



HOUSE OF COMMONS
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CANADA

BUILDING A MORE CLIMATE RESILIENT CANADA

**Report of the Standing Committee on Transport,
Infrastructure and Communities**

Peter Schiefke, Chair

**NOVEMBER 2023
44th PARLIAMENT, 1st SESSION**

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Chair**

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NOTICE TO READER

Reports from committees presented to the House of Commons

Presenting a report to the House is the way a committee makes public its findings and recommendations on a particular topic. Substantive reports on a subject-matter study usually contain a synopsis of the testimony heard, the recommendations made by the committee, as well as the reasons for those recommendations.

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THE STANDING COMMITTEE ON TRANSPORT, INFRASTRUCTURE AND COMMUNITIES

has the honour to present its

FIFTEENTH REPORT

Pursuant to its mandate under Standing Order 108(2), the committee has studied adapting infrastructure to face climate change and has agreed to report the following:

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SUMMARY

On 7 March 2023, the House of Commons Standing Committee on Transport, Infrastructure and Communities (the Committee) agreed to undertake a study on the resilience of Canadian communities to climate change. During this study, a wide range of witnesses, including municipal governments, non-governmental organizations and Indigenous leaders, described the impacts that climate change is having on infrastructure and on the lives of residents. Much of the discussion focused on the resilience of water infrastructure, such as wastewater treatment infrastructure, dikes, and ice bridges, and on the importance of having functioning telecommunications networks during extreme weather events.

Some witnesses also stressed the need to improve the Government of Canada's understanding of climate risks in Canada and to factor these risks into long-term infrastructure planning. Some asked the Government of Canada to take both Indigenous and Western knowledge into account when identifying ways of adapting infrastructure to climate change. Many witnesses pointed out that, in Canada, climate governance must be shared among the various orders of government, requiring co-operation from several stakeholders, including the private sector and the public.

Stressing the limited financial capacity of municipalities, witnesses urged the Government of Canada to invest more in infrastructure resilience, and some called for funding to be based on risk, not on population. Several witnesses highlighted barriers to access federal infrastructure programs that impede mitigation and reconstruction efforts —whether it was the application funding timelines, the narrow criteria attached to funding, or the complexity of the application process.

Some witnesses called for greater investment in natural infrastructure as another way to improve the resilience of Canadian communities. Also discussed were building resilience and modernization of the National Building Code to factor in changing climate risks. Witnesses also highlighted the need to tackle the housing shortage, housing affordability and the construction trades shortage. Lastly, some witnesses argued that funding programs should not encourage rebuilding in high-risk areas following a disaster.

Many witnesses agreed that the Government of Canada needs to better fund disaster mitigation efforts to strengthen a proactive approach when it comes to investments in resilient infrastructure. On this point, it was argued that amounts allocated to protect

infrastructure should be considered an investment rather than a cost.¹ For example, if more proactive mitigation investments had been made to address vulnerabilities in high flood risk areas, many impacts would have been prevented and saved millions, if not billions in damage.

1 Standing Committee on Transport, Infrastructure and Communities (TRAN), *Evidence*, 44th Parliament, 1st Session, [Chief Patrick Michell](#) (Retired chief, Kanaka Bar Indian Band).

LIST OF RECOMMENDATIONS

As a result of their deliberations committees may make recommendations which they include in their reports for the consideration of the House of Commons or the Government. Recommendations related to this study are listed below.

Recommendation 1—Permanent Funding for Water and Wastewater Systems

That the Government of Canada create a permanent federal funding mechanism to support and enhance the cost-effectiveness and sustainability of modern water and wastewater systems in communities of all sizes.

Recommendation 2—Repairs and Upgrade of Aqueduct Systems

That the Government of Canada eases conditions for subsidies aimed at the repairs or upgrade of aqueduct systems endangered by climate change or limiting the construction of new housing.

Recommendation 3—Communications with Riparian Communities

That the Government of Canada and agencies improve their communications with municipalities bordering international watercourses in order to better understand water level needs to prevent flooding and environmental disasters and have cooperation in the evacuation and protection of these shared spaces.

Recommendation 4—Making Federal Assets Available to Communities

That the Government of Canada facilitate the provision of federal assets to communities to offset the loss of infrastructure or services due to climate change.

Recommendation 5—Communications Resiliency

That the Government of Canada, in establishing and supporting the permanent Public Safety Broadband Network, seek strategies for communications, resiliency and interoperability for public works personnel as first responders.

