding and reducing risks from operational interactions with the environment; and, funding Fish and Wildlife Compensation Programs. We are committed to maintaining a low-carbon electricity supply

and pursuing cost-effective GHG emission reductions from our buildings and vehicle fleet.

BC Hydro contributes to the Province's goal of achieving carbon neutrality in the public sector by taking steps to reduce GHG emissions from our buildings, vehicles and paper use and by purchasing offsets for our residual emissions. We have established targets for carbon neutral program emissions and publicly report on our performance against those targets through our Service Plan and Annual Report (see Figure One).

BC Hydro is also mindful of the impacts that climate change may have on our generation and transmission systems. Changes in temperature and precipitation patterns could alter the timing and volume of spring run-off and customer demand, with implications for hydroelectricity generation and the dispatch of resources. Through a partnership with the Pacific Climate Impacts Consortium, BC Hydro is working to understand the potential impacts of climate change to our operations and activities so that we can take steps to manage associated risks.

Highlights of our 2013 carbon neutral actions include:

- Migration of over 1,200 servers from BC Hydro's aging Edmonds data centre facility to TELUS' new, state-of-the-art internet data centre in Kamloops, which is designed to consume 80 per cent less electricity and 86 per cent less water than typical data centres;
- Completion of a major renovation at the Burns Lake district office and another renovation in progress at the Powertech building in Surrey; and
- Construction underway of new office buildings in Prince George and Campbell River.

In 2013, BC Hydro received two honours that recognize our continued efforts in sustainability and energy conservation:

- For the second year in a row, we were named one of Canada's Greenest Employers by the editors of Canada's Top 100 Employers project.
- We won the Canadian Electricity Association's 2013 Economic Excellence Award for our work on internal energy efficiency and conservation.

