



Sustainability and Resilience Report

2022/23



BRITISH
COLUMBIA



BC HOUSING

Land Acknowledgement

Since our 1967 start, BC Housing has operated on the traditional territories and ancestral homes of Indigenous Peoples across the province. We recognize that Indigenous Peoples' history and connection to these lands was disrupted because of colonization. To this day colonization continues to cause harm and intergenerational impacts on Indigenous People across our shared lands.

As a landlord, employer and funder of affordable housing programs, BC Housing has the responsibility for decolonizing our relationship with Indigenous Peoples. BC Housing is committed to adopting the Truth and Reconciliation Commission of Canada's Calls to Action and implementing the Declaration

on the Rights of Indigenous Peoples Act. We humbly acknowledge that Indigenous People have taken care of and stewarded these lands from time immemorial. Indigenous worldviews are more aligned with principles of sustainability than the current capitalistic system based on the premise of unlimited growth.

We also recognize that many Indigenous leaders and community members are at the forefront of fighting for environmental protection. Many Indigenous Peoples are most affected by the rapid changes in the weather patterns and their consequences such as: loss of ice, more extremely hot days and unprecedented wildfire smoke, loss of biodiversity and others. We have much to learn from Indigenous ways of knowing and being in the world.



Ancient rock carvings at Petroglyph Provincial Park in Nanaimo, B.C.

On the cover: 330 Goldstream: awarded Best Multi-family Low Rise Development at the Vancouver Island Building Excellence Awards.

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Haida Gwaii, B.C.

Introduction

This report describes BC Housing’s sustainability and resilience performance for the 2022/23 fiscal year and compares these results to the targets set in our [Sustainability and Resilience Strategy](#).

BC Housing released our new Sustainability and Resilience Strategy in June 2023. This strategy replaces the Sustainability and Resilience Framework. The new Strategy includes performance measures, targets, and an Implementation Plan detailing actions. These actions will help us move towards our sustainability and resilience goals over the next three years.

About BC Housing

BC Housing develops, manages, and administers a wide range of affordable and Community Housing options across the province. BC Housing works with the Ministry of Housing, all levels of government, and the private and non-profit sectors to address critical gaps across the housing continuum. These range from emergency shelter and rent assistance in the private market to affordable home ownership. We also license residential builders, administer owner builder authorizations, and carry out research and education that benefits the residential construction industry, consumers, and the affordable housing sector.

As a government agency with a major influence on the development and management of Community Housing in the province, we recognize our responsibility to conduct our work in a way that addresses the multitude of challenges facing British Columbians today.



Coldest Night of the Year walk in February 2023—BC Housing employees raised more than \$3,300 for local charity.



Provincial Background

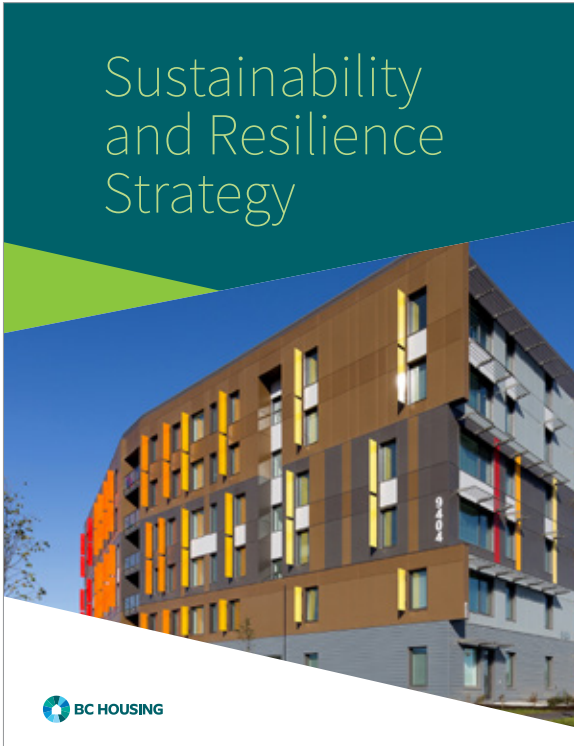
As a Public Sector Organization in British Columbia, our sustainability and resilience work adheres to the [Climate Change Accountability Act](#). Our work is further guided by the provincial direction outlined in the [CleanBC Roadmap to 2030](#) and the [Climate Preparedness and Adaptation Strategy](#), and priorities identified in our annual mandate letter.

The CleanBC Roadmap to 2030 is the provincial plan to reduce carbon emissions in the province. For BC Housing, the most relevant aspects of the Roadmap relate to the commitments to green the building sector. Our work will be shaped by the following CleanBC targets and commitments:

- ▶ 50 percent reduction in greenhouse gases from public sector buildings by 2030
- ▶ 40 percent reduction in greenhouse gas emissions from government fleets by 2030
- ▶ Carbon pollution standards introduced for new buildings in 2024, with zero-carbon new construction by 2030

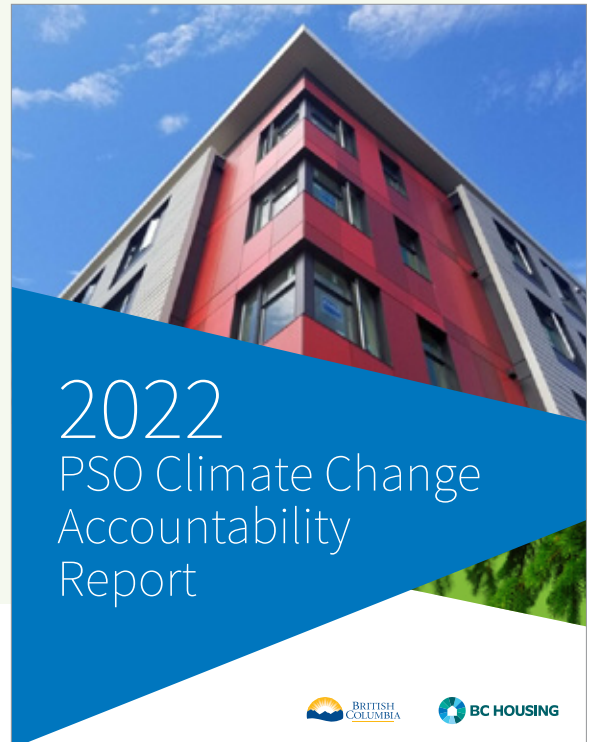
Our Other Reports

For more information, please read our other reports:



Our [Sustainability and Resilience Strategy](#) includes performance measures, targets, and an Implementation Plan containing actions that will help us move towards our sustainability and resilience goals over the next three years.

The [Climate Change Accountability Report](#) (previously the Carbon Neutral Action Report) focuses on our actions related to reduction of greenhouse gas emissions from all buildings that BC Housing owns and leases, our vehicle fleet, and office paper.



The Development of the Strategy

The development of BC Housing’s Sustainability and Resilience Strategy began in 2019. This occurred through consultations that included an internal advisory group, the executive team, and 25 percent of BC Housing staff through regional workshops and interviews. In 2021, more than 40 staff from across BC Housing provided guidance and support for the

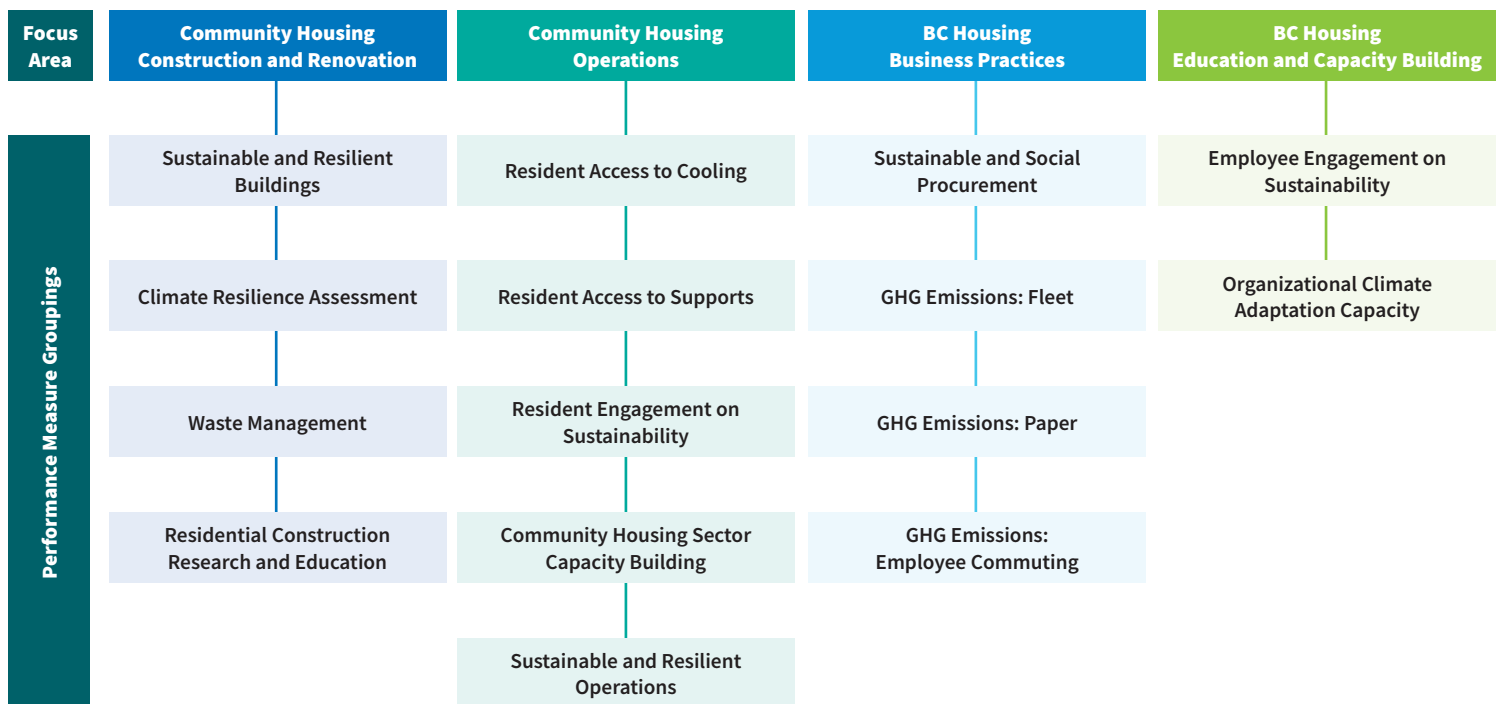
development of a Sustainability and Resilience Framework. This work continued in 2022 with planning sessions for internal stakeholders. This led to the development of performance measures, targets, and an Implementation Plan. The Sustainability and Resilience Strategy is a culmination of the efforts described here.

