Signal49
RESEARCH

Under One Roof

(Re)building Climate-Resilient and Affordable Housing in Canada

IMPACT PAPER | May 29, 2026

Contents

Key findings

- Canada's housing and climate crises are converging. Across Canada except the Northwest Territories and Nunavut, the share of households facing housing affordability challenges in 2024 exceeds the share of social and affordable housing units within the total housing stock. Meanwhile, the share of Canadians living in census subdivisions that are exposed to floods and large wildfires (i.e., greater than 200 hectares) rose from 8.0 per cent in 2010 to 36.0 per cent in 2024.
- In 2024, more than half of Canada's social and affordable housing stock was in areas exposed to floods or large wildfires, increasing risks of displacement for their occupants. That year, Quebec, Alberta, Manitoba, British Columbia, Nova Scotia, and Ontario had particularly high numbers of units in areas exposed to climate-related disasters.
- While the modernized Disaster Financial Assistance Arrangements (DFAA) program promotes future resilience by adopting build-back-better principles, the lack of resilience requirements across most federal affordable housing programs leaves disaster policy largely reactive. Canada's new Build Canada Homes (BCH) initiative is an exception as it offers opportunities to scale up the supply of affordable housing with climate-resilience features.
- Many insurers across Canada—and disaster financial assistance programs in each of Canada's provinces and territories—help restore homes only to their pre-disaster condition. This approach discourages homeowners and landlords from investing in future resilience upgrades after disasters. Some insurers and provincial and territorial governments have begun to adopt build-back-better principles.
- In addition to having to navigate multiple government agencies for housing and post-disaster recovery, many Indigenous communities also face insurance access and affordability challenges linked to their remoteness, persistent infrastructure gaps, and land tenure complexities. Indigenous-led and -focused insurance brokers offer promise.
- Canada could standardize and share climate risk data across regions so that municipalities can build affordable housing in lower-risk locations and make informed decisions about rebuilding or relocating.
- Stronger partnerships across governments and insurers could address coverage gaps by improving access to fit-for-purpose products, subsidizing or covering premiums, and providing reinsurance—especially in communities with limited affordable insurance coverage, such as many Indigenous communities.

Meeting the moment of crises

Canada's overlapping housing and climate crises place Canadians at heightened risk of poor housing outcomes and rising exposure to climate disasters. So far, Canadian policy and governance frameworks have not fully adapted to this emerging reality.

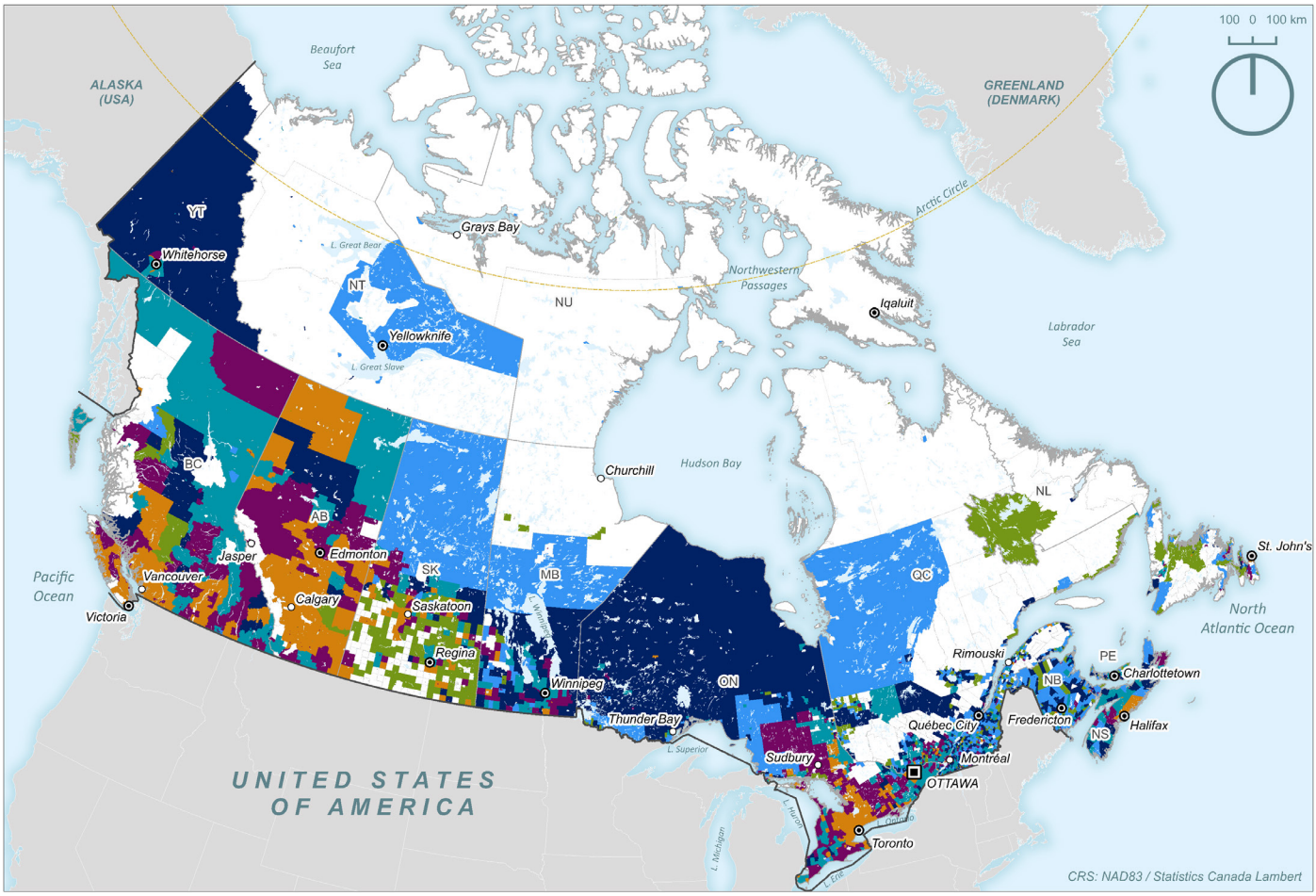
How do we close this gap? Scaling up the supply of resilient, affordable housing requires integrating climate resilience into new construction, retrofits, and post-disaster rebuilds.

Canada faces a defining housing challenge. Population growth has outpaced housing construction. In 2023, Canada started only one housing unit for every 5.1 new residents, compared to a long-run norm of one unit for every 1.9 residents between 1972 and 2024.[1] As a result, the gap between supply and demand has widened.[2] This is reflected in the housing affordability challenges that Canadians face today, particularly in major metropolitan areas, where most of Canada's population resides. (See Exhibit 1.)

1 Thompson and others, "The Crisis in Housing Affordability."

2 Hou and others, *Immigration and housing prices across municipalities*.

Exhibit 1
Canadian metropolitan areas experience high levels of housing affordability challenges



Note: This map uses 2021 Census data on housing affordability challenges. In some sparsely populated regions, especially in the North and in communities affected by incomplete enumeration, small sample sizes and Statistics Canada confidentiality rules limit data availability. Statistics Canada suppresses or rounds values for estimates that fall below reliability thresholds. These areas reflect data limitations rather than an absence of housing affordability challenges, and should be interpreted with caution.
Sources: Signal49 Research; Statistics Canada.

Canada's housing crisis

Canada's Housing Plan points to the root causes of our current housing crisis: years of underinvestment, restrictive land use and planning policies, rising development costs amid municipal financial pressures, and insufficient investment in non-market housing.[3] Restoring affordability will take a combination of large-scale housing construction and meaningful policy reform.

The federal Build Canada Homes (BCH) initiative, announced in 2025, aims to meet the moment by accelerating housing delivery through a direct federal role in financing, developing, and supporting new rental and affordable housing. BCH aims to leverage modular construction and other innovative housing technologies to reduce costs and accelerate housing delivery.[4]

3 Infrastructure Canada, *Solving the Housing Crisis*.
4 Housing, Infrastructure and Communities Canada, "Build Canada Homes."

Rising climate-related disasters

Canada's housing challenge is also unfolding against the backdrop of intensifying climate-related disasters. To illustrate, the number of large wildfires—those exceeding 200 hectares—more than doubled, from 386 in 2010 to 965 in 2023.[5] Rebuilding communities after wildfires and floods is costly. For example, in Fox Lake, Alberta, a community of about 2,500 people, reconstruction following the 2023 Paskwa wildfire exceeded $160 million.[6] Similarly, the 2021 floods in British Columbia accounted for $675 million in insured losses.[7]

Losses from climate-related disasters have also risen sharply. While insured losses[8] due to catastrophic weather and wildfire events from 2006 to 2015 totalled $14 billion, these losses climbed to $37 billion in the following decade. Average annual losses from 2015 to 2024 were about $3.5 billion, reaching a peak of $8.5 billion in 2024.[9] Uninsured losses in Canada are also increasing, recording at nearly $1 billion in 2025 alone.[10] Some estimates suggest that economic losses from recent disasters have reached the equivalent of 5.0 to 6.0 per cent of annual GDP growth.[11]

Limiting future losses

Addressing the affordability crisis by building new houses without considering the rising costs of exposure to climate-related disasters runs the risk of locking in future losses.[12] As Canada expands its affordable housing supply using new and existing programs, it could benefit from limiting and mitigating the impacts of future disaster exposure.

Integrating climate resilience in affordable housing means retrofitting existing units before disasters occur, incorporating resilience into post-disaster rebuilds, and ensuring that all new affordable housing is built to withstand future climate risks from the outset.