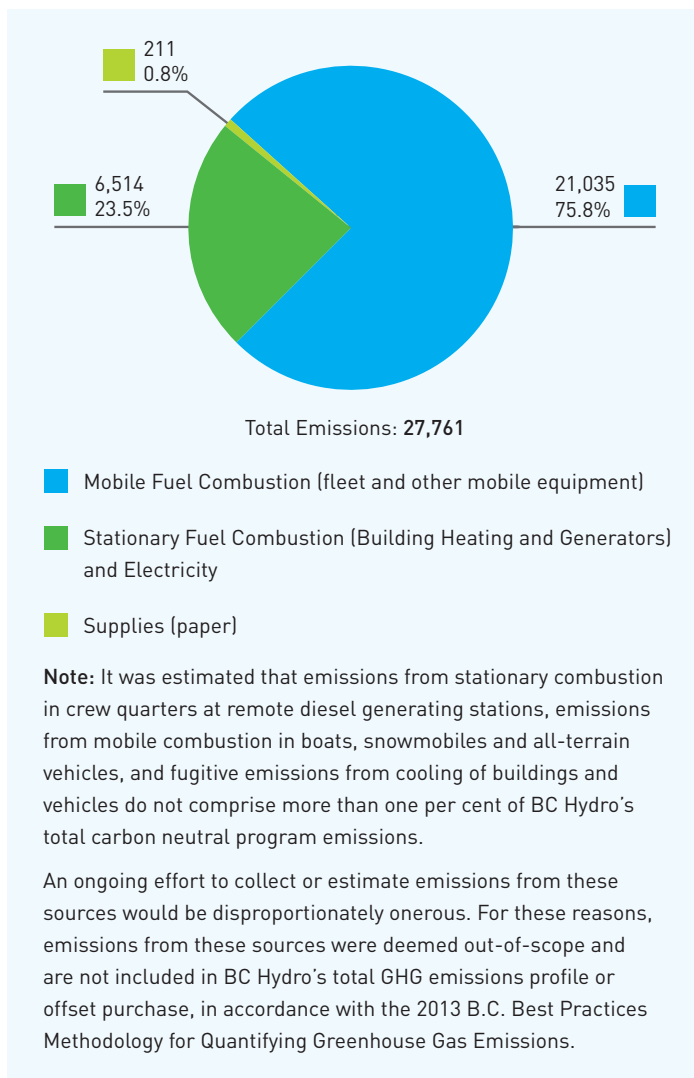
2013 GREENHOUSE GAS EMISSIONS

In 2013, BC Hydro emitted 27,761 tonnes of carbon dioxide equivalent (CO₂e) from sources covered under the Carbon Neutral Government Regulation (see Figure Two). This represents a reduction of six per cent compared with 2012. Of the 2013 emissions, 76 per cent came from the vehicle fleet, 23 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 743 tonnes CO₂e for 2013. Emissions requiring offsets totalled 27,017 tonnes CO₂e for 2013.

Figure Two
BC Hydro GHG Emissions by Source for the 2013 Calendar Year (tonnes CO₂e)



OFFSETS APPLIED TO BECOME CARBON NEUTRAL IN 2013

BC Hydro has purchased 27,017 offsets from the provincial government to achieve carbon neutrality in 2013, as required by the *Greenhouse Gas Reduction Targets Act*.

ACTIONS TAKEN TO REDUCE EMISSIONS

BUILDINGS

BC Hydro has over 200 buildings in more than 60 municipalities across the province.

Whether building new facilities or renovating existing space, we work to reduce the environmental impact of our operations, conserve energy and support healthy work environments. In 2013, new office buildings were under construction in Prince George and Campbell River, a major renovation was completed at the Burns Lake district office and another was in progress at the Powertech building in Surrey. A new direct digital control system was installed at our Edmonds head office in Burnaby.



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. 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.

Renovations also incorporate environmentally friendly products and materials. In 2013, we renovated about 65,500 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.

Efforts to enhance the efficiency of building operations continued in 2013. Our facilities management company, with whom we contract to manage the heating, cooling and ventilation systems in 41 of our largest buildings, exceeded its overall annual energy savings target of two per cent.

In 2013, we migrated over 1,200 servers from BC Hydro's aging Edmonds data centre facility to TELUS' new, state-of-the-art internet data centre in Kamloops, which is designed to consume 80 per cent less electricity and 86 per cent less water than typical data centres.

VEHICLE FLEET



BC Hydro's vehicle fleet contains over 2,400 vehicles that are used daily throughout our operations to maintain a safe and secure supply of electricity.

BC Hydro strives to avoid and minimize vehicle fleet emissions, while at the same time ensuring reliability and safety in the fleet, evaluating the integration of new vehicle technology, meeting the needs of vehicle operators, and minimizing rate impacts by choosing cost-effective options.

In 2013, BC Hydro implemented an improved fleet asset planning process that included detailed analyses of each business group's vehicles. Each vehicle was evaluated for overall suitability, reliability, and fuel consumption. In 2014, this process will be repeated and used to create a forecast for required regular vehicle replacements in each business group.

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 2013, we replaced eight old gasoline-fuelled pickup trucks with more fuel-efficient trucks running on diesel. 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. We continue to acquire B5 biodiesel refuelling services at many of our sites.

In 2013, we also added one new electric car, increasing the number of electric and hybrid electric cars and trucks in our fleet to 140.

PAPER

BC Hydro used five per cent less office paper in 2013 than in 2012. In 2013, almost 80 per cent of the office paper we purchased contained 100 per cent recycled content.

We also continue to promote paperless billing to our customers. At a 27 per cent paperless adoption rate, BC Hydro had the tenth highest paperless adoption rate of all utilities in North America based on a 2013 survey.

FUTURE ACTIONS TO REDUCE EMISSIONS

BC Hydro will continue to seek opportunities for energy reduction in existing buildings, with an emphasis on opportunities with

shorter payback periods. We will continue to complete all floor transformation projects consistent with provincial energy efficiency guidance. Permanent new facilities will be completed consistent with Power Smart high-performance building standards. Energy conservation will be an input into all business decisions related to capital replacement.