Reporting on our Performance

Based on input from internal stakeholders, and guided by provincial commitments, our performance measures help us measure our progress towards our sustainability and resilience goals.

Our work on sustainability and resilience is grouped into four key focus areas, with performance measures to help us measure our progress in each area.

Performance measures were developed collaboratively with impacted business areas. While we have reported on some of these measures in previous reports, others are new. We have noted a few measures that could be modified in future reporting years to better reflect work underway and data collection limitations. Where data is unavailable, this is noted in the report.



BC Housing 2022/23 Highlights



COMMUNITY HOUSING CONSTRUCTION AND RENOVATION

18% reduction in GHGs from buildings, compared to 2010 baseline (working towards the 2030 target of 50% reduction)

35 projects have achieved high levels (three or four) of the BC Energy Step Code

658 participants attended our MBAR climate resiliency roundtable sessions

12,486 hours of training provided related to sustainable building practices to the residential construction industry



COMMUNITY HOUSING OPERATIONS

81% of the surveyed tenants strongly/somewhat agree that they have good relationships with other residents in their building

7 educational events and opportunities held in partnership with BCNPHA or other sector partners on sustainability and resilience topics

69 community gardens added and
968 meal kits distributed through People, Plants and Homes



BC HOUSING BUSINESS PRACTICES

54% of tenders included **sustainability evaluation criteria and other sustainability factors**

59% **reduction in greenhouse gas emissions** per employee from employee commuting compared to 2009 baseline



BC HOUSING EDUCATION AND CAPACITY

22 **campaigns, articles and educational events** launched by Livegreen Council

Over \$408,000 raised for **108 different charities** through Community Connections Program

20+ staff participated in **“Climate Change Adaptation Fundamentals”** course



Report on Performance

This report outlines activities in the four focus areas identified in the Sustainability and Resilience Strategy: Community Housing Construction and Renovation, Community Housing Operations, BC Housing Business Practices, and BC Housing Education and Capacity. The results on our performance measures are presented in tables, followed by explanations, and a detailed description of the actions taken.

COMMUNITY HOUSING CONSTRUCTION AND RENOVATION



SCOPE:

The focus for this area is improving housing outcomes through resilient and sustainable construction and renovation of Community Housing. This area also refers to consumer protection work related to residential construction quality.

SUSTAINABILITY and RESILIENCE OBJECTIVE:

BC Housing advances sustainable, low-carbon, innovative and resilient buildings that promote equity, inclusion, and reconciliation – fostering strong communities with buildings that perform well over time.

COMMUNITY HOUSING OPERATIONS



SCOPE:

The focus for this area is the Community Housing sector, including the operation of non-profit, co-op, and BC Housing-managed buildings.

SUSTAINABILITY and RESILIENCE OBJECTIVE:

BC Housing builds our ability - and supports our partners in the Community Housing Sector - to operate and manage safe, healthy, affordable, low-carbon and resilient housing.

BC HOUSING BUSINESS PRACTICES



SCOPE:

The focus for this area is BC Housing's internal business practices.

SUSTAINABILITY and RESILIENCE OBJECTIVE:

BC Housing integrates equity, inclusion, low-carbon resilience, and sustainability into BC Housing's business practices. This includes staff commuting and travel, fleet vehicles, office operations, and procurement practices.

BC HOUSING EDUCATION AND CAPACITY



SCOPE:

The focus for this area is on building an understanding of sustainability and resilience throughout the organization, embedding those priorities into programs and policies, and offering education and training opportunities to help build capacity across the organization.

SUSTAINABILITY and RESILIENCE OBJECTIVE:

BC Housing staff have the capacity and knowledge to deliver on our sustainability and resilience commitments.



Community Housing Construction and Renovation

BC Housing advances sustainable, low-carbon, innovative and resilient buildings that promote equity, inclusion, and Reconciliation – fostering strong communities with buildings that perform well over time.

Community Housing Construction and Renovation focuses on improving housing outcomes through resilient and sustainable construction and renovation of Community Housing. Community Housing includes buildings operated by non-profit, affordable, social, and subsidized housing providers. They provide homes to B.C. residents who meet the eligibility requirements. This includes the portfolio of BC Housing owned and managed buildings. This area also refers to consumer protection work related to the quality of residential construction.

REPORT ON OUR PROGRESS

The following measures and targets were developed to help us determine whether we are moving in the right direction towards sustainability and resilience in the focus area of Community Housing Construction and Renovation. Measures with blue background indicate key performance indicators.

COMMUNITY HOUSING CONSTRUCTION AND RENOVATION 2022/23 RESULTS			
AREA	PERFORMANCE MEASURE	TARGET	RESULT
1) Sustainable and Resilient Buildings	Percentage reduction in GHG emissions from all buildings owned or leased by BC Housing, including BC Housing-managed housing (from 2010 baseline)	15% to 20%	18%
	Percentage of new provincially sponsored homes built to meet the climate change mitigation and resilience requirements outlined in the BC Housing Design Guidelines and Construction Standards ¹	50%	34%

¹ For the purposes of this measure, these climate change mitigation and resilience requirements include achieving the correct level of the BC Energy Step Code, meeting the GHG intensity target, and meeting the overheating hours target. While there was a target included in our Sustainability and Resilience Strategy, this target is under review.

COMMUNITY HOUSING CONSTRUCTION AND RENOVATION 2022/23 RESULTS			
AREA	PERFORMANCE MEASURE	TARGET	RESULT
2) Climate Resilience Assessment	Percentage of buildings in the BC Housing managed portfolio that have undergone a climate resilience assessment	Baseline Year	<1%
3) Waste Management	Percentage of construction, redevelopment, or retrofit waste diverted from landfills	Lower Mainland and Vancouver Island: 75%	Lower Mainland and Vancouver Island: 79%;
		Rest of BC: 60%	Rest of BC: 63%
4) Residential Construction Research and Education	Percentage of MBAR pilot projects that implemented resilience measures	Baseline year	100%
	New collaborations formed as a result of participation in MBAR	Baseline Year	Data not available
	Number of published research reports conducted with key stakeholders	3	3
	Number of hours of training related to sustainable building practices offered to the residential construction industry	5,000 hrs	12,486 hrs

1. Sustainable and Resilient Buildings

The construction and renovation of Community Housing is the area where BC Housing can have the greatest impact in advancing sustainability and resilience. In B.C., buildings account for about 10 percent of the province’s greenhouse gas (GHG) emissions, mainly from the energy used to provide heat and hot water. However, BC Housing’s Community Housing portfolio accounts for the majority of our GHG emissions (99 percent).

When resilience measures are incorporated during construction or renovation, the result is housing that is better suited to withstand our changing climate.

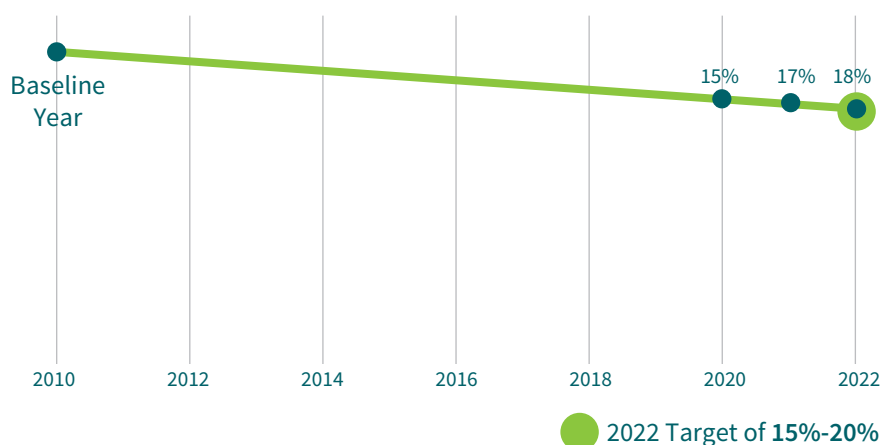
PERFORMANCE MEASURE: Percentage reduction in GHG emissions from all buildings owned or leased by BC Housing, including BC Housing-managed public housing (from 2010 baseline).

