



# BC Housing's 2015 Carbon Neutral Action Report



BC Housing



BRITISH  
COLUMBIA

# Declaration Statement

This *Carbon Neutral Action Report* for the period January 1st to December 31st, 2015 summarizes our emissions profile, the amount of offsets purchased to reach net zero emissions, the actions we have taken in 2015 to reduce our greenhouse gas emissions and our plans to continue reducing emissions in 2016 and beyond.

By June 30, 2016, BC Housing's final Carbon Neutral Action Report will be posted to our website at [www.bchousing.org](http://www.bchousing.org)

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Willowbridge Transitional Housing, Kelowna, received LEED Gold certification in 2015



# Executive Summary

BC Housing's mission is to make a *"positive difference in people's lives and communities through safe, affordable and quality housing"*. We aspire to serve as a trusted leader and partner in sustainable housing solutions for British Columbians. Our work towards reducing our contributions to climate change as well as improvements in quality of housing, are at the core of that commitment.

Last year, greenhouse gas emissions from our buildings were reduced by 33% when compared to our 2005 baseline. This significant result came about through a number of initiatives and projects undertaken over the last few years, including: energy retrofits and building upgrades of over one hundred social housing sites, partnerships with non-profit housing providers and utility companies, tenant and staff engagement programs, and a commitment to construction of highly energy efficient new buildings. BC Housing has 50 buildings registered with the Canadian Green Building Council (CaGBC). In 2015, we received the CaGBC's Government Leadership Award in recognition of our commitment to high environmental and energy standards for new homes.

BC Housing was recognized with our first award as Canada's Greenest Employer in 2015. This award can be attributed to a shift in our organizational culture that now has a high commitment to sustainability values. Our employees are increasingly engaged in identifying opportunities for reducing our environmental footprint. Last year, the *livegreen* Council provided a great opportunity for staff to learn about how to save fuel costs and reduce GHG emissions while driving, how to reduce waste and office paper use, and many other ways each one can contribute to a more sustainable world.

We continue to conduct technical research and provide many educational opportunities for the reduction of emissions and improvements in the quality of housing through the Homeowner Protection Office. Excellent training, tools, programs and publications for home builders, developers, and other residential construction stakeholders are offered through this research and education program. Our research and best practices on green-building technologies and social housing management are shared with industry, non-profits, and Indigenous communities.

I encourage you to read more about our past, present and future actions for GHG reductions and broader sustainability in this report.



**Shayne Ramsay**, CEO BC Housing



# 2015 Greenhouse Gas Emissions and Offsets Overview

## BC Housing's GHG Emissions and Offsets for 2015 (TCO<sub>2</sub>e)

GHG Emissions Created in Calendar Year 2015	
Total Emissions (TCO <sub>2</sub> e)	<b>24,766</b>
Total Offsets (TCO <sub>2</sub> e)	<b>24,752</b>
Adjustments to GHG Emissions Reported in Prior Years	
Total Emissions (TCO <sub>2</sub> e)	<b>-174</b>
Total Offsets (TCO <sub>2</sub> e)	<b>-173</b>
Total Emissions for Offset for the 2015 Reporting Year	
Total Emissions (TCO <sub>2</sub> e)	<b>24,579</b>

## Adjustments to Total Emissions Reported in Prior Years

In 2014, we reported 21,942 tonnes of CO<sub>2</sub>e emissions. Following the release of BC Housing's 2014 Carbon Neutral Action Report, it was determined that the total emissions for the previous years were over reported by 174 tonnes and that the required offsets were over reported by 173 tonnes. The difference in required offsets has been purchased and applied against our 2015 emissions.



Dan Maxwell  
Chief Financial Officer, BC Housing

## Total Emissions for Offsets for the 2015 Reporting Year

BC Housing purchased carbon offsets from the Government of B.C. for the equivalent of 24,579 tonnes of CO<sub>2</sub>e to obtain carbon neutral status for 2015.

14 tonnes of CO<sub>2</sub>e emissions from the combustion of biomass and biomass-based fuels were reported as part of our greenhouse gas emissions profile in 2015. However, while CO<sub>2</sub>e emissions from these sources must be reported, they do not require offsets.

## Retirement of Offsets

In accordance with the requirements of the Greenhouse Gas Reduction Targets Act and Carbon Neutral Government Regulation, BC Housing is responsible for arranging for the retirement of the offsets obligation reported above for the 2015 calendar year, together with any adjustments reported for past calendar years. The Organization hereby agrees that, in exchange for the Ministry of Environment ensuring that these offsets are retired on the Organization's behalf, the Organization will pay the associated invoice to be issued by the Ministry in an amount equal to \$25 per tonne of offsets retired on its behalf, plus GST.