A key focus is to right-size our vehicle fleet by replacing larger vehicles with smaller models wherever possible, while still meeting the needs of vehicle end users. We work closely with vehicle end users to determine the appropriate engine type and size vehicle for each application.

Newer vehicle technologies, including hybrid and electric vehicles, will be incorporated as part of the regular vehicle replacement cycle as appropriate, depending on suitable replacement spots, annual capital budgets, vehicle pricing and availability.

ACTIONS TO PROMOTE SUSTAINABILITY AND CONSERVATION

BC Hydro encourages employees to identify and implement conservation actions throughout the organization and in the community.

In 2013, our Green Teams were successful in having 500 additional people install lighting software and turn off or dim their lights to work by natural light. Another campaign promoted keeping the bay doors closed in BC Hydro garages to save energy during the winter months. Bike to Work Week has been building momentum and there are now five times as many people participating than in 2010.

Doug MacKenzie-Mohr, an internationally recognized expert in community-based social marketing, was the keynote speaker at the annual Green Team leadership event and was well received by 75 leaders from over 20 locations.

Conservation is now part of BC Hydro's Employee Awards, the highest recognition of employee initiatives in support of our organizational values. In 2013, more than ten sustainability-related nominations were made and three of those ended up as winners or finalists.

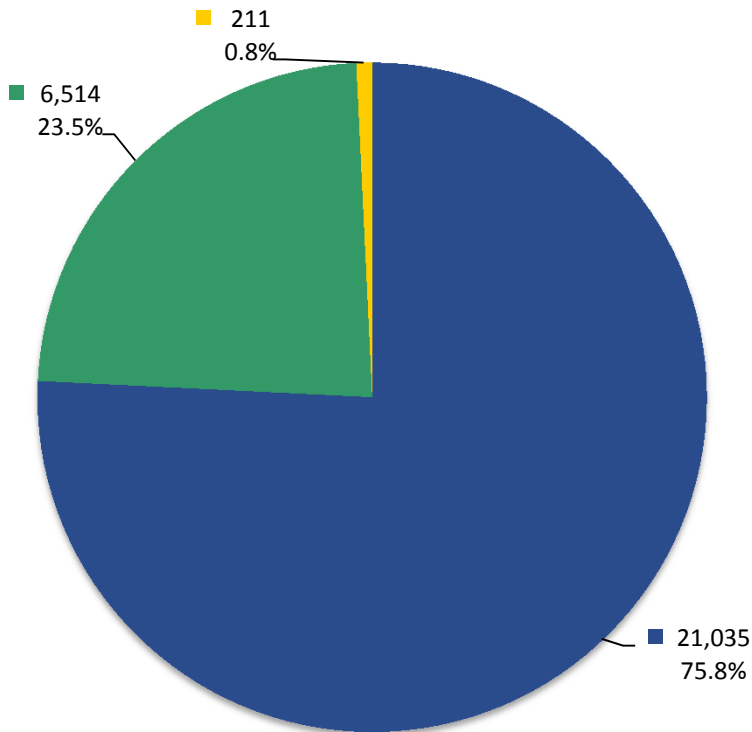
BC Hydro is proud to have been named one of Canada's Greenest Employers for the second year in a row by the editors of Canada's Top 100 Employers project in recognition of our continued efforts in sustainability and energy conservation. In 2013 we also won the Canadian Electricity Association's 2013 Economic Excellence Award for our work on internal energy efficiency and conservation.



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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BC Hydro Greenhouse Gas Emissions by Source for the 2013 Calendar Year (tCO₂e*)



Total Emissions: 27,761

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

Offsets Applied to Become Carbon Neutral in 2013 (Generated May 21, 2014 10:18 AM)

Total offsets required: **27,017**. Total offset investment: **\$675,425**. Emissions which do not require offsets: **743** **

*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.