► TARGET MET

In 2022, GHG emissions from Community Housing buildings in our portfolio totalled 30,646 tonnes of CO₂ equivalent (CO₂e) - an 18 percent decrease in emissions compared to 2010, achieving our target of a 15 percent-20 percent reduction for this year².

² Starting in the 2020 reporting year, BC Housing changed from a 2005 baseline to a 2010 baseline for greenhouse gas emissions related to buildings, to align with other Public Sector Organizations, based on direction by the Climate Action Secretariat. Results prior to 2020/21 are based on a 2005 baseline. Our baseline emissions are recalculated each year to reflect structural changes in BC Housing’s building inventory (i.e., acquisitions and divestitures of buildings).

BC Housing Building Emissions Reductions Compared to Baseline (%)



In 2022, GHGs were reduced compared with our baseline due to energy conservation efforts since 2010. These efforts include multi-year building upgrades, fuel switching, and energy efficiency programs. Further efforts included increased energy efficiency standards for new construction and improved energy management in our portfolio.

In order to meet the provincial CleanBC target of a 50% reduction by 2030, BC Housing will need to further transition away from natural gas use in Community Housing buildings and find additional energy savings through significant renovation and upgrades.

KEY ACTIONS TAKEN:

BC Housing administers or supports a range of energy efficiency programs for social housing providers (summarized in Table 1), in collaboration with our partners.

TABLE 1: ENERGY EFFICIENCY PROGRAMS IN 2022

ACTION TYPE	DESCRIPTION	PROJECTS	ENERGY SAVINGS (kWh)	ESTIMATED ANNUAL GHG EMISSION REDUCTIONS (tCO ₂ e)
Program	CleanBC: Social Housing Incentive Program (SHIP)	Eight projects	272,430	225
	Energy Efficiency Retrofit Program (EERP)	Six electric- focused energy retrofit projects	261,770	2.62 (The electricity in B.C. is mainly hydroelectric power, so saving electricity doesn't impact GHG emissions in this program.)
Deep Energy retrofits		Kinsmen Ravine	84,876	>100
		Creekside Village	81,300	
		Orwell Hotel	45,764	



A Deep Energy Retrofit project at Kinsmen Ravine which included central heat pump outdoor units, domestic hot water heat pumps, and windows upgrade.

In 2022, these energy efficiency programs included:

- ▶ The CleanBC **Social Housing Incentive Program (SHIP)** in partnership with the BC Non-Profit Housing Association (BCNPHA). Launched in 2018, this provincial program is intended to help affordable housing owners and operators reduce GHG emissions. It supports fuel switching measures that result in a significant reduction of current fossil fuel use. In 2022, eight projects were completed with an estimated annual GHG reduction of 225 tCO₂e.
- ▶ The **Energy Efficiency Retrofit Program (EERP)**, in partnership with the BC Non-Profit Housing Association (BCNPHA), BC Hydro, and FortisBC. The program offers non-profit housing providers additional funding to complete small-scale, energy saving retrofits of items such as light fixtures and boilers. This program enabled approximately six electric energy retrofit projects, for a total estimated savings of 261,770 kWh in 2022.
- ▶ In 2022, BC Housing completed energy audits and electrical load assessments on all major retrofit projects. This was to determine the details of current energy consumption patterns and to explore opportunities for energy and GHG emission savings. Funding for audits and repairs came from the Capital Renewal Fund³.
- ▶ Several significant energy retrofits were completed at BC Housing and non-profit partner sites in 2022. These retrofits are expected to result in considerable energy and GHG savings. They include sites like Kinsmen Ravine, Creekside Village, and Orwell Hotel with more than 100 tCO₂e reduction per year.

For more information on our actions related to GHG and energy reductions in our housing portfolio, please see [BC Housing's 2022 Climate Change Accountability Report](#).

³ The non-profit Capital Renewal Funding (CRF) protects existing social housing by providing funding for capital projects that maintain or benefit a building's condition or improve a building's seismic or fire-safety, or energy performance.



The Deep Energy Retrofit at Creekside Village in Vernon, B.C., achieved 81,300 kWh in energy savings.

PERFORMANCE MEASURE: Percentage of new provincially sponsored homes⁴ built to meet sustainability and resilience requirements outlined in the BC Housing Design Guidelines and Construction Standards

▶ TARGET NOT MET

Provincially funded new construction must meet the [BC Housing Design Guidelines and Construction Standards \(BCDGs\)](#). Provincially financed projects are also encouraged to meet these targets.

The BC Housing Design Guidelines and Construction Standards have been revised over time to encourage the development and renovation of sustainable and resilient housing. This is intended to protect residents from the impacts of climate change, while also reducing our environmental impact.

For the purposes of this performance measure, the climate change mitigation and resilience requirements include:

1. Achieving the correct level of the BC Energy Step Code
2. Meeting the GHG intensity target
3. Meeting the overheating hours target

The [BC Energy Step Code](#) is a performance-based approach that will result in energy savings above base building code in new buildings constructed through our programs.

Achieving the correct level of the BC Energy Step Code and the GHG intensity target stated in the BCDGs, ensures new Community Housing in B.C. helps us meet our CleanBC commitments. Meeting the overheating hours target means that residents are protected from heat events for the majority of the year.

For projects completed in the 2022/23 fiscal year, 34 percent met all three-climate change mitigation and resilience requirements. Many of these projects were initiated prior to the introduction of more stringent resilience requirements. While this performance measure was targeting

⁴ New provincially sponsored homes captured in this measure include new construction projects completed in the fiscal year that are majorly funded (> 50 percent) by BC housing.

50 percent for the 2022/23 fiscal year in our Sustainability and Resilience Strategy, based on these results we will be reviewing our targets to ensure they are aligned with the expectations set out when each project was initiated.

In addition to the timing of new requirements, some projects did not meet the requirements due to budget, technical challenges, or other constraints. Addressing competing demands will be one way to overcome these challenges. We are also working on an exceptions process to account for regional constraints.

KEY ACTIONS TAKEN:

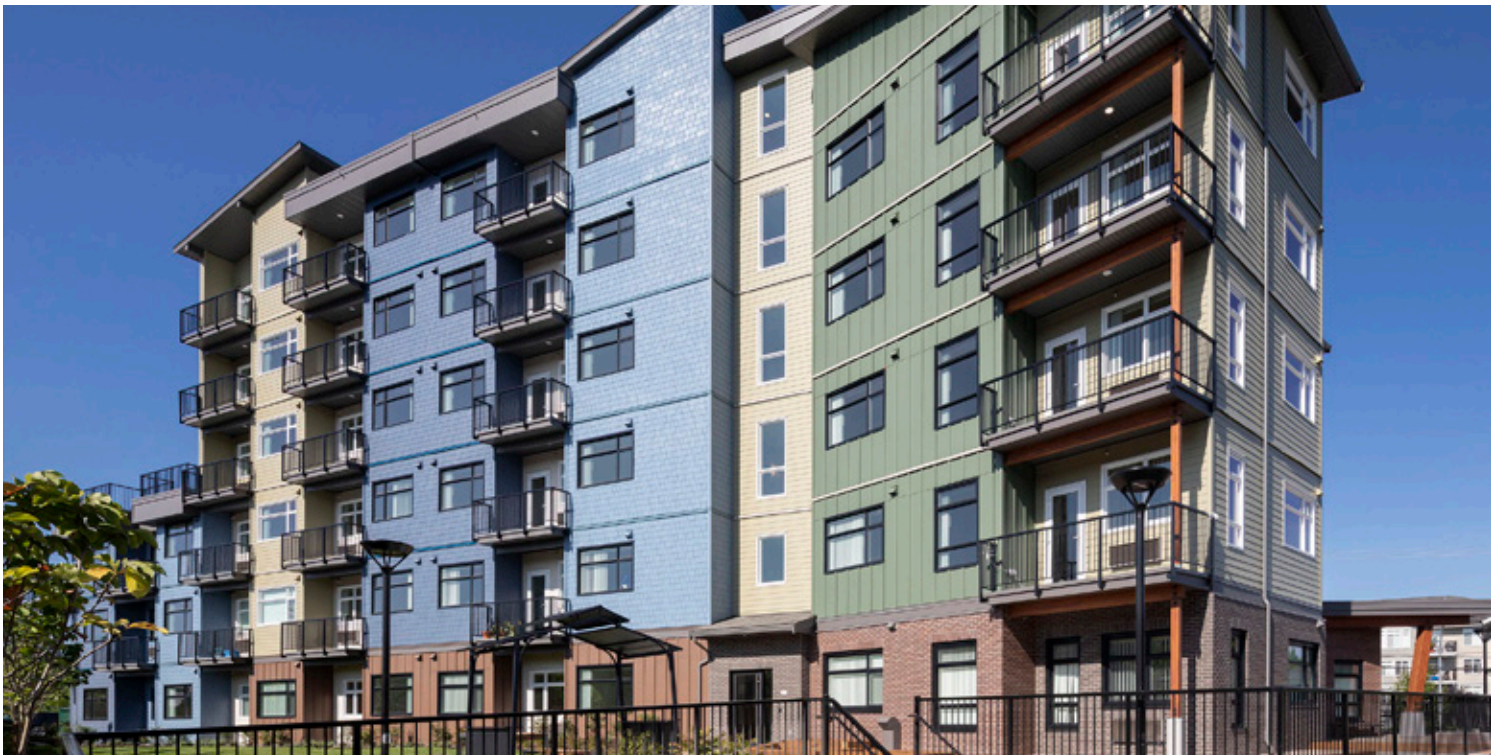
- ▶ In 2022, our Licensing and Consumer Services department added a condition to all general contractor licenses requiring competency in building to Step 3 of the BC Energy Step Code.
- ▶ In 2022, we completed 35 projects that achieved high levels (three or four) of the BC Energy Step Code.
- ▶ We are working with partners to construct buildings that achieve the Passive House standard. In 2022, two Passive House projects were in the Design Development Stage, bringing the number of projects working toward a Passive House target to ten.