16 May 2016

Date



# Actions Taken to Reduce Greenhouse Gas Emissions in 2015

## Buildings

As per the Carbon Neutral Government Regulation, BC Housing reports on energy use and related greenhouse gas emissions from all buildings owned or leased by BC Housing. This represents a vast portfolio of different types of buildings located across the province, including: residential towers, Single Room Occupancy hotels, townhouses, group homes, and others. Some of the buildings are directly managed, while others are operated by non-profit societies.

In 2015, this portfolio included 570 social housing sites, totaling over one million square meters of floor area. Eleven new sites were added and 3 sites were divested from the GHG reporting inventory.

One of the most significant changes in our portfolio was the addition of 75 buildings (139,353 square meters) on

the Riverview Lands when the BC Government transferred the ownership and stewardship of this 244 acre site to BC Housing, as of February 2, 2015. BC Housing has taken over direct management and administration of the leasing, facility maintenance, and filming coordination on that site.

Including the addition of Riverview Lands, the total floor area in 2015 for which we report our energy use and related greenhouse gas emissions was over one million two hundred square meters.

## GHG Results for Buildings

In 2015, our GHG emissions related to energy used to provide heat, water and electricity for our buildings totaled 24,462 tonnes of CO<sub>2</sub> equivalent.<sup>1</sup> Since 2005, we have seen a 33 per cent decrease in emissions from our buildings and a 14 percent increase from 2014. These results are based on absolute emissions and do not factor in weather conditions.

## 2015 Buildings GHG Emissions Compared to 2005 Baseline and 2014 Results

Emission Source	2015 GHG Emissions (Tonnes of CO <sub>2</sub> e)	2015 Results Compared to the 2005 Baseline	2015 Results Compared to 2014
<b>Buildings</b> (Stationary Combustion)	24,462	33% Decrease	14% Increase

The year-to-year increase of emissions can be solely attributed to the acquisition of Riverview lands into BC Housing's portfolio at the beginning of 2015.

Based on additional analysis of the different weather conditions for each reporting year, it was determined that

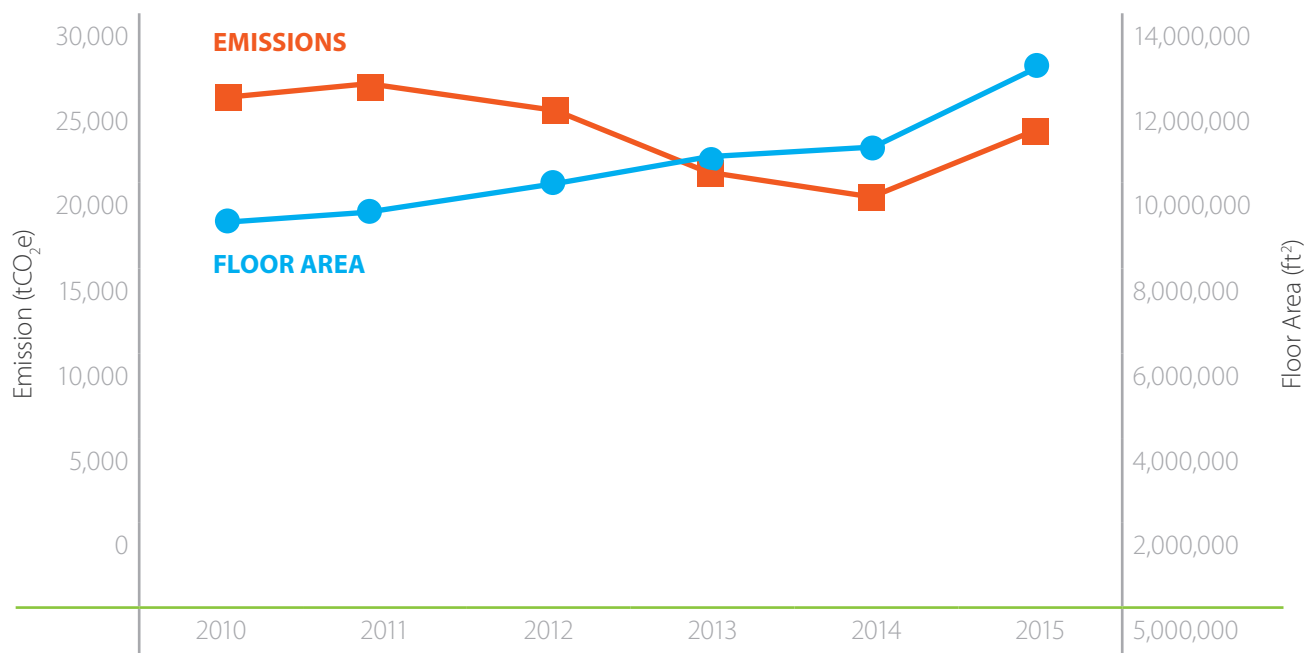
some of the GHG reductions can be attributed to warmer weather in 2015. Warmer weather is linked to less use of energy for heating and therefore lower GHG emissions. Most of BC Housing buildings are located within the Vancouver Coastal and Fraser region where approximately 9% of energy reduction from 2005 to 2015 was due to warmer temperatures.