How many affordable housing units are exposed to climate-related disasters? To answer this, we conducted an overlay analysis in a Geographic Information System (GIS) framework to assess the exposure of affordable housing units to wildfire and flooding.

We then examined the institutional and policy levers shaping housing delivery in the context of the climate crisis to understand how resilience can be embedded into both post-disaster and new housing. We examined domestic and international policy literature and interviewed 36 leaders across federal, provincial/territorial, and municipal governments, as well as Indigenous rightsholders, housing associations, and non-governmental organizations. (See Appendix A for more details on the methodology.)

Together, these findings inform our recommendations for integrating climate resilience in housing development—a vital strategy as Canada builds millions of housing units to address the affordability challenge in pre- and post-disaster contexts.

5 Natural Resources Canada, "Canadian Wildland Fire Information System data catalogue."

6 Yupanqui and others, "Economic spillovers of wildfire recovery efforts."

7 Insurance Bureau of Canada, "Insured Losses from 2021 Floods."

8 Insured losses capture only part of the total economic damage caused by disasters. In 2025, a series of catastrophic events across Canada resulted in C$2.4 billion in insured losses and an additional C$1 billion in uninsured losses, bringing total societal losses to C$3.4 billion. See CatIQ, "Canadian Insured Losses from Catastrophic Events."

9 Insurance Bureau of Canada, "2024 shatters record for costliest year."

10 CatIQ, "Canadian Insured Losses from Catastrophic Events."

11 Sawyer and others, *Tip of the Iceberg*.

12 Ness and others, *Close to Home*.

Affordable housing and disaster exposure

In Canada, housing is considered affordable when it costs households less than 30.0 per cent of their pre-tax income.[13] The number of Canadian households that spent 30.0 per cent or more of their before-tax income on shelter costs dropped from 25.2 per cent in 2011 to 24.1 per cent in 2016 and 20.9 per cent in 2021.[14]

Meanwhile, the percentage of Canadians living in census subdivisions that are exposed[15] to climate-related disasters—floods and large wildfires—rose from 8.0 per cent in 2010 to 35.0 per cent in 2024, signalling growing vulnerability. (See Chart 1.)

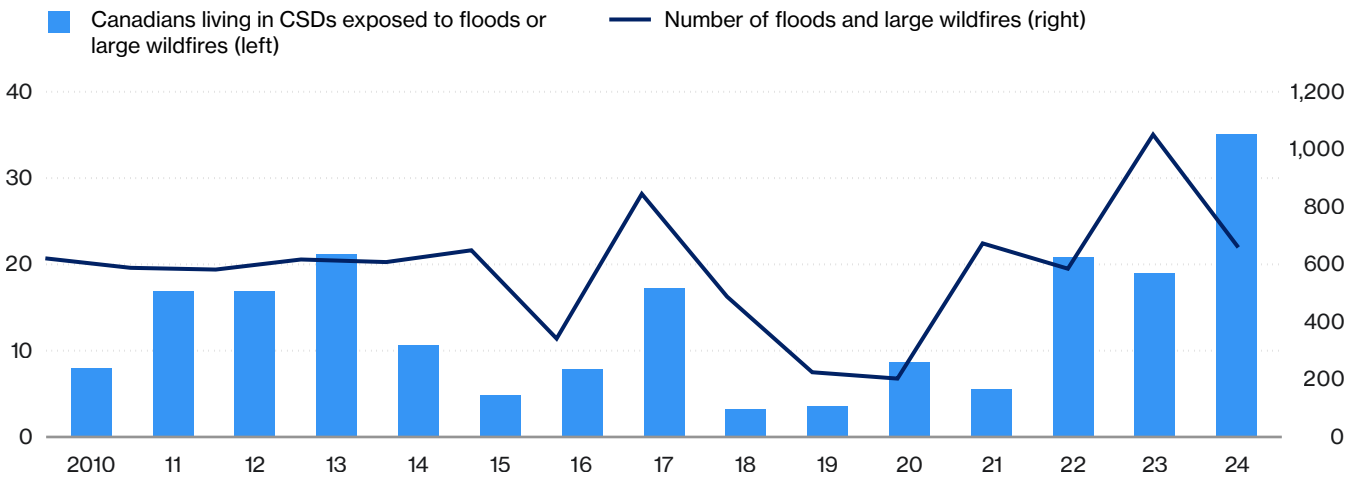
Affordable housing[16] units exposed to climate-related disasters are of particular concern. Low-income and marginalized households face disproportionate risks and have fewer resources to manage displacement, rebuilding costs, loss of income, and other socio-economic impacts brought on by climate-related disasters.[17]

Overlaying census subdivisions containing social[18] and affordable rental housing with flood and wildfire locations shows that 53.0 per cent of these units —and their residents—were in census subdivisions exposed to major flooding or large wildfires in 2024. (See Exhibit 2.)

Chart 1

Canadians' exposure to climate-related disasters is rising

(Canadians exposed to wildfires, per cent; number of floods and large wildfires)



Note: Wildfires exceeding 200 hectares are considered large wildfires in Canada.
Sources: Signal49 Research; Natural Resources Canada.

13 Canada Mortgage and Housing Corporation, "About Affordable Housing in Canada."

14 Statistics Canada, "Focus on Geography Series, 2021 Census."

15 For our analysis, we define exposure to a climate disaster as the occurrence of a wildfire or flooding event within a census subdivision.

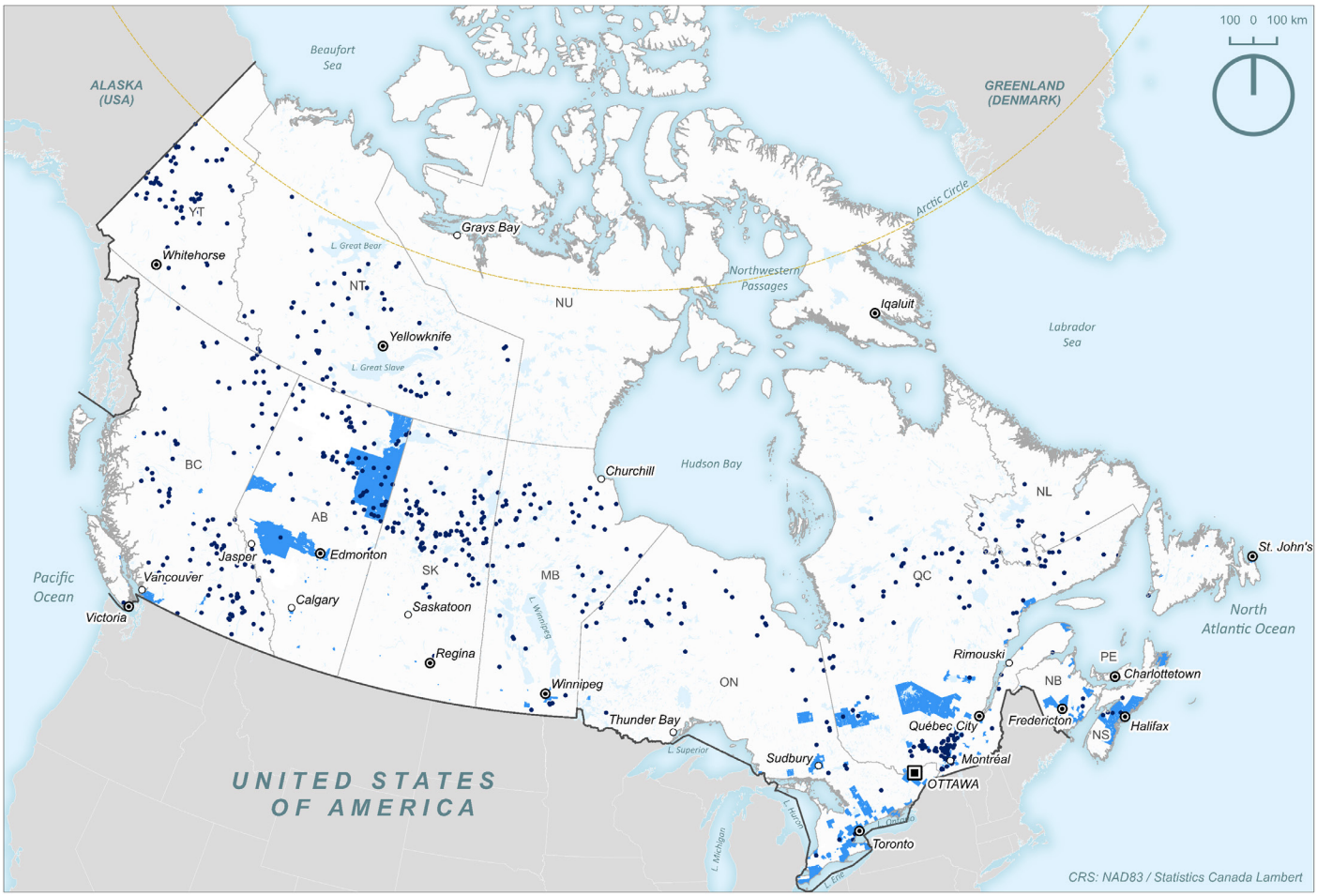
16 Affordable housing refers to housing delivered through coordinated public, non-profit, community, and private sector efforts when market mechanisms alone cannot meet affordability or accessibility needs. It includes all housing tenures, from rental and ownership to co-operative, temporary, and permanent housing.

17 Findings from the 2022 Canadian Social Survey on Quality of Life and Cost of Living show that 25.0 per cent of Canadians cannot cover an unexpected $500 expense. See Statistics Canada, "One in four Canadians."