▶ In 2022, we revised our BC Housing Design Guidelines and Construction Standards to enhance the efficiency and livability of our housing units. We updated the following sections:

- **Section 1: General Design Guidelines**
- **Section 4: Construction Standards**
- **Section 5: Drawing and Document Requirements**

In early 2023, BC Housing released [Technical Bulletin No. 3](#) which further emphasizes passive design, filtration, and GHG intensity. Passive design strategies outlined in the guideline, such as optimizing solar orientation or tree planting, demonstrated how incorporating shading can create various co-benefits (reduce overheating, improve daylighting, biophilia etc.).

The bulletin also adds energy modeling and overheating analysis requirements for major renovation projects. We required that overheating analysis use the predicted future climate models and that wildfire smoke be mitigated with filtration systems.



Yalestone: awarded Best Multi-family Low Rise Development at the CHBA Fraser Valley Awards of Excellence for Housing Excellence.

2. Climate Resilience Assessment

Many buildings in our portfolio were built for a different climate than B.C. experiences today. We are seeing warmer temperatures and expecting the future climate to be much warmer. There is a need for BC Housing to complete an assessment of current stock and identify proper adaptation strategies for all buildings.

PERFORMANCE MEASURE: Percentage of buildings in the BC Housing managed portfolio⁵ that have undergone a climate resilience assessment

► BASELINE YEAR

At BC Housing, we are at the beginning stages of a climate resilience assessment process, also known as a resilience audit. For the purposes of this measure, we were only including buildings managed by BC Housing. As of the 2022/23 reporting year, only one building in the BC Housing managed portfolio had undergone a climate resilience assessment. This is a very small percentage of the BC

Housing managed portfolio (<1%) and does not capture all the work completed. In the next version of the Strategy, we will update this measure to report on the number of assessments completed in both BC Housing managed and funded buildings.

KEY ACTIONS TAKEN:

- In 2020, BC Housing introduced the Resilience Checklist, a tool for evaluating climate impact risks in Community Housing. Seven buildings were audited for resilience using this checklist - one managed by BC Housing, and the others by non-profit providers. The checklist gathered data to suggest strategies for enhancing climate-related resilience. The result is a tailored risk mitigation plan for each building.
- In 2023, a new climate resilience audit tool is under development. The tool was developed based on the recommendations from the 2020 assessment, which highlighted the need for a pre-audit checklist/procedure⁶.

3. Waste Management

Waste from the construction, renovation or demolition of buildings creates a significant environmental impact. This impact is lessened when waste is diverted from landfills through recycling or re-use of the materials.

PERFORMANCE MEASURE: Percentage of construction, redevelopment, or retrofit waste diverted from landfills

► TARGET MET

BC Housing projects with budgets over \$100,000 require a percentage of construction, renovation, or demolition waste to be diverted from landfill.⁷ Last year, we diverted 6,125 tonnes of waste. This represents an average of 77 percent of all waste diverted from 54 projects across the province.

Our projects in the Lower Mainland and on Vancouver Island diverted 79 percent of tracked waste from landfills, a diversion rate which met our target of 75 percent. In the rest of B.C., we diverted 63 percent of tracked waste from landfills, which met our target of 60 percent.

KEY ACTIONS TAKEN:

- The types of material with the highest diversion rate in 2022/23 included: appliances (e.g., HVAC, boilers), cardboard/paper, concrete, gypsum wallboard, wood products and aggregates (concrete, dirt, sand). This waste, which would otherwise have ended up in landfills, was recycled or repurposed.
- We provided waste management education for our project management teams, and supply chain managers to ensure the inclusion of waste management in tender documents.

⁵ The measure applies to the buildings funded or managed by BC Housing. This measure is revised from directly managed buildings to capture all of the assessment work underway.

⁶ We'd like to express our gratitude to the checklist developed by city of Toronto: [Checklist - Toronto Green Standards Resilience Planning New Construction](#).

⁷ This requirement is applied to projects with budgets greater than \$100,000. Not all project submitted their waste diversion information. Information recorded comes from 46 percent of the projects expected in 2022/23.

4. Residential Construction Research and Education

Under the Homeowner Protection Act, BC Housing is mandated to improve the quality of residential construction in B.C. through industry research and education. In 2022/23, we undertook many different initiatives which contributed to improved quality of residential construction and better building energy efficiency. Our work through the Mobilizing Building Adaptation and Resilience (MBAR) project is one such initiative.

PERFORMANCE MEASURE:
Percentage of MBAR pilot projects that implemented resilience measures

► **BASELINE YEAR**

The MBAR project is a collaborative, multi-year knowledge and capacity building research project. This project aims to help protect homes and buildings from extreme environmental changes. MBAR pilot projects are new construction projects that try out innovative approaches to help buildings stay comfortable, safe and resilient, even with heavier rainfall, hotter summers, wildfires, flooding, and windstorms. Based on the pilot projects, a new body of knowledge has been generated and shared with the industry through publications, training, and roundtables.

The [integrated building adaptation and mitigation assessment \(IBAMA\) framework](#) is a tool that MBAR pilot projects have used to integrate climate mitigation and adaptation considerations into the design, construction, and operations of multi-unit residential buildings.⁸

The 2022-2023 MBAR pilots were:

- [Vienna House Project](#) in East Vancouver
- [səlilwətał \(Tsleil-Waututh\) Nation Housing Project](#) in North Vancouver
- [Rosewood Redevelopment](#) in Richmond

All three pilots increased their climate impact and adaptation impact at the design level and will implement resilience measures as a result of participation in this program.



Vienna House Demonstration Image (Credit: PUBLIC: Architecture + Communication)

Since some of the resilience measures are easy to achieve, and a project may implement one or more measures without the facilitation of MBAR, we will look at revising this measure next year to better capture the impact of this approach.

PERFORMANCE MEASURE: New collaborations formed as a result of participation in MBAR

► **DATA NOT AVAILABLE**

Over 30 organizations participate and contribute to the MBAR project, including national, provincial, and local agencies, and industry partners. The MBAR roundtables are peer networking events that bring together between 60 and 100 participants from industry, government, academia and the non-profit worlds to support the mobilization of building adaptation and resilience. In 2022/23, 658 participants attended MBAR roundtable sessions. We were not able to gather information on the number of collaborations formed as a result of MBAR, since the outcomes of MBAR are often intangible (sharing industry knowledge, promoting innovation etc.). We will be reporting on the number of participants on an annual basis going forward.

⁸ The development of IBAMA was supported by a partnership between BC Housing, the Pacific Institute for Climate Solutions (PICS), the University of Victoria, the University of British Columbia and Simon Fraser University.

Resilience Measures Incorporated into MBAR Pilot Projects

- ▶ **Use of Future Weather Data:** When these pilots started, BC Housing had not yet adopted the requirement for teams to do a Sensitivity Analysis with 2050 weather files as per [Technical Bulletin No. 3: Technical Bulletin No. 3: Section 2 and 4 \(2023\)](#).
- ▶ **Resiliency Hubs:** Pilots assessed amenity rooms to be designed with enough backup power so that they could be used in the case of hazard events, such as earthquake, windstorm, heatwave, flood, drought, wildfire, or poor air quality.
- ▶ **Flood Resilience:** Multiple strategies have been used on multiple pilots to ensure resilience in flooding, including the use of blue and green infrastructure, such as green storm water infrastructure (e.g. bioswale, green roof or rain garden to absorb flooding) working with local plants, as well as designing a flood resilient ground floor.
- ▶ **Increased Seismic Resilience:** All pilots explored the cost benefit analysis of designing to the higher seismic standard that allows tenants to “Stay in Place” after the event of an earthquake, rather than just “Shelter in Place” but then need to be moved so that the building can be repaired.
- ▶ **Total Cost of Ownership (TCO) Tool:** In 2023, BC Housing is working with partners to develop TCO tool, and this tool is used to analyze the benefits to taxpayers of the following types of design and construction choices:
 - **Backup Power through battery storage:** Migrate from the typical diesel generator to a more sustainable and efficient strategy through solar PVs bundled with battery storage to provide resilience during an emergency.
 - **Net Zero Energy:** this is being analyzed to see how low the energy use can go to build the resilience into the structure itself. Other jurisdictions such as the City of Boston have built affordable net zero energy homes that provide the “resilience in the walls” meaning that in the case of power outage, the buildings remain heated (in the winter) or cool (in summer) for multiple days. The other potential advantage of building resilience into the walls is of course providing tenants with low energy bills.
 - **Zero carbon:** efforts are made to design, construct and operate our buildings to as low carbon as possible, while justifying added expenses based on the benefits they bring to tenants and taxpayers.