<sup>1</sup> Stationary fugitive emissions from air conditioning at BC Housing's offices do not comprise more than 0.01 per cent of total emissions and have been deemed out-of-scope and are not included in the total GHG profile.

## Floor Area Comparison

BC Housing has been able to maintain significant energy and GHG reductions despite the fact that our overall floor area has been growing for the last few years. This has been due to the energy retrofit and conservation programs in our existing buildings and higher energy efficiency standards in the new buildings. The following graph represents this trend.

**Floor Area and GHG Emissions Change (2010-2015)**



## Actions taken in 2015

The GHG emission reductions and increases in energy efficiency in our building portfolio can be attributed to a number of initiatives taken over the last few years in the following areas: energy conservation and retrofit programs for existing buildings, increased efficiency of new construction, adoption of new standards and development of new tools and resources, training and education for our staff, partners and the building construction sector. Specific actions taken last year within each of these areas are described below.

### Energy Conservation Initiatives for Buildings

- Under the SRO Renewal Initiative we are renovating 13 provincially owned Single Room Occupancy hotels in Vancouver. At the end of 2015 five buildings were

completed. This included the replacement and renewal of building systems (i.e. heat and ventilations systems), installation of energy efficient boilers, windows and insulation.

- Site renovations were completed at the Kinsmen Gardens Estates in Langley (62 social housing units). This included: building envelope retrofit, installation of over 60 new furnaces and hot water heaters. The energy savings are estimated at 900GJ.
- Continued implementation of the Energy Conservation Assistance Program with BC Hydro and Fortis BC for group homes across the province. This included installation of energy savings products such as bulbs, faucets and showerheads, for a total estimated savings of 2,000kWh. Furnace and/or domestic hot water heater replacements resulted in an estimated savings of 240 GJ.



- BC Housing continued supporting energy savings of social housing developments through the Energy Efficiency Retrofit program (EERP) with BC Non-Profit Association, BC Hydro and FortisBC. Last year, this enabled approximately 32 electric and seven gas focused energy retrofit projects, for a total estimated savings of 878,500kWh and 3,450GJ respectively.
- Our energy management team working with consultants conducted 27 energy audits on high, mid- and low-rise buildings to determine details of current energy consumption patterns and opportunities for conservation measures in the next fiscal year, and years to come.

## Energy Conservation Training and Education

- Continued to support the development of the Facilities Operations and Maintenance (FOAM) training program for public and non-profit housing providers with the BC Non-Profit Housing Association. This ongoing work includes developing a program that fosters an energy management culture among building operations staff, builds capacity, enhances energy and greenhouse gas savings, and promotes tenant engagement.
- Provided ongoing support to encourage BC Housing's building managers and site staff to play a leadership role in creating and enhancing a culture of energy conservation among staff and tenants.

## New Construction

- In the last several years BC Housing has adopted high environmental standards and energy performance standards for building construction, such as Optimized Energy Performance points for the LEED rating systems for large buildings, and EnerGuide 82 for small buildings.
- To date, BC Housing and its non-profit housing partners have over 50 buildings registered with the Canadian Green Building Council and 34 have received Leadership in Energy and Environmental Design (LEED) certification.

### Social Housing Buildings Certified to Gold in 2015:

- Kettle on Burrard, Vancouver
- First Place, Vancouver
- Willowbridge, Kelowna
- Newgate Apartments, Kelowna



Rose Harbour in Campbell River, LEED Gold Certified.

- Alouette Heights, Maple Ridge
- Rose Harbour, Campbell River
- Kitsilano Neighbourhood House, Vancouver
- City Heights, Vancouver
- In 2015, BC Housing's wide adoption of the LEED Gold standard for new construction of social housing was recognized by the Canada Green Building Council with a Government Leadership Award.

## Activities in the Residential Construction Sector

- Technical Research conducts extensive research and education to improve the quality of residential construction and increasing building energy efficiency. In 2015, the following research projects were conducted:
  - Wood-Frame Building Envelope Systems for Net-Zero Energy-Ready Buildings
  - Energy Consumption and Conservation in Mid-High-Rise Residential Buildings in BC
  - Greenhouse Gas Implications of HVAC upgrades in Multi-Residential Buildings
  - Passive House Triple Bottom Business Case Study
  - Heat Recovery Ventilation Guide for Houses
  - Heat Recovery Ventilation Guide for Multi-Unit Residential Buildings
  - Low Energy Multi-Unit Residential Building Monitoring In Victoria, BC
  - Local Energy Efficiency Partnerships

The reports of completed projects are available on-line.