18 Social housing refers to subsidized or affordable housing owned and managed by municipal governments, non-profit organizations, or a combination of the two. As a share of Canada's overall housing stock, Segel-Brown estimates that social housing has declined from 6.2 per cent in 1991 to 4.1 per cent in 2021.See Segel-Brown, "The Evolution of Canada's Social Housing Stock."

In comparison, these same disaster-exposed areas are home to 35.0 per cent of Canada's population, underscoring the disproportionate exposure faced by households living in social and affordable housing, many of whom are already socio-economically vulnerable.

Exhibit 2
More than half of Canadian social and affordable housing units were exposed to floods and large wildfires in 2024



CSDs with CMHC data on social and affordable rental housing | Data unavailable | Large wildfire and flooding events, 2024

Note: For this analysis, a social and affordable housing unit is considered exposed to a climate-related disaster if a flood or large wildfire occurs within the census subdivision in which it is located.
Sources: Signal49 Research; Statistics Canada.

Nationwide gaps in affordable housing

Canada's housing agency, the Canada Mortgage and Housing Corporation (CMHC), estimates that there are between 650,000 and 700,000 social housing units nationwide.[19] According to the Office of the Parliamentary Budget Officer, the number of social housing units has not grown over the past 30 years, even as the population has grown.[20]

In most provinces and territories, the share of social and affordable housing units is limited compared to the percentage of Canadians facing housing affordability challenges. Logically, jurisdictions with a higher share of social and affordable housing have a lower percentage of households facing housing affordability challenges.[21] (See Chart 2.)

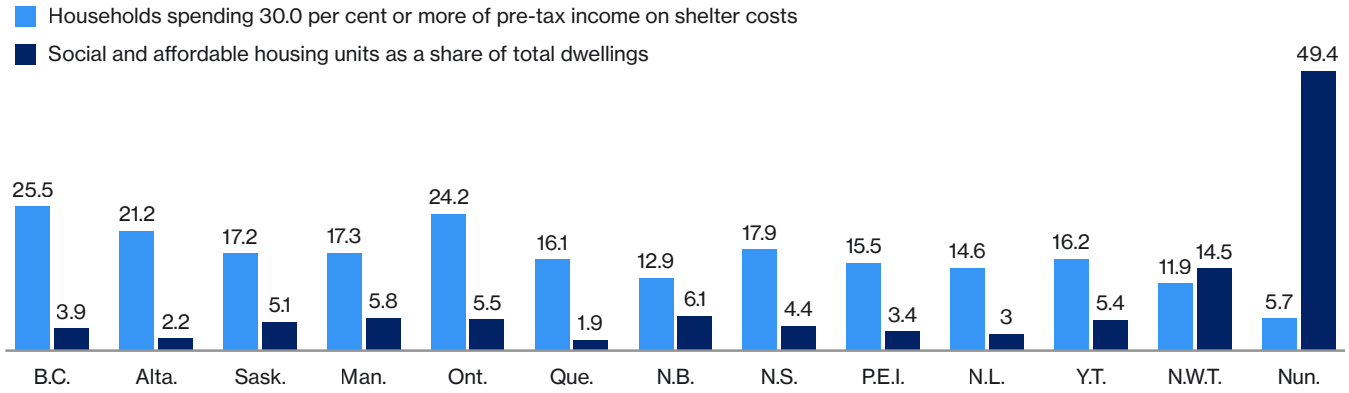
Exposure to climate-related disasters among Canada's social and affordable housing stock varies across provinces and territories, with some provinces such as Quebec, Alberta, Manitoba, British Columbia, Nova Scotia, and Ontario bearing a disproportionate share in 2024. (See Chart 3.)

According to CMHC's 2025 report on its Social and Affordable Housing Survey, residents of social and affordable housing are already vulnerable because of their income and age. More than 85.0 per cent of social and affordable housing units were built before 1995.[22] This older stock was not designed to withstand current and emerging climate-related disasters. Retrofitting these units with resilience features would strengthen Canada's capacity to adapt to a changing climate.

Chart 2

Across Canada, the share of social and affordable housing lags behind the scale of housing affordability challenges in many provinces

(per cent)



Note: This chart is based on 2021 data, which is the most recent available. According to the Canada Mortgage and Housing Corporation, housing is considered "unaffordable" if it costs 30.0 per cent or more of a household's before-tax income. Quebec's social and affordable housing unit numbers exclude structures managed by the Government of Québec through the Société d'habitation du Québec.
Sources: Signal49 Research; Canada Mortgage and Housing Corporation; Statistics Canada; Natural Resources Canada.

19 Limited time series data on the status of these units hampers comprehensive assessments of resilience gaps and retrofit requirements.

20 Segel-Brown, "The Evolution of Canada's Social Housing Stock."

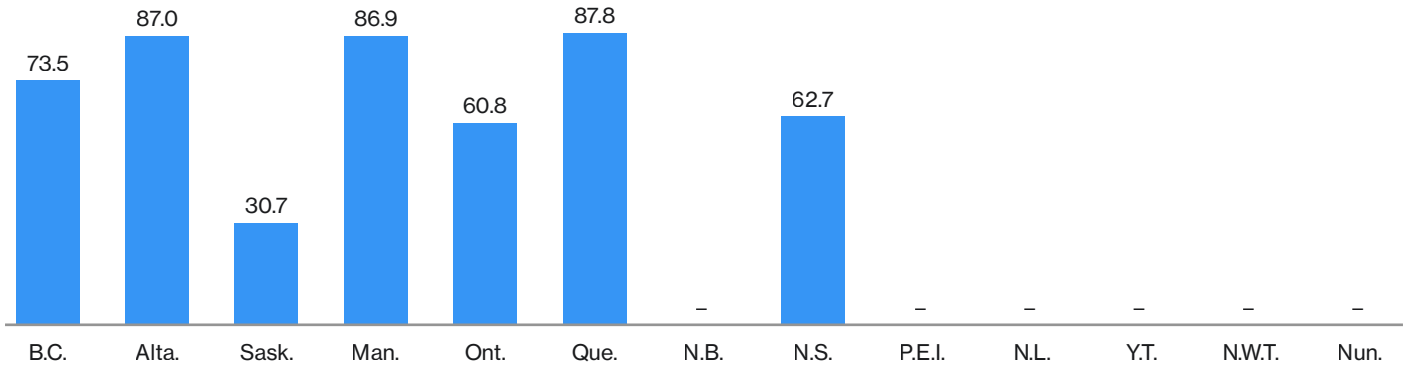
21 Nunavut's housing market is largely public, as private development is extremely difficult due to high construction costs, limited infrastructure, and supply chain constraints. See Canada Mortgage and Housing Corporation, "Developing community housing in Nunavut."

22 Canada Mortgage and Housing Corporation, "CMHC releases 5th cycle Social and Affordable Housing."

Chart 3

Exposure to climate-related disasters among social and affordable housing units in 2024 varied across Canada

(social and affordable housing units in areas exposed to climate disasters, 2024, per cent)



Note: There were 592,983 social and affordable rental housing units in 2024. This number excludes structures managed by the Government of Québec. Of these, 89.0 per cent were in urban areas. Units in rural areas were excluded from our disaster exposure analysis because disaggregated data at the census subdivision level was not available for those regions. For this analysis, a social and affordable housing unit is considered exposed to a climate-related disaster if a flood or large wildfire occurs within the census subdivision in which it is located. Newfoundland and Labrador, Prince Edward Island, New Brunswick, Yukon, Northwest Territories, and Nunavut did not have census subdivisions with social and affordable housing stock that were exposed to floods or large wildfires in 2024.
Sources: Signal49 Research; Canada Mortgage and Housing Corporation; Statistics Canada; Natural Resources Canada.

Paying the price: Climate-related disasters and affordability

Climate-related disasters are placing growing pressure on housing affordability and community resilience. In their aftermath, rebuilding drives up construction and insurance costs, which in turn contributes to rising rents and home prices. At the same time, lenders are withdrawing from high-risk areas, which reduces access to mortgages.[23] Together, these dynamics depress property values, limit reinvestment, and weaken local economies.

When risk rises, insurance responds

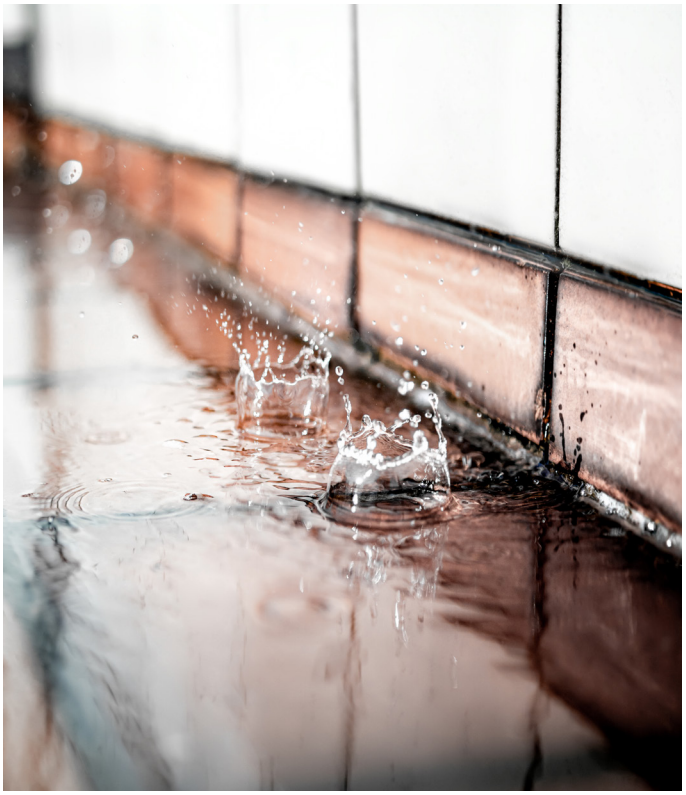
In Canada, households affected by climate-related disasters typically rely on private insurance to repair or rebuild their homes. Uninsured or underinsured losses—where private insurance is unavailable—are supported through provincial and territorial disaster assistance programs that are cost-shared with the federal government under the Disaster Financial Assistance Arrangements (DFAA) program.[24]

As climate-related disasters become more frequent, severe, and costly, federal expenditures under the DFAA program are projected to more than double by 2034, increasing from an annual average of $881 million (2010 to 2024) to $1.8 billion (2025 to 2034).[25]

Climate risk and disaster exposure drives up insurance premiums, making housing more expensive. For example, in Kamloops, British Columbia, average home insurance premiums nearly doubled from $1,893 in 2023 to $3,743 in 2025 following flooding and wildfires in 2021 and 2023, respectively. By 2025, monthly insurance payments for Kamloops residents accounted for 9.0 per cent of a typical mortgage payment, up from 5.0 per cent in 2023.[26] Rising insurance premiums prompt landlords to either underinsure properties or pass on the increased costs to their tenants, which negatively affects housing affordability.[27] This dynamic highlights the importance of resilience measures and their potential to mitigate long-term costs.