KEY ACTIONS TAKEN:

In 2022/23, BC Housing hosted five MBAR roundtable events on the following topics:

- ▶ Financial Solutions for Low Carbon Resilient Buildings (2022 March)
- ▶ Barriers and Enablers for Climate Adaptation and Resilience in the Building Sector (2022 June)
- ▶ Equitable Access to Climate Resilience (2022 September)
- ▶ Co-design for Climate Resilience (2022 December)
- ▶ A Future Without Carbon: Managing our Carbon Budget for Resilience (2023 March)

PERFORMANCE MEASURE: Number of published research reports conducted with key stakeholders

▶ **TARGET MET**

BC Housing conducts technical research and provides education to help improve the quality of residential construction and increase building energy efficiency and resiliency. In 2022/23, we published three major research reports related to sustainability, in collaboration with our research partners. We also produced educational videos for the building sector, which have been a successful communication channel for technical information and case studies.

BC Housing also has a significant role to play in the implementation and adoption of the BC Energy Step Code in communities across B.C. We have assisted the Energy Step Code Council in conducting research related to this code.

KEY ACTIONS TAKEN:

- ▶ The following reports were completed in 2022/23:
 - [Climate-ready Housing Design Guide](#) - This Climate-ready Housing Design Guide is intended to serve as a reference tool for housing providers, developers, and other building industry

professionals across B.C. It shares emergent best practices and recommends technical standards for more climate-ready housing design.

- [Technical Guide for the Design and Construction of Tall Wood Buildings in Canada \(Second Edition\)](#) – This guide shares research findings on mass timber design and construction of tall buildings. Recently updated to better align with changes to national codes and standards, the guide also shares experiences from new tall wood projects. Readers will learn how to achieve the best environmental, structural, fire-resistance, and durability performance of mass timber products and systems. The associated health benefits are also explained.
- [Best Practices Guide to Window and Door Replacement in Wood-Frame Buildings](#) – This video explains the purpose of the Best Practices Guide to Window and Door Replacement in Wood-Frame buildings. It offers a breakdown of the sections of the guide and is endorsed by industry leaders.

- ▶ BC Housing is educating the residential construction sector on a new approach to early design planning: the Integrated Design Process (IDP). IDP engages builders, project owners, and their teams of designers, mechanical contractors, and energy advisors at the conceptual design stage. By bringing everyone in early to collaborate, the team can identify key goals and ensure all expectations are met easily and efficiently, including higher energy performance targets.
- ▶ BC Housing and our partners are promoting IDP across the industry by developing educational videos as part of the “[Building High Performance Homes Through Local Energy Efficiency Partnerships \(LEEP\)](#)” series. These videos demonstrate how IDP can be used to meet multiple goals in high performance housing projects. BC Housing and our partners also supported the development of an IDP facilitator training pilot for Energy Advisors through the Canadian Association of Consulting Energy Advisors (CACEA).
- ▶ BC Housing is a partner in the LEEP for Renovations program, a new phase of LEEP focusing on home renovations rather than new construction. In fall 2022, BC Housing and the Canadian Home Builders’ Association held planning workshops for LEEP for Renovations in Kamloops, Victoria and Vancouver.

These reports are available online from [BC Housing’s Research Centre](#).

- ▶ Now in its ninth year, BC Housing’s Building Excellence Research & Education Grants program encourages research and education to improve the quality of residential construction. It also focuses on strengthening consumer protection for buyers of new homes in B.C. Projects funded in 2022 include:

- Developing a dedicated course specific to the EnerGuide Rating System for existing homes to address the unique climate challenges.
- Producing a decision support tool and providing recommendations for designing BC Energy Step Code compliant buildings that consider future uncertainties, including climate change.
- Conducting research to understand and identify barriers and challenges to adopting EV charging infrastructure in social housing and Indigenous communities.

For a complete list of projects funded in 2022 or for more information about the grant, please visit our [Building Excellence Research and Education Grant](#) page.

PERFORMANCE MEASURE: Number of hours of training related to sustainable building practices offered to the residential construction industry

▶ TARGET EXCEEDED

BC Housing collaborates with industry and government partners to initiate technical research and education. These projects promote the durability and energy efficiency of new residential construction. BC Housing distributes best practices to the residential construction industry through training programs and reports.

In 2022, BC Housing provided over 12,486 hours of training related to sustainable building practices to the residential construction industry. These took place through online seminars and pre-recorded webinars, surpassing our target of 5,000 hours. The training included industry forums, research talks, roundtables and conferences.

KEY ACTIONS TAKEN:

- ▶ In 2022, the Building Smart series focused on the skills and knowledge necessary for the B.C. building industry to reach the lower steps of the BC Energy Step Code. This includes air tightness testing, mitigating thermal bridging, evaluating thermal comfort, and key considerations for high performance walls and roofs. In addition, eight new training modules were developed to satisfy the condition for licensed general contractors which ensures builders are prepared to build to Step 3 of the BC Energy Step Code.

The Building Smart seminars are available on demand as e-learning modules on the BC Housing website: [BC Housing - Learning On Demand](#).



Community Housing Operations

BC Housing builds our ability – and supports our partners in the Community Housing Sector – to operate and manage safe, healthy, affordable, low-carbon and resilient housing.

The focus for this area is the Community Housing sector, including the operation of non-profit, co-op, and BC Housing managed buildings. BC Housing owns and manages about 5,500 affordable housing units, which represents a small percentage of all Community Housing in B.C. The majority of Community Housing in the province is managed by non-profit and co-op housing providers.

REPORT ON OUR PROGRESS

The following measures and targets were developed to help us determine if we are moving in the right direction towards sustainability and resilience in the area of Community Housing operations. Measures with blue background indicate the key performance measures.

COMMUNITY HOUSING OPERATIONS 2022/23⁹ RESULTS

AREA	PERFORMANCE MEASURE	TARGET	RESULT
1) Resident Access to Cooling	Percentage of BC Housing-managed units with resident access to cooling ¹⁰	Baseline year	80%
2) Resident Access to Supports	Percentage of residents in BC Housing-managed building who have a plan in place during an emergency situation (e.g., through the support by BC Housing or community partners)	Baseline year	Data not available
	Percentage of residents who indicate they have good relationships with other residents in the building	Baseline year	81%

⁹ Results for 2022/23 not available at time of publishing (April 2023). Target included for reference.

¹⁰ May include cooling in the unit, or in a common cooling room in the building. BC Housing managed buildings vary from townhouses to high rises. To better reflect the tenant situation, we have switched to a more granular measurement by units instead of buildings.

COMMUNITY HOUSING OPERATIONS 2022/23¹⁰ RESULTS

AREA	PERFORMANCE MEASURE	TARGET	RESULT
3) Resident Engagement on Sustainability	Percentage of residents who indicated they had been involved in a sustainability activity (e.g., Earth Day, recycling workshop, conscious energy consumptions, gardening, etc.)	5%	5%
4) Community Housing Sector Capacity Building	Number of educational events and opportunities held in partnership with BCNPHA or other sector partners on sustainability and resilience topics	3	7
5) Sustainable and Resilient Operations	Percentage of waste volume reduction in buildings managed by BC Housing	Baseline year	Data not available
	Number of new trees planted on BC Housing managed properties	Baseline year	0
	Number of new community garden spaces at BC Housing managed buildings	Baseline year	69

1. Resident Access to Cooling

By 2050, B.C. could face temperatures similar to the heat wave experienced in 2021 an average of three out of every ten years¹¹. The increased occurrence of extreme heat events calls for a growing urgency to provide Community Housing residents with access to cooling.

80 percent of our directly managed units have access to cooling, either central cooling in tenant units (12 percent) or cooling in a common area (lounge, tenant meeting room etc. – 68 percent).

Performance Measure: Percentage of BC Housing-managed units with resident access to cooling

► BASELINE YEAR

BC Housing manages a substantial portfolio of over 7,000 Community Housing units. Most of these units (73 percent) are located in the Lower Mainland. Apartments make up 71 percent of these units, while roughly a quarter of them are in the form of row houses.

Many buildings in our portfolio are decades old and were built for a cooler climate than what is currently known in B.C. Many do not have air conditioning in the units.

To prepare for extreme heat and wildfire events, many communal areas within BC Housing buildings now have an air conditioning unit and portable air filters. These spaces are designed as ‘chill rooms’. BC Housing also has misting stations at a number of sites with appropriate outdoor areas.



An example of chill room set up - tenant support worker at the chill room in Maclean Towers.