- Last year, Technical Research led a number of educational seminars, workshops, and webinars targeted to those involved in the design and construction of residential housing. Energy efficiency, thermal bridging and best practice in window installation are just a few of the topics covered.
- Building Smart video presentations available on-line: *Energy Efficiency-Large Residential Buildings, Mid-Rise Wood Buildings & Considerations for Residential Basement and Parkades*

- Last year, Technical Research published Builder Insight Technical Bulletins on a regular basis on topics related to increasing energy efficiency.
- In 2014, Technical Research launched a new Building Excellence Research & Education Grants program designed to encourage research and education to improve the quality of residential construction. Below is a sample list of projects funded in 2015:
  - Development of framing systems to increase the thermal performance of balconies in low-rise wood-frame residential construction;
  - Evaluation of the economic and environmental benefits of latent heat thermal energy building materials and systems;
  - Enhancement of the energy performance of multi-storey residential buildings in BC through the building envelope design
  - Guidelines on the application of energy modelling for residential buildings cons

For a complete list of projects funded in 2015 or for more information about the grant – please visit: [www.hpo.bc.ca/building-excellence](http://www.hpo.bc.ca/building-excellence)

- In 2015, BC Housing implemented a project with the Squamish Nation on skills training, asset management training, and homeowner education



New Gate Apartments, Kelowna, LEED Gold certified.



# Fleet

In 2015, BC Housing had 52 fleet vehicles, most of which are trucks and vans used by grounds and building maintenance staff. Office pool vehicles include Smart Cars and hybrid vehicles. Among those, 17 per cent of our fleet vehicles were fuel efficient. We have acquired two new vans for building maintenance staff and plan to retire 5 old vehicles in meeting our reduction goal.

## GHG Results for Fleet

In 2015, our total GHG emissions for fleet were 281 tonnes.

We are not able to directly compare GHG emissions in 2015 against a 2010 baseline due to changes in methodology between 2012 and 2015. A partnership with a fleet vehicle management organization in 2013 allowed for more accurate reporting of fuel consumption; however, services were discontinued in 2014.

For the 2015 reporting year, GHG emissions were calculated using reported fuel consumption data. With continuous effort to improve reporting methodology, the majority

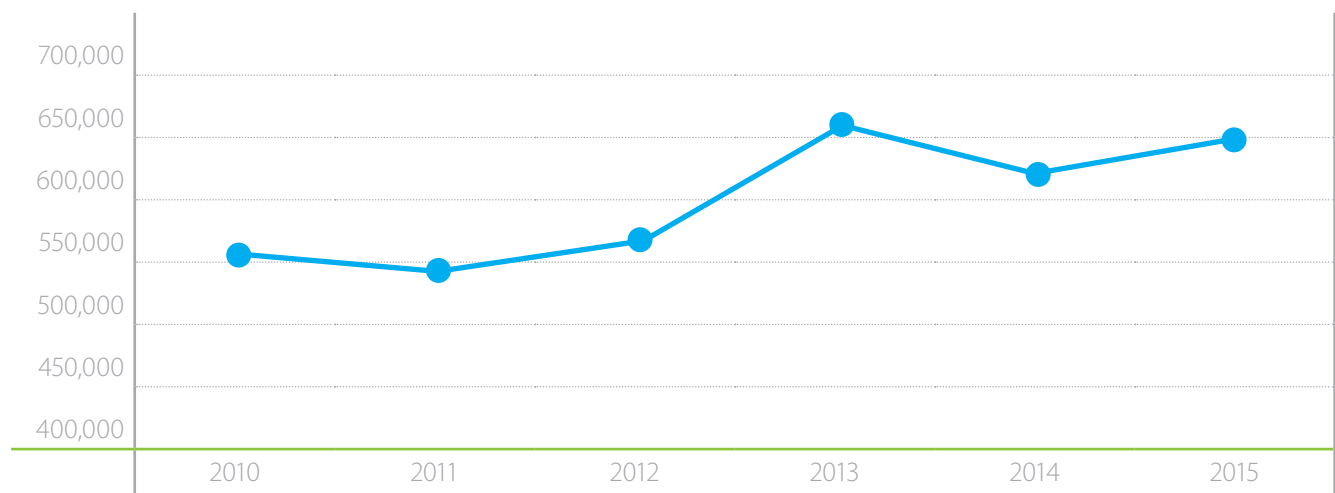
(90%) of fuel consumption data was directly obtained while only a small portion (10%) was estimated, minimizing the uncertainty of estimation.

The fleet emission remains the same in 2015 despite the increase in distance travelled by replacing old fleets with more fuel efficient vehicles.

## Actions taken in 2015

- The Lower Mainland grounds and maintenance fleet continued to use a GPS fleet tracking system to reduce fleet mileage. This allowed fleet managers to reduce kilometers driven by allocating resources more efficiently.
- All fleet vehicle drivers, as well as other employees have completed eco-driving training to encourage a culture of fuel efficient driving, supported by *livegreen* Council.
- The reporting of fuel consumption methodology has improved the accuracy of reporting significantly from the effort made by office administration and regional offices.