23 Shingler, “A Quebec lender opted out of mortgages.”
24 Public Safety Canada, “Guidelines.”
25 Vrhovsek, *Projecting the Cost*.
26 Starov, “How Wildfires Are Reshaping Housing Affordability.”
27 CORPIQ, “Insurance premiums.”

Canada's insurance sector is beginning to respond to rising exposure to climate-related disasters by either limiting coverage in high-risk areas or shifting costs to households.[28] In Medicine Hat, Alberta, a community that has been hit by flooding and tornadoes, home insurance payments equalled 19.0 per cent of a typical mortgage payment in 2025—the highest share in Canada. Wood Buffalo, Alberta, including Fort McMurray, where the 2016 wildfire caused $4 billion in damages, is close behind, with insurance accounting for 16.0 per cent of mortgage payments.[29] The rise in insurance premiums can negatively impact overall affordability in the housing market.



Unmet needs: Indigenous communities

Insurance coverage gaps persist in many Indigenous communities due to the absence of local fire services, limited hydrant access, and their distance and isolation from communities with firefighting resources.[30] For example, following the 2023 wildfire that destroyed homes in the East Prairie Métis Settlement, in Alberta, residents reported facing challenges in claiming insurance. In addition, restrictions imposed through the *Indian Act* on private property ownership (including home ownership) and a lack of certificates of possession or band council resolutions for community-owned properties on Indigenous lands present challenges for insuring individual homes.[31] According to our interviews, even where insurance is available, high deductibles and limited coverage often reduce an insurance policy's effectiveness. As a result, some Indigenous communities rely on self-insurance—absorbing losses themselves—which increases financial risks for communities when disasters occur.[32]

Indigenous-led and -focused insurance brokers are emerging as alternative insurance and risk management solutions for Indigenous communities.[33] While these initiatives improve access to coverage, they operate within the broader constraints of geographic remoteness, aging housing stock, and limited construction capacity. These characteristics continue to render insurance in high-risk Indigenous communities both unaffordable and inadequate.[34]

"A lot of homes in Indigenous communities are not even worth insuring anymore because the deductible is so high. And then when the house is gone, you can't rebuild a house for $150,000. A three-bedroom home is going for at least $350,000."
Research interviewee

28 Public Safety Canada, *Adapting to Rising Flood Risk*.
29 Starov, "How Wildfires Are Reshaping Housing Affordability."
30 Indigenous Services Canada, "First Nations Fire Protection Strategy."
31 Wong and others, "As natural disasters ravage."
32 Canada Mortgage and Housing Corporation, *Indigenous Insurance*.
33 Indigenousled insurance brokers are owned and governed by Indigenous peoples or Indigenous organizations. They design and deliver insurance services that reflect Indigenous priorities, governance structures, and community contexts. See TIPI Insurance Partners, "Indigenous Insurance Services." On the other hand, Indigenous-focused insurance brokers specialize in serving Indigenous clients, but governance remains external. See Acera Insurance, "Insurance for Indigenous Communities."
34 Canada Mortgage and Housing Corporation, *Indigenous Insurance*.

Insurance gaps to *build back better* recovery

The Insurance Bureau of Canada (IBC) estimates that 10.0 per cent of Canadian households live in areas where flood[35] insurance is either unavailable or at a price point beyond the reach of many households. Canada's national flood insurance program, which was still under development in early 2026, is expected to improve access to affordable insurance for households at high risk of flooding. It is also intended to discourage new housing construction in floodplains.[36]

When insurers raise premiums or refuse coverage due to climate risks, it can increase the vulnerability of Indigenous communities, where relocation is often impacted by land treaties and deep social, cultural, and emotional ties to place. In these contexts, building resilience requires investment in housing upgrades alongside resilient infrastructure.

Many stakeholders argue that insurers should move beyond restoring homes to their pre-loss condition and commit to build-back-better by incorporating resilience measures into post-disaster recovery.[37]

Emerging trends in insurance

Some insurers already see the benefits of supporting more resilient rebuilding and have introduced dedicated endorsements that support post-disaster resilience. Some property insurance policies include provisions that address post-disaster rebuilding costs, reimbursing additional expenses associated with reconstructing homes that use more resilient materials—such as metal roofing and siding—after climate-related disaster losses.[38] Other policy designs provide funding for weather-resistant upgrades and preventive measures such as flood proofing properties and buildings.[39]

These examples may reflect an emerging shift toward integrating climate resilience into property insurance.

Where private insurers leave households exposed to unaffordable or unavailable flood coverage, government-backed insurance mechanisms could fill the gap. For instance, the United Kingdom's time-limited Flood Re program reinsures high-risk properties to keep premiums affordable.[40] However, this approach can mute risk signals and is more effective for homes that are already insured than for uninsured homes.[41]

Similarly, the United States' National Flood Insurance Program (NFIP) provides federally backed flood insurance while requiring participating communities to adopt minimum floodplain management standards for resilience.[42] At the same time, subsidized premiums encourage ongoing construction in floodplains without accounting for growth in risk over time.[43]

Finally, California's Fair Access to Insurance Requirements (FAIR) plan provides a useful precedent. FAIR was created in 1968 as a last-resort option to ensure basic fire coverage for homeowners and businesses when private insurers withdraw.[44] However, as climate-related disasters have grown in frequency, FAIR has increasingly had to step into the role of a mass insurer.

35 Flooding is the most common and costly natural disaster in Canada, with annual costs estimated at $2.9 billion. See Natural Sciences and Engineering Research Council of Canada, "The cost of floods."

36 Insurance Bureau of Canada, "Budget 2024."

37 Kovacs, *Home Insurance Affordability.*

38 Wawanesa, "Climate adaptability coverages."

39 Co-operators, "Coverage details."

40 Flood Re Limited, "How Does Flood Re Work?"

41 Davey, "Flood Re: Risk Classification."

42 FEMA, "Flood insurance"; and Kousky, "Financing Flood Losses."

43 Indaco and others, "The Effects of Flood Insurance."

44 Paskerian, "Insurance Under Fire."

Event-triggered insurance solutions

As climate-related disasters increase in frequency and severity, traditional insurance models that reimburse policy-holders only after verified losses can delay recovery and exacerbate financial impacts borne by vulnerable individuals and communities.[45] In essence, the frequency and severity of climate-related disasters is reshaping how insurers process claims. Some insurers have piloted parametric insurance products for commercial clients exposed to flood and wildfire risk.[46] Unlike conventional coverage, parametric products issue payouts automatically when predefined indicators such as wind speeds, rainfall thresholds, or wildfire extents are exceeded.[47]

By linking compensation to measurable triggers rather than post-loss assessments, these models are seen to enhance transparency, reduce administrative delays, and support faster, more predictable post-disaster recovery.[48]

Leveraging Canada's housing toolbox

While Canada has many housing programs aimed at affordability, not many were designed with disaster exposure in mind and lack explicit climate resilience objectives. (See Table 1.) Given the rising frequency and exposure to climate-related disasters, these programs present a redesign opportunity to better incorporate climate-resilient features.

45 Chalke, *Fairness in a Changing Climate*.

46 Aviva, "A better way to insure."

47 A key limitation of parametric insurance arises when the predefined trigger does not align with the actual losses experienced by the insured party. In such cases, policy-holders may receive payouts that are lower than expected or no payout at all. See Viergutz, *Basis risk in parametric insurance*.