¹¹ Beugin, D., Clark, D., Miller, S., Ness, R., Pelai, R., & Wale, J. (2023). The case for adapting to extreme heat – cost of the 2021 B.C. heat wave. <https://climateinstitute.ca/wp-content/uploads/2023/06/The-case-for-adapting-to-extreme-heat-costs-of-the-BC-heat-wave.pdf>

KEY ACTIONS TAKEN:

- ▶ In 2022, BC Housing published our [Extreme Heat and Wildfire Smoke Response Action Plan](#). This document provides an overview of key priority areas, short and long-term actions, and timelines. This will ensure that BC Housing, as an organization, is prepared to support people living in the Community Housing sector and our partners during extreme heat and wildfire smoke events.
- ▶ Cooling measures are being incorporated into building upgrades and retrofits. Particular attention is being paid to passive elements. Cooling has been assigned a higher priority in our asset management framework.
- ▶ [BC Housing's Design Guidelines and Construction Standards](#) have been updated with requirements related to passive cooling measures and addressing the risks of overheating.



BC Housing volunteers at səmiq̓wəʔelə's Central Supply to help assemble cooling kits for Directly Managed tenants.

2. Resident Access to Supports

British Columbia already feels the impacts of our changing climate, from severe heatwaves, wildfires and flooding. Extreme weather events are expected to increase in future years, and having access to supports during emergency situations (including those caused by a changing climate) is increasingly important.

PERFORMANCE MEASURE: Percentage of residents in BC Housing managed buildings who have a plan in place during an emergency situation (e.g., through the support of BC Housing or community partners)

▶ BASELINE YEAR

BC Housing conducts a tenant survey every two years to gather feedback. Beginning in the 2023/24, we will ask residents whether they have a plan in place for emergency situations.

KEY ACTIONS TAKEN:

- ▶ BC Housing released our [Extreme Heat and Wildfire Smoke Response Action Plan](#) in 2022. We updated and expanded this action plan in collaboration with health, Emergency Management BC, municipalities and other partners.
- ▶ In 2022, BC Housing commissioned an engagement with directly managed residents to explore opportunities to further mitigate the risks of extreme weather. The study engaged residents on their perceptions of extreme heat and wildfire measures currently in place (chill rooms, misting stations, handouts, cooling kits etc.) and sought feedback for improvements.

PERFORMANCE MEASURE: Percentage of residents who indicate they have good relationships with other residents in the building

▶ BASELINE YEAR

In the 2020/21 resident survey, 81 percent of surveyed residents strongly/somewhat agree that they have good relationships with other residents in their building. This finding highlights the presence of good social connections and community bonds among the surveyed tenants, which can be valuable in emergency situations.

3. Resident Engagement on Sustainability

BC Housing engages residents on sustainability through a number of programs, including our [People's Plants and Homes program](#). Residents are also able to access small grants when planning an activity on site. Earth Day events are often held at BC Housing managed buildings.

PERFORMANCE MEASURE: Percentage of residents who indicated they had been involved in a sustainability activity (e.g., Earth Day, recycling workshop, conscious energy consumptions, gardening, etc.)

► BASELINE YEAR

In 2021/22, five percent of our tenants indicated that they had participated in a sustainability activity - a slightly lower percentage than the past three years.¹² This reduction in participation may be due to the effects of the COVID-19 pandemic on the number of events held at directly managed social housing developments.

KEY ACTIONS TAKEN:

The BC Housing People, Plants & Homes (PPH) program organizes events for BC Housing tenants across the province and helps residents at directly managed sites to connect with gardening activities.

In 2022/23, the PPH program undertook the following sustainability initiatives:

- In January 2023, the program initiated the Non-Profit Garden Fund to support partners in starting gardens and horticultural programs. Partners are using the funds to create a range of programs, from memorial gardens, an Indigenous healing garden, and a skills training program for youth in recovery.
- Hosted an “All about Mint Festivals” at select directly managed buildings to teach the uses and benefits of mint.
- Supported families with food security through garden-related activities.

4. Community Housing Sector Capacity Building

BC Housing collaborates with and supports the non-profit housing sector through various funding programs and operating agreements. We provide training, education, and other initiatives. The sector is diverse and includes over 800 housing providers that represent organizations of all sizes. They operate in urban, rural, and Indigenous communities. Individuals living in Community Housing include low-income seniors and families, Indigenous individuals and families, individuals with disabilities, women and children at risk of violence, and individuals who are experiencing homelessness. These individuals are among the most at risk from the impacts of our changing climate.

PERFORMANCE MEASURE: Number of educational events and opportunities held in partnership with BC Non-profit Housing Association or other sector partners on sustainability and resilience topics

► TARGET MET

BC Housing has been actively enhancing preparedness within the Community Housing sector for extreme heat and wildfire smoke events.

The aim is to build resilience and safeguard vulnerable communities in the face of environmental challenges.

In the 2022/23, BC Housing collaborated on or hosted seven events on sustainability and resilience topics to build capacity in the Community Housing sector. This exceeded our target of three events.

KEY ACTIONS TAKEN:

In 2022/23, these events were focused on extreme heat and wildfire smoke preparedness and included:

- Four sessions at BC Non-Profit Housing Association RENT (Regional Education Networking & Tradeshow) held in Victoria, Nanaimo, Prince George, and Surrey. The audience was non-profit housing and shelter operators.
- A webinar for Community Housing operators held in partnership with the Aboriginal Housing Management Association (AHMA) and the BC Non-Profit Housing Association.
- Presentations at two national housing conferences.

¹² Note that this data comes from BC Housing 2020 Tenant Survey. Since the survey is biennial, results will be updated in the 2023/24 reporting cycle.

5. Sustainable and Resilient Operations

Operating Community Housing in a sustainable and resilient manner means minimizing the impact that housing has on the environment (through waste reduction), increasing the positive impact (through greening of properties) and increasing the resilience of the buildings and grounds.

PERFORMANCE MEASURE: Percentage waste volume reduction in buildings managed by BC Housing

► DATA NOT AVAILABLE

In support of our mandate to reduce waste and increase recycling efforts, BC Housing's Recycling & Waste Management team follows the guidelines set out by municipalities, and provincial and federal by-laws. The team engages with staff and tenants to provide education, ensures proper recycling and waste collection services are provided to all sites. The team also helps site staff and tenants follow proper waste separating protocols.

As an organization, we are working to improve recycling and composting rates and reduce the waste going to landfills over time. While we do not have data available this year, we are working on a measure to reflect these efforts in residential waste reduction. We plan to continue tenant and staff engagement to promote better recycling behavior and raise awareness about reducing waste, sustainability, and our contributions to climate change.

KEY ACTIONS TAKEN:

- In 2022, several existing recycling/waste enclosures for both directly managed sites and group homes were retrofitted. We identified sites that needed improvement in efficiency for recycling and waste management and made waste enclosures more functional for tenants. This encouraged better recycling outcomes. Larger, brighter, cleaner, and better ventilated areas provide a safer environment to recycle.
- The circular economy is our focus when doing any retrofits. For example, the concrete slab from the old waste enclosure was removed, crushed, and used as the base of the concrete slab of the new waste enclosure.
- In 2022, we encouraged partnerships with social enterprises, including the Binners Project. The Binners Project employs vulnerable individuals to help service our sites' waste enclosures by sorting the recycling materials and cleaning the waste enclosures. This reduces the contamination in recycling bins, making sure recycling materials do not end up in the landfill. The partnership with Binners Project helps us keep to our waste reduction goals while supporting BC Housing communities.



PERFORMANCE MEASURE: Number of new trees planted at BC Housing managed properties

► BASELINE YEAR

Trees can provide much needed shade to Community Housing sites and help reduce the risk of overheating. Many BC Housing managed sites do have a significant amount of greenery, and no additional trees were planted at BC Housing managed sites in 2022/23. Trees require staff resources for maintenance. Utilizing community garden spaces for greenery while promoting tenant engagement is more achievable in our properties. As such, this measure does not meaningfully measure our impact on resilience, and we will discontinue this measure in future years.

PERFORMANCE MEASURE: Number of new community gardening spaces at BC Housing managed buildings

► BASELINE YEAR

While community gardens have been in place for many years at some Community Housing sites, others lack greenspace. The greenery surrounding Community Housing sites is important for increasing resilience, in particular to extreme heat. Landscape design can help reduce the risk of overheating at Community Housing sites, as well as the placement of new sites near areas of greenspace. Community gardens are an important part of community greenspace as they increase resident

resilience through community building and access to healthy produce.

BC Housing's People, Plants and Homes (PPH) program manages community gardens and conducts garden visits throughout the year. Garden plots are assigned to residents by PPH on an annual basis. PPH provides seasonal garden resources such as organic fertilizer, seeds, spring bedding plants, cover crops and garlic bulbs.

In 2022/23, a total of 69 new community gardens were added to directly managed buildings by PPH, bringing the total number of gardens to 243.



Community Garden Project in Pentiction Recovery Resource Society (Discovery House): Before and After.



BC Housing Business Practices

BC Housing integrates equity, inclusion, reconciliation, low-carbon resilience, and sustainability into BC Housing's business practices. This includes staff commuting and travel, fleet vehicles, office operations, and procurement practices.

The focus for this area is BC Housing's internal business practices. As a large organization, BC Housing has an environmental impact through our regular business activities. Business travel, use of fleet vehicles, staff commuting, and the operation of our offices are just a few examples of these activities. Everything impacts the environment - from the use and disposal of paper and office supplies to office furniture, computers, and other IT equipment. We currently track our GHG emissions from paper use, fleet vehicle use, and employee commuting.