**Kilometers Driven by BC Housing Fleet (2010-2015)**



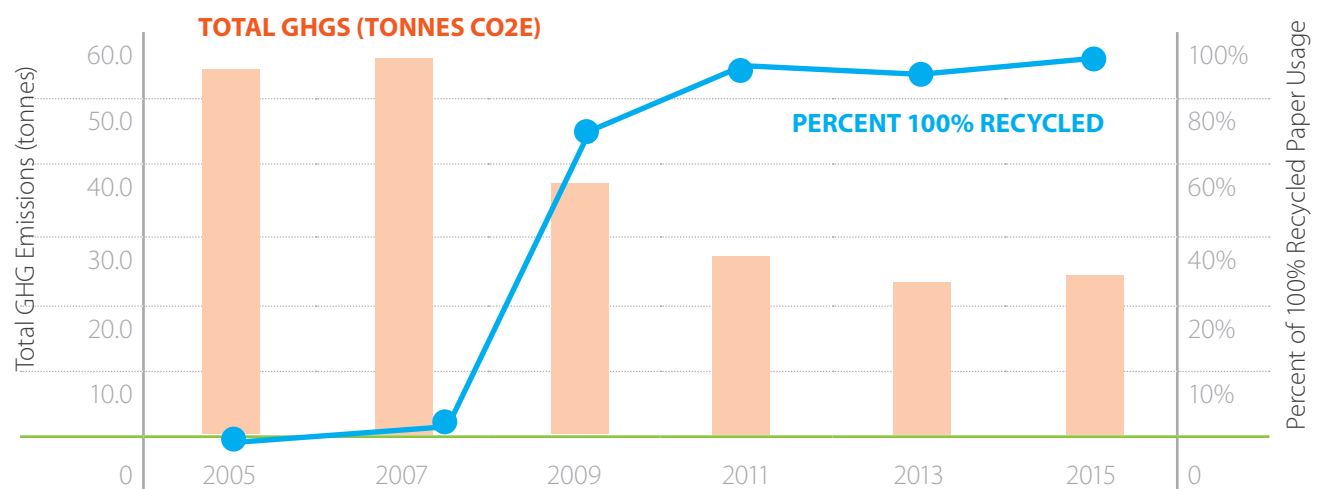
# Paper

Our 2015 GHG emissions for office paper were 23 tonnes. Since 2005, we have seen a 55 per cent decrease in our paper consumption that can be largely attributed to promoting a paperless organizational culture, and changes to our procurement practices.

Paper	2015 GHG Emissions (Tonnes of CO <sub>2</sub> e)	Change in Absolute GHG Emissions in 2015 (against 2005 baseline)	Change in Absolute GHG Emissions in 2015 against 2014	Change in GHG Emissions in 2015 (against 2005 baseline) Per Employee
	23	55% Decrease	5% increase	74% Decrease

In 2015, 93 per cent of all the paper purchased was recycled paper, a one percent decrease from 2014. This compares favorably to 89 per cent in 2013 and zero per cent in 2005.

## Total GHG Emissions for Office Paper and Recycled Paper Usage



Since 2005, BC Housing has grown significantly as an organization. In the same period, the total amount of office paper used decreased by 60 per cent and related GHG emissions per employee decreased by 74 per cent. Our absolute emissions also decreased by 55 per cent.



## Actions taken in 2015

In 2015, BC Housing built on initiatives introduced in previous years, such as switching to paperless meetings, employee educational campaigns, and changes in procurement practices that require purchasing paper with recycled content.

Last year's employee survey revealed a 17 per cent increase in number of employees making an effort to reduce printed materials in our offices when compared with our 2009 baseline.

BC Housing launched a Paperless Initiative in February 2013 to enable non-profit housing providers to receive and send documents and correspondence via email instead of through Canada Post. This initiative was expanded in 2015 and, to date, 96 per cent of BC Housing's providers are using the encryption system to send and receive the majority of their information via email. The next phase of the Paperless Initiative will be to launch it to other branches of the organization.



Kitsilano Neighbourhood House, Vancouver.

# Other Actions

BC Housing's commitment to sustainability goes beyond reduction of greenhouse gas emissions and touches on areas such as procurement, waste management, community development, education and engagement. Our actions in those areas are described in our *livegreen* Sustainability Report.

Below are just a few highlights of our work in those other areas.

## Employee Engagement

BC Housing has been recognized as a leader in creating a culture of environmental awareness and for the development of sustainability initiatives that support our employees in making more environmentally sound choices both in their work and in their personal lives. We were named one of Canada's Greenest Employers in both 2015 and 2016 and have been recognized as a Transformational Company by the Canadian Business for Social Responsibility.