48 Glinskis and others, "What is parametric insurance."

Table 1
Few federal funding streams explicitly support affordable housing development in post-disaster recovery contexts

Program (agency)	Main mandate	Disaster recovery focus	Resilience features	Affordable housing focus
Build Canada Homes (new agency)	Scales up affordable housing through innovative, industrialized construction methods	Unclear as of the time of writing	Encourages project proponents to use climate-resilient building materials	Strengthens capacity in non-market housing sector through partnerships with mission-driven organizations
Affordable Housing Fund (CMHC)	Offers low-interest and forgivable loans to support construction and repair-renewal projects by non-profits, cooperatives, and Indigenous communities	Not designed to support disaster recovery	Not a core program requirement	Prioritizes non-market housing, affordable units, and projects serving Indigenous people, seniors- or people at risk of homelessness
Housing Accelerator Fund (CMHC)	Offers incentive funding to local governments for developing affordable, climate-resilient communities	Not explicit; however, disaster-affected communities have used this fund for housing recovery	Stated objective to build climate-resilient communities; allows flexible implementation	Rewards applicants that boost the share of affordable units among HAF-supported projects
Rapid Housing Initiative (CMHC)	Creates permanent affordable units through new builds, conversions, and modular housing	Not designed to support disaster recovery	No emphasis on resilience features	Explicit focus on developing affordable housing units quickly
Co-op Housing Development Program (CMHC)	Supports development of permanently affordable, community-owned co-operative housing through federal funding and financing programs	Not designed to support disaster recovery	Not focused on resilience, but on energy efficiency	Explicit focus on developing affordable housing units
Sustainable Affordable Housing (Green Municipal Fund)	Funds retrofitting of existing housing and construction of new, energy-efficient homes	Not recovery-focused; focused on lowering energy costs	Not focused on resilience, but on energy efficiency	Focused on making housing affordable by lowering energy costs
On-Reserve Residential Rehabilitation Assistance Program (CMHC)	Provides contribution-based funding to First Nations communities for managing housing repairs and adaptations	Supports on-reserve communities with disaster recovery	Not explicit on resilience standards	Financial support for initiatives that ensure affordability of housing
On-Reserve Non-Profit Housing Program (Section 95) (CMHC)	Provides repayable loans covering 100 per cent of on-reserve affordable rental housing projects	Not designed to support disaster recovery	Not focused on resilience	Explicit focus on development of affordable housing units on First Nations reserves
Emergency Management Assistance Program (ISC)	Helps on-reserve and other First Nations communities with mitigation, preparedness, response, and recovery	Explicit focus on disaster recovery for Indigenous communities	Focus on building community resilience through infrastructure and other mitigation measures	Not focused on affordable housing

Sources: Signal49 Research; Housing, Infrastructure and Communities Canada, “About Build Canada Homes”; Canada Mortgage and Housing Corporation, “Affordable Housing Fund,” “Housing Accelerator Fund,” “Rapid Housing Initiative,” “Co-op Housing Development Program,” “On-Reserve Residential Rehabilitation Assistance Program,” “On-Reserve Non-Profit Housing Program (Section 95)”; Green Municipal Fund, “Sustainable Affordable Housing”; Indigenous Services Canada, “Emergency Management Assistance Program.”

Non-profits and co-operatives: Long-term affordability

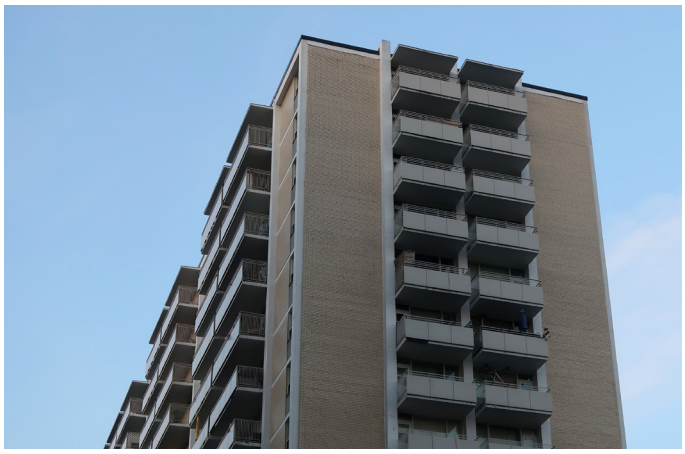
Non-profit and co-operative housing providers assemble land and financing and operate units over the long term at below market or rent-geared-to-income levels.[49] They also acquire existing rental buildings at risk of redevelopment, investor acquisition, or steep rent increases and preserve them as permanently affordable homes. Their asset retention model protects public investment and supports community stability.[50] Co-operatives further embed member-based governance and mixed-income membership structures.[51]

Despite these strengths, Canada's non-market housing sector accounts for only 3.5 per cent of total housing,[52] well below European comparisons, where non-market housing ranges from 16.0 per cent to 23.0 per cent of total housing stock.[53] We heard from our interviews that growth of the non-market housing sector in Canada is constrained by aging assets, rising land and construction costs, and limited avenues for expanding fiscal capacity. For instance, non-profits seeking to acquire rental buildings at risk of redevelopment are frequently outbid by private investors, highlighting the need for reliable financial support. Because of these constraints, their ability to preserve existing housing, expand their portfolios, and incorporate climate-resilient upgrades depend heavily on government intervention.

Preserving and retrofitting affordable housing

A new federal initiative launched in 2024—the Canada Rental Protection Fund (CRPF)—aims to enable non-profits and co-operatives to acquire existing rental buildings and preserve long-term affordability.[54] Similarly, British Columbia's Rental Protection Fund (RPF) provides bridging capital to cover the gap between a building's market price and the level of debt a nonprofit can sustainably assume while keeping rents affordable. In doing so, these funds help ensure that older properties remain resilient and viable for longterm community use.[55]

Retrofits can also help reduce climate risks while improving the resilience of existing housing. Based on our interviews, climate-resilient upgrades such as FireSmart evaluations, installing smoke mitigating ventilation systems, cooling installations, and energy-efficient roofs can add costs, but prepare the aging stock for climate-related disasters.[56]



49 Rent-geared-to-income units typically set rents at about 30.0 per cent of household income. See City of Ottawa, "Rent-Geared-to-Income Assistance."

50 National Housing Council, *Scaling-up the non-market housing sector.*

51 R. A. Malatest & Associates Ltd., *New Models for Co-operative Housing.*

52 In comparison, Canada's non-market housing sector accounted for 6.0 per cent of total housing in 1996. See National Housing Council, *Scaling-up the non-market housing sector.*

53 National Housing Council.

54 Housing, Infrastructure and Communities Canada, "Canada Rental Protection Fund."

55 Rental Protection Fund, "Rental Protection Fund."

56 Natural Resources Canada, "Green building programs and funding."

Harnessing disaster recovery programs

Post-disaster recovery programs not only help communities rebuild what was lost when insurance was unavailable, but also provide a critical opportunity to integrate climate resilience into reconstruction. This ensures repaired or replaced affordable housing is stronger, safer, and better able to withstand climate-related disasters.

Canada's disaster recovery landscape is evolving following the revision of the federal DFAA program.[57] Our interviews indicate that recovery outcomes depend on location, as disaster assistance for homeowners varies widely by province or territory.

In Canada, provinces and territories activate disaster assistance programs when eligible costs exceed an initial population-based threshold.[58] They focus on reimbursing households for non-insured or under-insured repair and reconstruction costs, where private insurance was unavailable. Delays between disaster events and approval of provincial/territorial requests for financial assistance create uncertainty and weaken incentives for households to invest in climate-resilient upgrades during post-disaster reconstruction.

"Disaster financial assistance programs are big, heavy machinery that take a while to get in motion. So, the more of the structure and mechanism that's in place before the disaster and more of the approvals that are in place before the disaster, the quicker we can respond to the public."
Research interviewee

Recent reforms

Reforms to the DFAA program introduced in 2025 adopt a build-back-better approach, allowing homeowners and small businesses to make resilience-based enhancements in post-disaster contexts.[59] However, uptake across provinces and territories is uneven. (See Table 2.) While most provincial and territorial programs continue to emphasize short-term recovery to pre-disaster levels, Manitoba and Alberta are noteworthy exceptions.

Manitoba's 2025 reforms and Alberta's resilience-focused provisions illustrate how disaster assistance can be better aligned with long-term climate resilience. Manitoba's 2025 revision of its Disaster Financial Assistance program earmarks additional assistance of 15.0 per cent of total eligible costs for repairs to reduce future disaster risks.[60]

Similarly, Alberta's Hazard Assistance and Resilience Program indicates that reimbursements for resilience-based enhancements beyond repair and reconstruction may be eligible, limited to the lesser of total replacement cost, total cost of repairs to standard replacement value, recent property tax assessment value of the building, or $512,500.[61] Newfoundland and Labrador and Northwest Territories also mandate mitigation measures for accessing recovery funding in post-disaster situations.[62]

57 The modernized DFAA program includes five funding streams, three of which focus on recovery: Homes and Small Businesses; Restoring Resilient Infrastructure; and Relief and Recovery Supports. The Homes and Small Businesses stream supports households, non-profits, and community organizations and allows up to 15.0 per cent in additional funding for resilience enhancements under a build-back-better approach. See Public Safety Canada, "Guidelines."

58 Public Safety Canada, "How the DFAA program works."

59 Public Safety Canada, "Guidelines."

60 Emergency Management Organization Manitoba, "Disaster Financial Assistance: DFA Program Changes."

61 Alberta Public Safety and Emergency Services, "Hazard Assistance and Resilience Program."

62 Government of Newfoundland and Labrador, "The Newfoundland and Labrador Disaster Financial Assistance Program"; and Government of the Northwest Territories, "Disaster Financial Assistance."