BC Housing also has an environmental and social impact through our supply chain activities, through the purchasing of goods and services by every department in the organization

REPORT ON OUR PROGRESS

The following measures and targets were developed help us determine whether we are moving in the right direction towards sustainability and resilience in the focus area of BC Housing Business Practices. Measures with blue background indicate that these are key performance measures.

BC HOUSING BUSINESS PRACTICES 2022/23 RESULTS

AREA	PERFORMANCE MEASURE	TARGET	RESULT
1) Sustainable and Social Procurement	Percentage of tenders to suppliers that include social evaluation criteria	Baseline Year	Data not available
	Percentage of tenders to suppliers that include sustainability evaluation criteria and other sustainability factors	Baseline Year	54%
2) GHG Emissions: Fleet	Percentage reduction in GHG emissions from fleet vehicles (from 2010 baseline)	No target set	54% increase

BC HOUSING BUSINESS PRACTICES 2022/23 RESULTS			
AREA	PERFORMANCE MEASURE	TARGET	RESULT
3) GHG Emissions: Paper	Percentage reduction in GHG emissions from paper (from 2010 baseline)	70%	66%
4) GHG Emissions: Employee Commuting	Percentage reduction in GHG emissions from employee commuting (emissions per employee from 2009 levels)	50%	59%

1. Sustainable and Social Procurement

Procurement can be used as a tool for building sustainable and resilience communities when the impact of our purchases is considered. This is why BC Housing is advancing the use of sustainability and social criteria in our procurement processes.

PERFORMANCE MEASURE: Percentage of tenders to suppliers that include social evaluation criteria

► BASELINE YEAR

Every purchase has a social, economic, cultural, and environmental impact. Social procurement is about using existing purchasing to capture those impacts to achieve overarching institutional, governmental, or individual goals that helps shape inclusive, vibrant, and healthy communities.

BC Housing has contracted Buy Social Canada to help us refine our procurement practices and incorporate a social procurement lens and metrics. A target will be developed over the following year and we will begin reporting on this metric in the following year.

The tracking of social evaluation criteria is currently under development, and relevant data will be reported in the 2023/24 reporting cycle.

PERFORMANCE MEASURE: Percentage of tenders to suppliers that include sustainability evaluation criteria

► BASELINE YEAR

Sustainability is engrained in our procurement process. We consider sustainable product specifications, waste reduction and diversion, efficiency, and positive contributions to local communities when procuring our goods and services. In 2022, 54 percent of tenders included such sustainability factors, nine percent lower than 2021.

KEY ACTIONS TAKEN:

- Tender requirements include product specifications limited to green certified labels (or minimum requirement if not certified).
- We encourage contractors on social housing capital projects to participate in employment programs such as [BladeRunners](#), [Tradeworks](#), or [Embers](#). These programs help clients including unemployed or low-skilled employed individuals, women, Indigenous Peoples, youth-at-risk, and persons with disabilities.
- We inform social enterprises when issuing tender calls so that they are aware of the opportunities.
- Where applicable, construction and service provider tender requirements include environmental criteria for specific land/building design issues and operations.
- BC Housing has an Indigenous Procurement Policy, which uses procurement practices to support Indigenous business development.

2. Greenhouse Gas (GHG) Emissions: Fleet

The provincial CleanBC plan calls for a 40 percent reduction in greenhouse gas emissions from government fleets by 2030.

PERFORMANCE MEASURE: Percentage reduction in GHG emissions from fleet vehicles (from 2010 baseline)

► NO TARGET SET

In 2022, our vehicle fleet consisted of 69 fleet vehicles, primarily trucks and vans used by grounds and building maintenance staff. Office pool vehicles included Smart Cars and hybrid vehicles. Nine percent of our fleet vehicles in 2022 were fuel-efficient.

In 2022, our greenhouse gas emissions from BC Housing owned fleet vehicles and MODO vehicles totaled 276 tonnes¹³, a 54 percent increase compared to our 2010 baseline (179 tonnes).

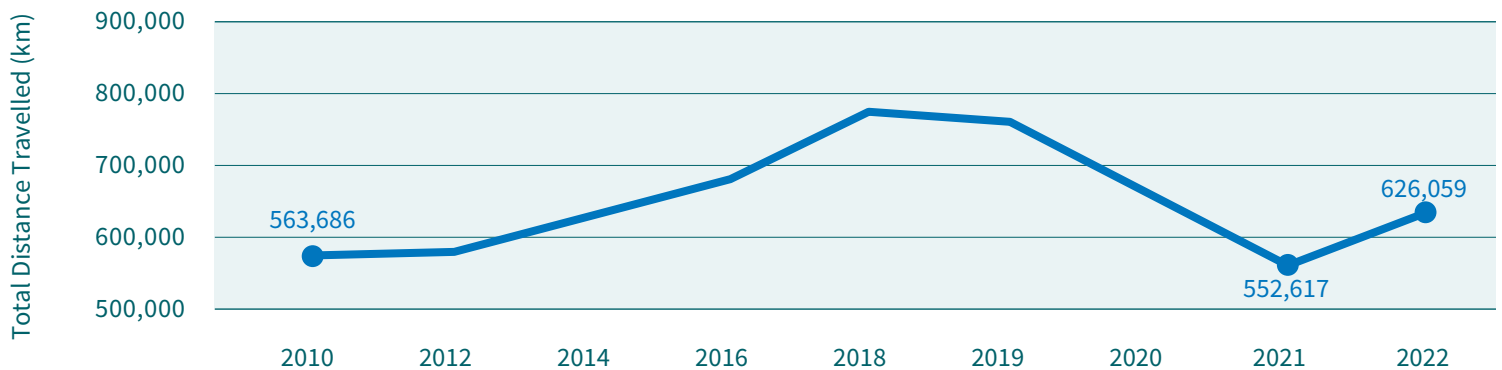
The kilometres travelled by BC Housing owned fleet increased by 13 percent in 2022 compared to 2021. The data on kilometres traveled shows that trips and maintenance services are returning to normal levels after the pandemic. With our services expanding, we added four new vans to our existing stock this year. Electric versions of these maintenance vehicles were not yet available on the market when these vehicles were purchased.

A target for this measure will be set beginning in 2023/24 as we develop our plans to transition our fleet to low carbon vehicles and meet our 2030 CleanBC target.

KEY ACTIONS TAKEN:

- In addition to our fleet vehicles, we have a corporate account with MODO, a car-sharing cooperative, for staff use in the Vancouver Coastal and Fraser regions. Our MODO account gives our staff access to a wider range of vehicles and provides flexibility on where to get them. Almost 39 percent of kilometres driven in MODO cars in 2022 were taken in hybrid vehicles, resulting in GHG savings.
- We performed regular maintenance on all fleet vehicles to ensure that they are operating as efficiently as possible. When required, we replaced older vehicles with newer, more efficient models.
- 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 and monitoring idling behaviors.

KILOMETRES DRIVEN BY BC HOUSING FLEET, 2010-2022



¹³ Note that emissions from ground equipment are excluded from this reporting. By contrast, in BC Housing Climate Change Accountability Report, emissions from mobile sources include BC Housing owned fleets, MODO vehicles and ground equipment, with a total of 297 tonnes.



3. Greenhouse Gas (GHG) Emissions: Office Paper

BC Housing is required to report on our GHG emissions from office paper through our annual Carbon Accountability reporting for the provincial government. The carbon footprint of office paper measures the environmental impact from paper production to disposal. Paper with 100% recycled content produces significantly less GHGs than paper without recycled content.

PERFORMANCE MEASURE: Percentage reduction in GHG emissions from paper (from 2010 baseline)

► TARGET NOT MET

In 2022, our greenhouse gas emissions for office paper totaled 10.3 tonnes of CO₂e.

Since 2010, our annual greenhouse gas emissions resulting from paper consumption decreased 66 percent. In the past, this was mainly due to efforts to promote a paperless organizational culture and changes to our procurement practices.

Our purchasing of paper continued to decline in 2022 due to the shift to teleworking in 2020. In 2022, the organization purchased significantly less paper by weight (24 percent) than in 2021. We saw a corresponding decrease in greenhouse gas emissions due to paper use between 2022 and 2021 (18 percent).

Despite these efforts, we did not meet our target of a 70 percent reduction in emissions, partially because our baseline year has changed. In 2022, 66 percent of all the paper purchased was 100 percent recycled paper, a nine percent decrease compared to 2021. Based on this finding, BC Housing will communicate with internal stakeholders the important role recycled paper purchases play in our pursuit of sustainable business practices.

KEY ACTIONS TAKEN:

Our practices and initiatives which led to reductions in GHG emissions from paper use, include:

- Encouraging staff to reduce printed materials by promoting paperless meetings and giving our printers a default setting of double-sided. As many of our employees continued to work remotely during 2022, they used electronic documents instead of printing as frequently.
- The Human Resources Branch has been digitizing HR functions, moving all systems away from paper-based processes to automated, digitized, and in some cases App-based processes.
- The IT Department launched an IT Modernization project. This strengthens systems and puts tools in place to support greater flexibility in remote and teleworking. Part of this project includes enabling secure digital signatures and secure data collection, as well as supporting digitized systems throughout the organization.