Our employee green team, the *livegreen* Employee Council, plays a key role in supporting their BC Housing colleagues in making more sustainable choices at work, home and in their communities. The impact of the activities led by the Council is measured in an annual sustainability survey. Last year, the survey results indicated that employee engagement on many of the green initiatives has been the highest since our baseline survey in 2009. This includes consideration of sustainability in personal purchasing decisions, food choices and waste reduction.

## Tenant Engagement

While recycling programs exist at all public housing buildings managed by BC Housing, our organic waste diversion program was only launched last year. Our Community Developers led fun and engaging tenant education initiatives across our housing portfolio, and as a result, 69% of public housing tenants reported that they are either participating or would like to participate in organic waste diversion program. This program has been

more popular with our tenants than any other program (including social activities), thus demonstrating that sustainability initiatives can have great social benefits.

## Community Connections

BC Housing's employee-led community investment program, Community Connections, raises over \$140,000 for local charities annually. And through the program's Employer Supported Volunteerism component, BC Housing's staff donate over 800 hours a year to charities such as food banks and the Food Sharing Farm in Richmond. This program provides opportunities for education and team building while contributing to environmental, social and economical sustainability programs in local communities in very tangible ways.



BC Housing staff and tenants participating in organic waste diversion program.





BC Housing employees commuting to work (top left), helping to build vegetable gardens and flower beds for tenants (top right and bottom).



# Plans to Continue Reducing Greenhouse Gas Emissions 2016

## Buildings

- Renovation and restoration of the remaining Single Room Occupancy hotel renewal sites in Vancouver's Downtown Eastside. This will improve the living conditions for the buildings' residents and restore the heritage value of these buildings.
- Most of our building renovations will include energy modeling and Energy Conservation Measure (ECM) development in the design portion of the project. This will allow us to select ECMs, with reasonable paybacks, to be included in the construction project. This can lead to significant savings in renovated buildings across the province.
- Development and publication of case studies about energy conservation in new social housing projects and the lessons learned from specific projects.
- Integration of GHG reduction targets into the capital planning process.
- Presenting Building Smart seminars about innovation in construction and design for licensed residential builders in the home-building industry to provide practical information on the latest in building science and best practices on various topics, including energy efficiency and green buildings.
- Continuation of all technical research and education efforts and partnerships in reducing emissions in the residential construction sector, including:
  - high-performance builder training incentives
  - energy and cost analysis for the proposed provincial stretch code for energy efficiency requirements for homes in BC
  - low energy multi-unit residential building monitoring
  - heat pump water heater pilot in BC
  - energy management for strata properties
  - best practice guide for air barrier design, construction and testing of multi-unit residential buildings



- applicability of the Dutch approach to deep energy retrofits for multi-family residential buildings in BC
- Promotion of the "[\*Housing Choice and Environmental Impact Calculator\*](#)" – a tool enabling informed decision making with regards to greenhouse gas emissions, water and energy consumption levels for different housing types (wood or concrete, single family or townhouse or multiunit, etc.). Developers and home buyers are the intended users of the calculator. It provides information on the quantitative benefits and environmental impacts of high-density housing project.
- Collaboration with utility, municipal and industry partners, and with Natural Resources Canada, to complete "Builder Local Energy Efficiency Partnership (LEEP) Technology Assessment and Selection Report" for the Lower Mainland and South Vancouver Island.

## Fleet

- Providing green driving educational opportunities (e-learning) to all fleet vehicle drivers and other employees.
- *Livegreen* Employee Council will promote sustainable mode of transportation for both commuting and work related trips, including carsharing and carpooling through various activities under the single occupancy vehicle (SOV) free campaign.
- Continuing to use the GPS tracking system, BC Housing will explore an option of implementing idling prevention and monitoring system, track the progress and expand the system to other regional offices.
- We will continue to improve reporting methodology by communicating with office administration and regional offices.
- Maintaining our membership in E3 Fleet (Energy, Environment, Excellence) and conducting Fuel Smart Driving presentations and online training. Consulting with E3 fleet on new fleet purchases in 2015 to determine what fuel efficient options are available and initiate improvements to the vehicle fuel data collection methodology to achieve yearly comparisons.

## Paper

- Livegreen council will lead 'Reduce Waste. Print Less' campaign to encourage staff to reduce paper printing. We will be capturing and analyzing data from each printer to closely monitor printing habit and further develop tailored action plans.
- BC Housing employees will see more reminders and prompts around the office and via organizational intranet encouraging everyone to reduce paper consumption.
- BC Housing's *livegreen* Employee Council will continue encouraging employees to make more sustainable decisions at work, home and in our communities.