Table 2
Emergency response-led recovery models in many provinces limit investment in long-term housing resilience

Province/territory	Leading authority	Disaster recovery program	Housing-based recovery focus	Housing resilience features
British Columbia	Ministry of Emergency Management and Climate Readiness	Disaster Financial Assistance (DFA)	Homeowners may receive assistance for uninsurable losses to their principal residence, up to $400,000 per claim	Restores homes to pre-disaster condition; no explicit resilience or climate-resistant upgrade requirements
Alberta	Alberta Emergency Management Agency (AEMA)	Hazard Assistance and Resilience Program (HARP)	Homeowners eligible with a $512,500 per-property cap	A tiered cost-sharing model encourages homeowners to complete mitigation measures
Saskatchewan	Saskatchewan Public Safety Agency (SPSA)	Provincial Disaster Assistance Program (PDAP)	Homeowners eligible with a $240,000 maximum per claim	No explicit resilience-based conditions
Manitoba	Emergency Management Organization	Disaster Financial Assistance (DFA) 2.0	Maximum of $3M, limited to the lesser of replacement, restoration, or assessed value per claim	Additional assistance of 15.0 per cent of total eligible costs for repairs to reduce future disaster risks/costs
Ontario	Ministry of Municipal Affairs and Housing	Disaster Recovery Assistance for Ontarians (DRAO)	Homeowners eligible with a $250,000 maximum per claim	No explicit resilience-based conditions
Québec	Ministry of Public Security	The General Financial Assistance Program Regarding Disasters	Homeowners eligible for compensation based on standardized rates for essential goods and furniture	No explicit resilience-based conditions. Additional assistance available to reduce future risks
New Brunswick	N.B. Emergency Measures Organization	Disaster Financial Assistance program	Homeowners eligible with a $200,000 maximum per claim	No explicit resilience-based conditions. Additional assistance of 15.0 per cent of total eligible repair costs available to reduce future risks
Newfoundland and Labrador	Fire and Emergency Services N.L.	Newfoundland and Labrador Disaster Financial Assistance Program (NL-DFAP)	Homeowners eligible; no flat cap; limits tied to average provincial home value at time of loss per claim	Program guidelines include mitigation, insurance, wildfire, flood-zone provisions; risk-informed rebuilding required in some cases
Prince Edward Island	P.E.I. Emergency Measures Organization	Provincial Disaster Financial Assistance Program (PDFAP)	Homeowners eligible; no maximum cap published; assistance varies per file	No explicit resilience requirements in housing recovery
Nova Scotia	Nova Scotia Emergency Management Office (NSEMO)	Disaster Financial Assistance (DFA) program	Homeowners eligible but limited to $200,000 per household per claim	No mandated resilience upgrades included in program rules

(...continued)

Table 2 (cont'd)
Emergency response-led recovery models in many provinces limit investment in long-term housing resilience

Province/territory	Leading authority	Disaster recovery program	Housing-based recovery focus	Housing resilience features
Yukon	Department of Community Services	Yukon Disaster Financial Assistance (DFA) Program	Homeowners eligible but limited to lesser of $250,000 or assessment value of the property per claim	No mandated climate-resilient rebuilding; funding for essentials only
Northwest Territories	Department of Municipal and Community Affairs (MACA)	Disaster Financial Assistance (DFA)	Homeowners eligible up to $240,000 per claim	Repeat-claim eligibility depends on mitigation measures taken
Nunavut	Nunavut Emergency Management	No territorial DFA program; relies on federal DFAA	No territorial program for homeowner recovery	No housing resilience features; territory relies on separate federal/territorial climate adaptation initiatives

Note: Several provinces and territories are in the process of updating their disaster financial assistance programs.
Sources: Signal49 Research; Alberta Public Safety and Emergency Services, "Hazard Assistance and Resilience Program"; Government of British Columbia, "Financial assistance in a disaster"; Government of Alberta, "Hazard Assistance and Resilience Program"; Saskatchewan Public Safety Agency, "Provincial Disaster Assistance Program"; Emergency Management Organization Manitoba, "Disaster Financial Assistance"; Ontario Ministry of Municipal Affairs and Housing, "Apply for disaster recovery assistance"; Government of Québec, "Aide financière pour propriétaires et locataires sinistrés"; Government of New Brunswick, "Disaster Financial Assistance Application Process"; Government of Newfoundland and Labrador, "The Newfoundland and Labrador Disaster Financial Assistance Program"; Government of Prince Edward Island, "Provincial Disaster Financial Assistance Program"; Government of Nova Scotia, "Disaster Financial Assistance appliation process"; Government of Yukon, "Apply for housing disaster recovery funding"; Government of the Northwest Territories, "Disaster Financial Assistance"; Nunavut Emergency Management, "Nunavut Emergency Management."

Uneven financial thresholds

Provinces and territories also apply different financial limits to disaster recovery reimbursements, which complicates the picture further. For example, Ontario's Disaster Recovery Assistance for Ontarians (DRAO) program reimburses up to 90.0 per cent of eligible flood-related expenses, after a $500 deductible, to a maximum of $250,000 per application.[63] In Manitoba, homeowners are eligible for assistance up to $3,000,000 for eligible expenses, limited to lesser of cost to restore function, replace or assessed value.[64]

Reconstruction costs vary widely across jurisdictions, depending on the availability of labour and building materials. For this reason, uniform caps may not reflect local cost realities. In some jurisdictions, disaster financial assistance programs do not cover full rebuilding. Eligibility rules prioritize essential recovery—defined as restoring safe housing, critical infrastructure, and basic services—which leaves gaps in support for longer-term resilience and risk reduction.[65] Strict limits on reimbursable expenses also constrain the integration of climate resilient upgrades when homes, including affordable units, are repaired or rebuilt following disasters.[66]

Narrow disaster coverage for renters

Under disaster financial assistance programs, renters face limited eligibility. Provinces and territories determine whether and how tenants qualify for assistance, and renters are generally recognized only as claimants for personal property losses. Eligible expenses typically include damage to essential personal belongings. For example, Ontario's DRAO program lists eligible items such as essential appliances, basic furnishings, equipment required for

63 Ontario Ministry of Municipal Affairs and Housing, "Guidelines to apply for Disaster Recovery Assistance."

64 Emergency Management Organization Manitoba, "Changes to Manitoba's Disaster Financial Assistance Program."

65 Chalke, *Fairness in a Changing Climate*.

66 Historically, DFAA support was limited to rebuilding homes to pre-disaster standards. This constrained the uptake of resilience upgrades and, compounded by delays between disaster events and reimbursement approvals, often created a disincentive for disaster-affected residents to invest in resilience upgrades.

infants, basic household electronics, and essential personal items, including clothing and towels.[67] Others such as Newfoundland and Labrador cover short-term evacuation and temporary accommodation top-up costs.[68]

Broadly, our analysis of provincial and territorial disaster financial assistance programs shows that these programs do not compensate renters for lost income or damage to non-essential items. They also do not cover post-disaster rent increases, loss of tenancy, or the costs associated with relocating to replacement housing. Preserving long-term housing affordability will require targeted measures to address the needs of renters in post-disaster contexts.

Planning for resilient and affordable housing

As Canada expands housing supply nationwide, planning-led resilient zoning, informed by flood and wildfire mapping, can steer affordable housing away from high-risk areas, reduce long-term disaster exposure, and support climate-resilient development.

Zoning for resilience and affordable housing

Zoning is a key municipal government function. It reduces long-term disaster risk for affordable housing by guiding development away from flood- and wildfire-prone areas in both pre- and post-disaster contexts. Zoning determines what land is earmarked for development—a key determinant of housing affordability.[69]

Planners use master plans, zoning bylaws, and building permits to guide new housing and infrastructure toward lower-risk areas, restrict or condition development in high-risk zones, and mandate mitigation measures such as elevation or reduced density that limits the number or size of structures in locations at risk of exposure to flooding. However, permitting processes are complex and time-consuming. They may also be vulnerable to community opposition when affordable housing projects are proposed, which can add to costs.[70]

67 Ontario Ministry of Municipal Affairs and Housing, “Guidelines to apply for Disaster Recovery Assistance.”

68 Department of Municipal Affairs & Environment, Fire & Emergency Services, *Disaster Financial Assistance Program*.

69 Zoning affects how land is used, developed, and conserved. Zoning decisions are shaped by demographic trends, physical conditions (including topography and soil characteristics), environmental constraints, land values, economic considerations, transportation and infrastructure networks, and cultural heritage. Planners are able to determine appropriate locations, densities, and forms of development while minimizing land use conflicts and environmental degradation. See Van Proosdij and others, *Coastal Adaptation Toolkit*.

70 Canada Mortgage and Housing Corporation, *Barriers to Affordable Housing*.

Mapping flood plains

Natural Resources Canada (NRC) provides a federal guide for flood risk areas with planning strategies to reduce and mitigate risk.[71] Additionally, the Flood Hazard Identification Mapping Program (FHIMP)—based on a collaboration between the federal and provincial/territorial governments—has helped create a national flood susceptibility index. The index estimates the probability that a given area will experience flooding. It draws on historic flood events and machine-learning models to generate these estimates.[72]

Additionally, provinces like British Columbia and Quebec have floodplain maps that identify areas that experience periodic flooding from nearby waterbodies.[73] However, access to maps identifying river flood-risk areas remains uneven across Canada, and many jurisdictions do not make these maps publicly available. These maps overlook pluvial flooding driven by extreme precipitation. To manage flood risk more effectively, Canada must move beyond traditional floodplain maps and fully account for the impacts of extreme rainfall and climate change. Canada must also widely share river and surface-water flood hazard information so local planners can use it in day-to-day planning and decision-making.[74]

Managing wildland-urban interfaces to reduce wildfire risk

Canada also provides a federal guide for wildland-urban interface fires with strategies to reduce and mitigate risk.[75] Fire danger maps are updated daily by NRC's Canada's Canadian Forest Fire Weather Index (FWI) System.[76] Wildfire hazard maps are drawn using fire likelihood and fire intensity indicators.[77] The risk of wildfire events is more dynamic than flood maps and changes on a daily basis.[78] Canada currently has burn probability models that can be used to simulate wildfire impacts. However, a more effective approach would be to model and develop wildfire maps focused on enduring risk to inform land use planning.