4. GHG Emissions: Employee Commuting

Transportation accounts for 38 percent of B.C.'s GHG emissions¹⁴. Employee commuting accounts for some of these transportation emissions. At BC Housing, we track our contributions to provincial GHG emissions from our employees commuting to and from the workplace.

PERFORMANCE MEASURE: Percentage reduction in GHG emissions from employee commuting (emissions per employee from 2009 levels)

▶ TARGET EXCEEDED

In 2022, our average greenhouse gas (GHG) emissions per employee for employee commuting were 59 percent lower compared to our baseline year, primarily attributed to the increased adoption of telecommuting. However, it is noteworthy that we observed a 27 percent increase in emissions compared to 2021, signaling a gradual resumption of office work and in-person interactions.

The proportion of alternatively fueled commuter vehicles used by BC Housing staff (propane, hybrid, fully electric) compared to gasoline fueled commuter vehicles has increased steadily over time since 2009. The highest ever share of hybrid & fully electric vehicles was observed in 2022 at 16 percent.

KEY ACTIONS TAKEN:

- ▶ BC Housing has embraced hybrid work post-pandemic. We ensured the procedures, policy and infrastructure were in place to facilitate remote working and hybrid teams. We renovated office spaces and designed a booking system for drop-in workspaces, meeting and training.
- ▶ BC Housing continued to support ongoing employee programs such as a transit pass program, teleworking opportunities, and discounts on bikes and bike accessories for cyclists.
- ▶ The annual employee sustainability survey showed that the trend of BC Housing employees choosing hybrid and fully electric vehicles continued in 2022. While the automobiles used by employees to commute to and from work in 2022 still run primarily on gasoline, 2022 saw the highest ever share of hybrid and fully electric vehicles at 16 percent.



14 Canada Energy Regulator. Provincial and Territorial Energy Profiles – British Columbia. Retrieved from: [CER – Provincial and Territorial Energy Profiles – British Columbia \(cer-rec.gc.ca\)](https://www.cer-rec.gc.ca/en/energy-profiles/energy-profiles-provincial-territorial)



BC Housing Education and Capacity Building

BC Housing staff have the capacity and knowledge to deliver on our sustainability and resilience commitments.

This area focuses on building an understanding of sustainability and resilience throughout the organization. An understanding of sustainability and resilience should be complemented by an understanding of equity and reconciliation with Indigenous Peoples.

REPORT ON OUR PROGRESS

The following measures and targets were developed to help us determine whether we are moving in the right direction towards sustainability and resilience in the focus area of BC Housing Education and Capacity Building. Measures with blue background indicate that these are key performance measures.

BC HOUSING EDUCATION AND CAPACITY BUILDING 2022/23 RESULTS			
AREA	PERFORMANCE MEASURE	TARGET	RESULT
1) Employee Engagement on Sustainability	Percentage of employees who indicate they feel supported by BC Housing to make good sustainability choices at work and at home	80%	77%
2) Organizational Climate Adaptation Capacity	BC Housing’s position on the Climate Adaptation Growth Model for Public Sector Organizations	Baseline year	Progressing to Advanced

1. Employee Engagement on Sustainability

Sustainability is firmly engrained as part of our organizational culture at BC Housing and is built into our training and onboarding for new employees. We support BC Housing employees to both reduce work-related GHG emissions and integrate sustainability into their home lives.

PERFORMANCE MEASURE: Percentage of employees who indicate they feel supported by BC Housing to make good sustainability choices at work and at home

▶ TARGET NOT MET

Our [livegreen Employee Council](#) is an employee-run group that plans activities and educational opportunities to raise awareness of sustainability issues. As a result of this work, BC Housing was recognized as one of Canada's Greenest Employers for the eighth consecutive year. BC Housing also has a number of staff members in roles dedicated to advancing sustainability and resilience within the organization. They provide staff with the tools and education they need to do their jobs.

In our most recent Employee Engagement Survey, 77 percent of employees indicated that they feel supported by BC Housing to make sustainable choices at home and at work.

Despite our accomplishments, further progress is necessary to reach our 80 percent target. We have maintained consistency in achieving this target, reaching 82 percent in 2021/22 and 85 percent in 2020/21. However, due to rapid growth and ongoing organizational changes, we fell short of meeting this year's corporate targets as planned.

KEY ACTIONS TAKEN:

- ▶ In 2022/23, BC Housing's livegreen Employee Council initiated 22 campaigns, articles and educational events, including:
 - Farm Work Day
 - Shoreline Cleanup in Vancouver, Victoria and Penticton
 - Go By Bike Week
 - Meatless Monday Campaign
 - 30 x 30 Nature Challenge + Photo Contest

About 65 percent of employees continue to work from home post pandemic. The events provided employees with opportunities to learn as well as to engage with colleagues in other parts of the organization. They fostere connections and create a community of practice around many aspects of sustainability.

- ▶ BC Housing administers an annual livegreen Sustainability Survey to measure, evaluate, and monitor the sustainability practices of employees every year as well as the objectives set by the livegreen employee council. According to the 2022 Livegreen survey results, 94% of employees are motivated to reduce their GHG emissions from commuting and in the workplace.
- ▶ In 2022/23, we offered staff the opportunity for more formal training to advance their knowledge of climate change adaptation. A cohort of staff completed the Royal Roads University Climate Change Adaptation Fundamentals Course. More than 30 staff have completed this course to date.
 - ▶ BC Housing's Energy and Sustainability team works with BC Housing staff and non-profit partners to raise the level of energy literacy within the organization. They also enhance a culture of energy conservation at BC Housing.



Photos taken by BC Housing employees during 30 x 30 Nature Challenge Contest.

2. Organizational Climate Adaptation Capacity

Over the last 10 years, most of BC Housing’s sustainability work focused on climate mitigation and reducing our greenhouse gas emissions. This has changed recently. Extreme weather events – very poor air quality due to wildfire smoke, extremely hot, record-breaking temperatures, and flooding events - demonstrated that climate change is a social issue. Climate change impacts are already affecting our tenants, buildings and organization. We must be prepared to adapt to current and future impacts.

BC Housing assessed our organizational climate adaptation capacity using a climate adaptation growth model developed by the Ministry of Environment and Climate Change Strategy. While this model has not yet been widely adopted, it served as a valuable tool to evaluate our organization’s preparedness and adaptation efforts in response to climate change.

The growth model outlines five core competencies that encompass our organizational capacity for adaptation. Those competencies and our self-assessment in each category are outlined below:

Performance Measure: BC Housing’s position on the Climate Adaptation Growth Model for Public Sector Organizations

► BASELINE YEAR

COMPETENCY	DESCRIPTION	LEVEL OF MATURITY (SELF-ASSESSMENT)
Assessment	Build and continuously improve understanding of current and future climate risks and vulnerability of assets, service delivery, programs, and business areas; apply that understanding to manage risks over time	Progressing
Leadership and Culture	Create a culture of climate adaptation across the organization	Progressing
Staff Capacity	Ensure staff have access to necessary resources to address climate adaptation in their roles	Progressing
Collaboration and Partnerships	Advance collaboration and knowledge sharing with internal and external partners to build adaptation capacity to a changing climate	Advanced
Mainstreaming	Integrate climate adaptation principles into organization processes and operations	Progressing

KEY ACTIONS TAKEN:

BC Housing takes action to advance our maturity in climate change adaptation in a number of ways:

- Conducted a high-level climate risk assessment in 2017. This identified our top risks: hotter and drier summers, warmer and wetter winters, and increased risk of flooding.
- Conducted resiliency audits of select new and existing buildings and started to develop portfolio-wide tools to assess risk and impacts.
- Developed a shared understanding of climate risks across departments.
- Developed climate adaptation goals and targets in the BC Housing Sustainability and Resilience Strategy.

Conclusion and Next Steps

In June 2023, BC Housing approved the new Sustainability and Resilience Strategy, replacing the Sustainability and Resilience Framework to guide our sustainability work moving forward. The Strategy will be a living document which will evolve over time to incorporate changing priorities.

2022/23 is the first reporting cycle using the performance measures developed in the Strategy. We expanded our reporting from 11 measures to 23. They encompass indicators from additional areas such as climate resilience, residential construction research and education, residential waste, and organizational climate adaptation capacity. Of the measures with existing targets, 73 percent met or exceeded the targets.

This year we completed 35 projects that achieved high levels (three or four) of the BC Energy Step Code. 658 participants attended our MBAR roundtable sessions. We provided over 12,486 hours of training related to sustainable building practices to the residential construction industry through online seminars and pre-recorded webinars. We added a total of 69 community gardens and distributed 968 meal kits to support our tenants.

Despite our achievements, we are aware that more work is needed. In 2023/24 we will be working on a Green Fleet Strategy for BC Housing owned fleet vehicles. Additionally, we will continue to enhance the capacity of BC Housing employees ensuring they feel supported in applying sustainability both at work and at home. Given the ongoing climate crisis, efforts in climate resilience and emergency preparedness are more critical than ever. At present, we are developing a Climate Risk and Resilience Roadmap to address these challenges.

Since this is the baseline year for many of our new measures, our 2023/24 report will provide more data and targets for those measures.