For information about our actions and plans in other sustainability areas, please visit:

<http://www.bchousing.org/aboutus/livegreen>  
<http://www.hpo.bc.ca>





Alouette Heights Supportive Housing, Maple Ridge, received LEED Gold certification in 2012





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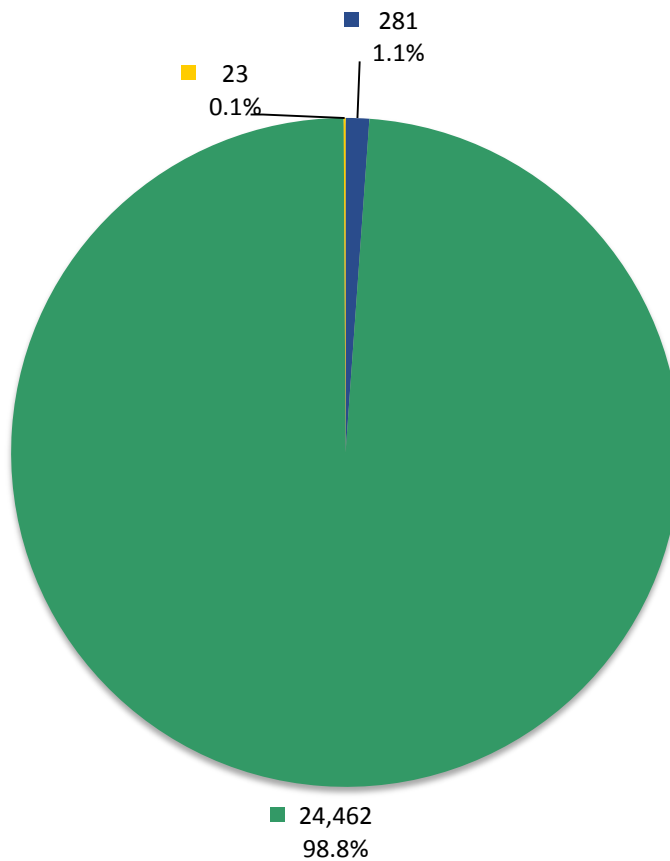


BC Housing



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# BC Housing Management Commission Greenhouse Gas Emissions by Source for the 2015 Calendar Year (tCO<sub>2</sub>e\*)



**Total Emissions: 24,766**

- 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 2015 (Generated May 24, 2016 4:31 PM)

Total offsets required: **24,752**. Total offset investment: **\$618,800**. Emissions which do not require offsets: **14** \*\*

\*Tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e) is a standard unit of measure in which all types of greenhouse gases are expressed based on their global warming potential relative to carbon dioxide.

\*\* Under the *Carbon Neutral Government Regulation of the Greenhouse Gas Reduction Targets Act*, all emissions from the sources listed above must be reported. As outlined in the regulation, some emissions do not require offsets.



# 2015 Carbon Neutral Action Report Survey

Organization Name:

BC Housing

Please select your sector:

- Crown Corporation

1) Stationary Sources (Buildings, Power Generators, Ext. Lighting) Fuel Combustion, Electricity use, Fugitive Emissions:

Please indicate which actions your PSO took in 2015:

Have developed an overall strategy/plan to reduce energy use in your organization's buildings inventory:

Yes

If Yes, please describe:

BC Housing's has a Service Plan target of 20% greenhouse gas (GHG) emissions reductions against 2005 baseline. In the last few years we have consistently exceeded our targets.

BC Housing's energy management plan includes the following:

- annual review of energy and GHG levels and targets;
- on-going support for building managers, site staff and project development teams, from the energy management team;
- adoption of LEED Gold standard for all new construction;
- optimization of energy performance and GHG emissions in new construction design standards;
- incorporating energy measures in building upgrades and retrofit programs;
- Energy Conservation Assistance Program for Group Homes;
- Energy Efficiency Retrofit Program for social housing providers;
- on-going energy training and education for building operations staff.

In addition to our work within the social housing sector, our Homeowner Protection Office branch conducts extensive research and education to improve the quality of residential construction, including high level of building energy efficiency.

Undertook evaluations of building energy use:

Yes

Performed energy retrofits on existing buildings:

Yes

Built or are building new LEED Gold or other "Green" buildings:

Yes

Please list any other actions, programs or initiatives that your organization has introduced that support emissions reductions from buildings:

*List of specific emissions reductions actions, programs and initiatives undertaken in 2015:*

- renovation of eight Single Room Occupancy (SRO) buildings under the SRO Renewal Initiative. This included the replacement and renewal of building systems (i.e. heat and ventilation systems), installation of energy efficient boilers, windows and insulation;*
- social housing sites renovations that included building envelope retrofit, installation of new furnace and hot water heaters;*
- 27 energy audits on high, mid- and low-rise social housing buildings;*
- continued implementation of the Energy Conservation Assistance Program with BC Hydro and Fortis BC for group homes across the province;*
- BC Housing continued supporting energy savings of social housing developments through the Energy Efficiency Retrofit program (EERP) with BC Non-Profit Association, BC Hydro and FortisBC. Last year, this enabled approximately 32 electric and seven gas focused energy retrofit projects, for a total estimated savings of 878,500kWh and 3,450GJ respectively.*