Using floodplain and wildfire maps in zoning decisions would help communities account for climate risk in both pre- and post-disaster planning. Planners could steer new development toward safer areas. They could also make more informed decisions about rebuilding in high-risk locations. New Zealand offers a useful example: By pairing zoning reforms with long-term plans to move people and development out of high-risk areas, post-disaster assistance programs can evolve into proactive climate adaptation tools.[79]

Canada has also used government buyouts to help relocate communities repeatedly exposed to climate-related disasters.[80] However, such managed retreat strategies may be challenging for Indigenous communities, because of cultural and historical ties to the land, the trauma associated with past relocation initiatives rooted in colonial goals, and the complex legal context surrounding treaty rights and land claims.

71 Natural Resources Canada, *Federal Land Use Guide*.

72 Natural Resources Canada, "Archived - Flood Susceptibility Index."

73 Government of British Columbia, "Floodplain mapping"; and Government of Québec, "Visualize flood zones."

74 Van Dau and others, "Pluvial flood modeling for coastal areas."

75 Bénichou and others, *National Guide for Wildland-Urban Interface Fires*.

76 Natural Resources Canada, "CWFIS static map viewer."

77 Erni and others, "Mapping wildfire hazard, vulnerability, and risk."

78 It is important to distinguish between enduring wildfire hazard and short-term fire danger. Enduring hazard reflects fairly stable characteristics such as fuels, vegetation, and topography, which do not change from day to day. By contrast, fire risk fluctuates daily or seasonally in response to weather conditions such as temperature, wind, and humidity.

79 Ministry for the Environment, "Managed retreat."

80 Hunter, "How will 'managed retreat' fit."

As Canada makes surplus public lands available for affordable housing through the Federal Lands Initiative (FLI), it could encourage municipalities to adopt resilient zoning to reduce future exposure to climate-related disasters. Build Canada Homes (BCH) marks a positive step by prioritizing climate-resilient projects, including those with climate-informed site selection and designs that address hazards such as flooding and wildfires.[81]

Embedding resilience into building codes

While zoning determines *where* housing is built, building codes govern how it is built. Resilience-focused building codes can reduce long-term disaster risk for affordable housing by ensuring homes are designed for future climate conditions. Doing so would result in lower lifetime repair and recovery costs.

Canada's 2025 National Building Code incorporates climate resilience measures and aligns requirements with forward-looking climate data.[82] The Code promotes energy-efficient heating and cooling systems and supports factory-built and modular construction, reducing life cycle operating and maintenance costs, thereby improving long-term affordability. The Code also provides requirements for site-level controls for grading, drainage, water evacuation, and fire resistance through the use of fire-resistant materials.

Proactive integration and application of climate resilience measures in building codes can help in both pre- and post-disaster contexts. Australia's experience with climate-specific building codes offers useful lessons in adapting to the challenges of a changing landscape of climate-related disasters.[83] In Canada, the Canadian Board for Harmonized Construction Codes (CBHCC) develops the National Building Code, which provinces and territories adopt either in full or with amendments. Canada could build on Australia's approach by tailoring the National Building Code to region-specific climate-related risks.

81 Housing, Infrastructure and Communities Canada, "Build Canada Homes Investment Policy Framework."

82 Canadian Board for Harmonized Construction Codes, *National Building Code of Canada 2025*.

83 Australian Government, "Australian climate zones."

Translating resilience and affordability into practice

Municipal governments are best placed to translate resilience and affordability into practice through building permits. By reviewing housing applications for compliance with provincially adopted building codes before issuing permits, municipalities can prioritize projects that incorporate resilience and affordability features.

For instance, Edmonton's 2024–2026 Climate Resilience Planning and Development Action Plan[84] streamlines permitting for climate-resilient projects, introduces floodplain overlays, and embeds climate-resilient standards into infrastructure design requirements to strengthen adaptation to climate-related disasters. In 2020, Edmonton also reduced construction costs for new housing by eliminating minimum parking requirements.[85] These examples show how municipal governments turn affordability and resilience goals into action.

The challenges for smaller municipalities

Municipal capacity varies across Canada, with smaller municipalities facing acute constraints. Limited fiscal resources and small staff restrict their ability to navigate federal housing and disaster risk management-related programs, many of which require detailed, paperwork-intensive applications and ongoing administrative oversight. We heard through our interviews that municipalities with only one or two staff dedicated to housing often struggle to prepare competitive proposals or manage complex funding streams. As one interviewee observed, these administrative barriers slow project delivery and contribute to persistent housing shortages in smaller and remote communities.

"I am the only person in city hall that works on delivering housing to the community. So, I'm a department of one and CMHC is just far too big, it's too complex."
Research interviewee

Programs designed to accelerate housing construction can unintentionally reinforce disparities between larger and smaller municipalities. Funding streams such as the Housing Accelerator Fund that prioritize shovel-ready projects may end up unintentionally favouring municipalities with established planning teams. Smaller communities, which often lack the capacity to complete advanced planning or secure timely approvals, are less able to compete for investment, deepening inequities in housing outcomes. Our interviews indicate that such communities also lack the technical expertise to interpret disaster risk data, assess local climate risks, or integrate wildfire and flood mapping into planning decisions.

84 City of Edmonton, *Climate Resilience Planning*.
85 City of Edmonton, "Open Option Parking."

How do we build more resilient affordable housing?

Building resilient affordable housing requires collective, coordinated action from federal, provincial and territorial, municipal, and Indigenous governments, as well as the private sector. No single actor can close the affordable housing and climate resilience gap alone. Governments can achieve lasting results by aligning public investment with private capital, insurance incentives, and community-led action. Based on our analysis, we present recommendations to help governments embed resilience into affordable housing.

Canada could integrate risk-informed zoning and climate-resilient housing into municipal decisions for where to build affordable housing projects.

While major urban centres already account for disaster risk in zoning and land use decisions, this practice remains uneven across the country. Federal and provincial/territorial governments could lead the development of standardized hazard models. This would create economies of scale, ensure consistent risk assessment, and reduce the cost of updates. Centralized models could deliver localized insights to municipalities and households, giving them equitable access to reliable disaster risk data. This, in turn, supports better land use planning, more resilient infrastructure investment, and more informed siting and insurance decisions.

Municipalities could—with the support of CMHC—overlay geolocated affordable housing data with flood and wildfire hazard maps developed using standardized hazard models to identify existing units and proposed sites most likely to be exposed to climate-related disasters. Where capacity constraints exist, provincial and territorial governments could support municipalities in making use of disaster exposure maps.

This risk assessment will allow prioritization of lower-risk locations, with reduced exposure to floods and wildfires, for new affordable housing development. In pre-disaster contexts, municipalities could zone new affordable housing in safer locations, particularly lands that are released through federal surplus public land initiatives, through a climate risk lens.

In post-disaster contexts, such assessments could help guide decisions on whether to rebuild in situ. Where appropriate, Canada could encourage managed retreat and buyouts to support the relocation of communities facing repeated exposure to climate hazards.

Provinces and territories could embed climate resilience into building codes to strengthen resilience outcomes. Municipalities could use financial incentives, such as property tax reductions, development charge waivers, or additional floor area, to reward affordable housing proponents when they exceed minimum resilience standards. Finally, by linking resilience-based home retrofits to tax credits or deductions, federal and provincial/territorial governments can encourage widespread adoption and support a whole-of-society approach to resilience.

Canada could embed affordability and resilience into federal housing and provincial funding programs.

Canada needs to build housing at scale and within a short time frame in pre-disaster contexts. Housing, Infrastructure and Communities Canada's strategy to integrate innovative approaches—such as factory-built and modular housing to reduce delays and costs and prioritize climate resilience features—into the Build Canada Homes program is a positive step toward addressing affordability and climate resilience.

By incentivizing funded new units to meet or exceed affordability thresholds and resilience standards, federal and provincial/territorial housing programs could encourage projects to integrate resilience and affordability from the outset. For example, CMHC could offer municipalities enhanced grants or higher forgivable loan amounts for housing projects where units exceed baseline resilience standards in affordable housing projects.

In post-disaster contexts, provincial and territorial disaster financial assistance programs could incorporate funding for resilience upgrades, allowing recovery dollars to support long-term risk reduction rather than simply restoring what was lost. Jurisdictions across Canada can also look to leaders such as Manitoba and Alberta, which have begun integrating build-back-better approaches into post-disaster reconstruction, particularly for affordable housing damaged by climate-related disaster events.

Canada could prioritize non-profits and housing co-operatives to sustain long-term affordability in pre- and post-disaster housing construction.

The federal government could designate non-profit housing providers and housing co-operatives as preferred partners in delivering the Build Canada Homes initiative, given their proven ability to sustain long-term affordability. Co-operative housing providers can be incentivized through programs such as the Co-op Housing Development Program to create new affordable and climate-resilient housing projects.

As surplus lands are made available through the Federal Lands Initiative (FLI), these organizations could be prioritized as project proponents to ensure that publicly owned land is leveraged for permanently affordable housing in pre- and post-disaster contexts.

Provincial governments could design programs such as the Rental Protection Fund (RPF) to support non-profit and co-operative housing providers in acquiring at-risk rental properties. Additional funds could be made available for climate-resilient upgrades, through flood protection, energy efficiency improvements, and structural repairs. Incentives, including financial support for resilience assessments and complementary FireSmart assessments, can help non-profit organizations strengthen their climate resilience approach.

Canada can address insurance gaps through a mix of subsidies, re-insurer provisions, or discounts for communities that adopt climate-resilient building codes that exceed minimum resilience standards.

Drawing from the lessons of Flood Re from the United Kingdom and the National Flood Insurance Program (NFIP) from the United States, the federal government could intervene—with adequate guardrails—to help close insurance coverage gaps by subsidizing or covering insurance premiums or acting as re-insurers for catastrophic losses where communities have limited access to affordable insurance, particularly Indigenous communities. The national flood insurance program currently under development could help address these gaps.

Provincial and territorial governments could also improve access to fit-for-purpose insurance solutions and collaborate with private insurers to offer standardized resilience-based insurance products that effectively communicate and incentivize the use of durable, climate-resilient materials during post-disaster rebuilding. By promoting non-traditional models such as parametric insurance, the government can help ensure payouts are predictable and delivered quickly while supporting faster, affordable, resilient reconstruction in post-disaster contexts.

Insurers could explicitly reward resilience investments through lower premiums and deductibles. Rising risk is often cited as a driver of higher insurance costs. Governments and insurers could make the reverse just as clear: When risk falls, costs could fall too. Clear, predictable insurance savings tied to resilience investments would improve affordability, encourage proactive risk reduction, and strengthen long-term resilience.

Appendix A

Methodology

We used a three-part methodology combining an environmental scan, geographic information system (GIS)-based analysis, and key informant interviews. The environmental scan provided an overview of the affordable housing and disaster recovery landscape in Canada and peer jurisdictions. The GIS-based analysis helped us understand the exposure of affordable housing units to wildfires and floods. Finally, the key informant interviews helped us understand the challenges and opportunities for building resilience into Canada's affordable housing push.

Environmental scan

The environmental scan helped us understand the:

- relationship between affordable housing and the mitigation of social and economic vulnerabilities;
- policy and governance landscape that shapes post-disaster recovery in Canadian communities;
- best practices for integrating resilience into affordable housing strategies from peer jurisdictions.

We examined 60 scholarly articles and grey literature, including reports from federal, provincial/territorial, municipal, and non-governmental organizations. We used a combination of keywords, including "Canada," "social," "economic," "vulnerability," "risk profile," "housing strategy," "resilience," and "recovery," to make our selection.

To identify peer jurisdictions, we reviewed the 2024 World Risk Index[1] and selected five OECD countries that ranked among the top 10 globally for natural hazard exposure: Mexico, Japan, United States, Australia, and New Zealand. To support the review, we added each country's name to the keyword set described above.

The environmental scan served two objectives. First, it deepened our understanding of how federal, provincial/territorial, and municipal governments across Canada are addressing housing affordability amid rising climate-related disasters and escalating risk exposure.

Second, it helped us identify best practices from peer jurisdictions that Canada could adapt to embed resilience in its affordable housing stock.

GIS-based analysis

We analyzed housing and disaster location data to assess Canadians' exposure[2] to climate-related disasters. Population data and estimates for 2010 to 2024 were drawn from Statistics Canada at the census subdivision level. To estimate the number of affordable housing units across census subdivisions, we used results from CMHC's 2024 Social and Affordable Housing Survey. The survey indicates that in 2024, Canada had 592,983 social and affordable rental housing units. This figure excludes units managed by the Government of Quebec through the Société d'habitation du Québec (SHQ). Of the total, 90.0 per cent were located in urban areas. The remaining 10.0 per cent, situated in rural areas, were excluded from this analysis because disaggregated data at the census subdivision level were not available for those regions.

To identify hazard exposure, we sourced wildfire locations from NRC's Canadian Wildland Fire Information System (CWFIS) data catalogue and flood event data from GEO.ca, a national geospatial data platform led by NRC, for the years 2010 to 2024. Using this data, we conducted two overlay analyses in QGIS, a Geographic Information System (GIS) software tool. First, we overlaid flood and large wildfire event data onto census subdivision boundaries to estimate the annual number of Canadians exposed to climate-related disasters between 2010 and 2024. Second, we overlaid the same event data with CMHC's 2024 Social and Affordable Housing Survey data to calculate the percentage of social and affordable housing units located in census subdivisions exposed to large wildfires and/or floods.

Key informant interviews

While the environmental scan offered a high-level overview of affordable housing and disaster recovery in Canada and peer jurisdictions, it did not generate grounded, practice-based insights into the challenges of integrating resilience into existing affordable housing stock or the opportunities to accelerate new affordable housing delivery in post-disaster contexts. For this part of the research, we interviewed (using Microsoft Teams) 49 experts involved in post-disaster recovery and affordable housing across Canadian communities.

Our goal was to engage with representatives from at least 36 stakeholder organizations. We reached out to 110 potential participants via email, based on desktop research, and had a 33.0 per cent response rate. Our inclusion criteria required participants to be involved in the practice of affordable housing and/or disaster recovery. They also had to represent the following categories: federal, provincial/territorial, and municipal governments, as well as Indigenous rightsholders, housing associations, and non-governmental organizations involved in planning and delivering affordable housing.

1 Frege and others, *World Risk Report 2024*.

2 For this research, exposure to climate-related disasters is defined as a disaster event point falling within the geographic boundaries of a census subdivision.

Our interviewees represented the following agencies and organizations:

- Aboriginal Housing Management Association, British Columbia
- Alberta Emergency Management Agency, Alberta
- BC Non-Profit Housing Association, British Columbia
- Calgary Emergency Management Agency
- Canadian Housing and Renewal Association
- Canadian Red Cross
- Chapleau Cree First Nation, Ontario
- City of Brantford, Ontario
- City of Charlottetown, Prince Edward Island
- City of Lytton, British Columbia
- City of Ottawa, Ontario
- City of Regina, Saskatoon
- City of Williams Lake, British Columbia
- Cooperative Housing Federation of Canada
- Department of Municipal Affairs and Housing, Nova Scotia
- Emergency Management Directorate, Indigenous Services Canada
- Emergency Measures Organization Yukon
- Federation of Canadian Municipalities
- Housing Addictions and Homelessness, Manitoba Housing
- Housing New Brunswick
- Housing, Infrastructure and Communities Canada
- Ministry of Emergency Management and Climate Readiness, British Columbia
- Ministry of Municipal Affairs and Housing, Ontario
- Montreal Lake Cree Nation, Saskatchewan
- Municipality of Jasper, Alberta
- Nazko First Nation, British Columbia
- Northwest Territories Housing Corporation
- On-reserve Housing, Indigenous Services Canada
- Paddle Prairie Metis Settlement, Alberta
- Peguis First Nation, Manitoba
- Public Safety Canada
- Saskatchewan Public Safety Agency
- Sheshatshiu Innu First Nation, Newfoundland and Labrador
- Siksika Nation, Alberta
- Support Services, Manitoba Housing
- Village of Southern Victoria, New Brunswick

Questionnaires, developed from our environmental scan, were shared with the participants in advance. Our questions covered a broad set of themes, including data and coordination, housing finance and supply, market and social outcomes, governance and strategy, regulatory levers, Indigenous partnerships, future preparedness, and leading practices. Participants were offered anonymity, and their responses were not attributed to them without their permission.

Interviews were conducted between August and December 2025. Some interviews included more than one participant from the same organization. Each interview lasted between 45 and 90 minutes and was recorded. Combined, the interview transcripts totalled about 300,000 words. This text was coded and analyzed using NVivo software. Coding themes were first developed based on the research questions and environmental scan, followed by an exploratory examination within interviews. We validated these themes through conversations with our Research Advisory Board members.[3]

3 At Signal49 Research, our Research Advisory Boards comprise external experts who strengthen the quality, relevance, and impact of our work. Members are selected for topic-specific expertise and balanced representation across academia and practice as warranted by the study objectives. The acknowledgements section lists the Research Advisory Board members who supported this research.

Appendix B

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Acknowledgements

This impact paper was prepared with financial support from the Canadian Resilient Recovery Initiative (CRRI). For further information about CRRI, please visit its web page.

Babatunde Olateju, Director, PhD, developed this project and provided oversight throughout the research process. Yogi Joseph, Research Associate, MURP, and Taiba Jafari, Research Associate, MS, conducted the research. Amanda Thompson, Lead Research Associate, PhD, and Jacob LeBlanc, Senior Research Associate, MAE, led our interviews with Indigenous rightsholders. Stefan Fournier, Executive Director, MA; Leslie Twilley, Chief Research Officer, PhD; and Jonathan Raikes, Lead Research Associate, PhD, provided feedback on this impact paper. This impact paper was designed by Mallory Eliosoff, Senior Graphic Designer.

We extend our sincere gratitude to the members of our Research Advisory Board for their input and feedback on the draft of this impact paper:

- **Patricia Roset-Zuppa**, Vice President, Canada Mortgage and Housing Corporation
- **Shawna Peddle**, Associate Vice President, The Co-operators Group Limited
- **Carly Benson**, Manager, Public Safety Canada
- **Erica Woolf**, Director, Alberta Emergency Management Agency
- **Geneviève Nadeau**, Principal Advisor, Housing, Infrastructure and Communities Canada
- **Madanmohan Ghosh**, Former Principal Economist, Bank of Canada
- **Kierstin Lundell-Smith**, Legal Counsel, Canadian Red Cross

Finally, we acknowledge the valuable contributions of the 36 interviewees from federal, provincial/territorial, and municipal governments, as well as Indigenous rightsholders, housing associations, and non-governmental organizations, whose perspectives meaningfully informed our research.

Under One Roof: (Re)building Climate-Resilient and Affordable Housing in Canada
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To cite this research: Joseph, Yogi, and Taiba Jafari. *Under One Roof: (Re)building Climate-Resilient and Affordable Housing in Canada.* Ottawa: Signal49 Research, 2026.

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PUBLICATION P-02090-C0X5T0
PRICE: Complimentary

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