## 2) Mobile Sources (Fleet, Off-road/Portable Equipment) Fuel Combustion:

Indicate which actions your PSO took in 2015:

Have put in place an operations policy/program to support systematic reductions in fleet related emissions:

(e.g., program to convert fleet to renewable fuels)

Yes

If Yes, please describe:

*Completion of eco-driving e-learning by all fleet vehicle drivers and other employees.  
Improved fuel consumption data collection for more effective monitoring and reporting.  
GPS fleet tracking and route planning system.*

Replaced existing vehicles with more fuel efficient vehicles (gas/diesel):

No

Replaced existing vehicles with hybrid or electric vehicles:

No

Took steps to drive less than previous years:

Yes

Please list any other actions, programs or initiatives that your organization has introduced that support emissions reductions from fleet combustion:

*(No response)*

## 3) Supplies (Paper):

Indicate which actions your PSO took in 2015:

Have put in place an operations policy/program to facilitate a systematic reduction in paper-related emissions:

(e.g., policy to purchase 100% Recycled Content; default to double-sided printing)

Yes

If yes, please describe:



*BC Housing has policy to purchase 100% Recycled paper for all office paper types where this is possible. Our printers are set to default double-sided printing. Our livegreen Employee Council conducts campaigns to encourage employees to print less.*

Have put in place an operations policy/program to facilitate behavioural changes from paper use:

(e.g. awareness campaign to reduce paper use):

*Yes*

If yes, please describe:

*BC Housing conducts Paper Challenge for our employees on regular basis and includes web-post reminders to print less.*

Used only 100% recycled paper:

*No*

Used some recycled paper:

*Yes*

Used alternate source paper:

(e.g., bamboo, hemp, wheat etc.)

*Yes*

Please list any other actions, programs or initiatives that your organization has introduced that support emissions reductions from paper supplies:

*BC Housing launched a Paperless Initiative to enable non-profit housing providers to receive and send documents and correspondence via email instead of regular mail.*

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### 4) Other Sustainability Actions:

Please note that this section is optional

#### Business Travel

Created a low-carbon travel policy or travel reduction goal:

(low-carbon = lowest emission of greenhouse gas per kilometer per passenger)

*Yes*

Encouraged alternative travel for business:

(e.g. bicycles, public transit, walking)

*Yes*

Encouraged or allow telework/working from home:

*Yes*

Other:

*(No response)*

#### Education Awareness

Have a Green/Sustainability/Climate Action Team:

*Yes*

Supported green professional development:

(e.g. workshops, conferences, training)

*Yes*

Supported or provided education to staff about the science of climate change, conservation of water, energy and/or raw materials:

*Yes*

Other:

*Our employee green team, the livegreen Employee Council, plays a key role in supporting their BC Housing colleagues in making more sustainable choices at work, home and in their communities. The impact of the activities led by the Council is measured in an*

*annual sustainability survey. Last year, the survey results indicated that the employee engagement on many of the green initiatives has been the highest since our baseline survey in 2009. This includes consideration of sustainability in personal purchasing decisions, food choices and waste reduction.*

## Adaptation Planning for Climate Risks

Have assessed whether increased frequency of extreme weather events and/or long term changes in climate will affect your organization's infrastructure, its employees and/or its clients:

*Yes*

Have incorporated these anticipated changes in climate into your organization's planning and decision making:

*No*

Other:

*BC Housing has created an internal climate adaptation task force and is in the process of creating an overall approach to climate adaptation. Increased frequency of extreme weather events and /or long term changes impact assessment process has been initiated. A qualitative building resilience assessment was conducted on two of BC Housing's public housing buildings.*

## Other Sustainability Actions

Established a water conservation strategy which includes a plan or policy for replacing water fixtures with efficient models:

*Yes*

Have put in place an operations policy/program to facilitate the reduction and diversion of building occupant waste stream from landfills or incineration facilities:

(e.g., composting, collection of plastics, batteries)

*Yes*

Established green standards for goods that are replaced infrequently and/or may require capital funds to purchase:

(e.g., office furniture, carpeting, etc.)

*Yes*

Incorporated lifecycle costing into new construction or renovations:

*Yes*

Please list any other sustainability actions your organization has taken not listed above:

*• BC Housing, through the Homeowner Protection Office, conducts extensive research and education to improve the quality of residential construction and increasing building energy efficiency.*

- *Last year, the HPO led a number of educational seminars, workshops, and webinars targeted to those involved in the design and construction of residential housing. Energy efficiency, thermal bridging and best practice in window installation are just a few of the topics covered.*
- *BC Housing has established targets and is working towards reduction of new construction and retrofit waste.*
- *In 2015, BC Housing implemented a project with the Squamish Nation on skills training, asset management training, and homeowner education.*
- *BC Housing has extensive employee and tenant engagement on sustainability programs. We were named one of Canada's Greenest Employers in 2015, and have been recognized as a Transformational Company by the Canadian Business for Social Responsibility.*