Recommendation 6—At-Risk Infrastructure

That the Government of Canada, in collaboration with provinces, territories, municipalities, as well as Indigenous communities, undertake a comprehensive assessment of at-risk infrastructure (as reflected within municipal secondary plans), including updated flood plain mapping (as reflected within municipal official plans) and an evaluation of redundant telecommunications systems, and work towards building a national, data-based inventory of infrastructure projects to help guide future investment decisions.

Recommendation 7—Increasing Resilience to Natural Hazards

That the Government of Canada support programs that assist provincial, territorial, local, First Nation and critical service entities in increasing resilience to natural hazards and with drought- and/or flood-related activities and expand the technology transfer of drought and/or flood water conservation strategies.

Recommendation 8—Infrastructure Program Review

That the Government of Canada prioritize a review of its suite of infrastructure funding programs to ensure they are reducing barriers to access, especially for smaller, rural communities and addressing municipalities' core public infrastructure needs and vulnerabilities in aging infrastructure.

Recommendation 9—Climate Lens Criteria

That the Government of Canada redesign its climate risk assessment criteria on its infrastructure programs to make them more streamlined, flexible and more easily accessible for smaller and rural municipalities.

Recommendation 10—Disaster Mitigation and Adaptation Fund

That the Government of Canada review the Disaster Mitigation and Adaptation Fund (DMAF) to ensure appropriate funding to meet current and future needs, as well as to encourage a streamlined application process and the timely receipt of funding. DMAF should also allow communities to build to a higher standard with eligible costs expanded to include direct expenses, e.g., land acquisition to build mitigation infrastructure.

Recommendation 11—Increase of Funding for the Disaster Mitigation and Adaptation Fund

That the Government of Canada substantially increase the funding for the Disaster Mitigation and Adaptation Fund.

Recommendation 12—Valuing Natural Assets

That the Government of Canada continues to encourage infrastructure investment strategies that recognize the value and include the management and sustainability of natural assets.



BUILDING A MORE CLIMATE RESILIENT CANADA

INTRODUCTION

Climate change affects communities across Canada in many different ways. In recent years, extreme weather events such as wildfires, heat waves, heavy rain and hail have had a significant impact on Canadians' quality of life and caused considerable material damage to private and public infrastructure.¹ In light of this, the House of Commons Standing Committee on Transport, Infrastructure and Communities (the committee) agreed on [7 March 2023](#), to undertake a study on “focusing on how to create communities that are more resilient and sustainable in the face of climate change (infrastructure and housing), including the implementation of more resilient infrastructure and building products, and that the committee allocate a minimum of six meetings for this study ... ”

The committee devoted four meetings to this study from 4 May to 6 June 2023. It heard 26 witnesses and received three briefs. The following sections report on discussions held with various stakeholders on the impacts of climate change on the lives of Canadians and on infrastructure, the state of knowledge pertaining to climate change risks in Canada, and potential solutions to improve the resilience of Canadian communities.

IMPACTS OF CLIMATE CHANGE

“I think one of the key elements there is that communities of all sizes are experiencing acute impacts from climate change.”

[Matt Gemmel](#),

Director, Policy and Research, Federation of Canadian Municipalities

During this study, various witnesses from the municipal sector explained to the committee the impacts climate change is having on their infrastructure and on the lives of their residents. [Matt Gemmel](#), Director, Policy and Research, Federation of Canadian Municipalities (FCM), said that various extreme weather events, such as heat waves,

1 Government of Canada, [Canada's top 10 weather stories of 2022](#).



flooding, hurricanes and wildfires, have “wreaked havoc” on homes, businesses and communities. Like other witnesses, he stressed that municipalities lack the financial resources to ensure the resilience of their infrastructure.² He made the following observation:

... there's a mismatch between the impact of climate change on municipal infrastructure and the revenue tools that municipalities have to tackle the issue.

[Mr. Gemmel](#) noted that a 2020 study by FCM in partnership with the Insurance Bureau of Canada revealed that it will cost an estimated \$5.3 billion per year to avoid the “worst impacts” of climate change at the municipal level.³

[Joanna Eyquem](#), Managing Director, Climate-Resilient Infrastructure, Intact Centre on Climate Adaptation, stated that the impacts of climate change are not just financial, but health-related as well. She mentioned the 619 deaths that occurred during the “heat dome” in western Canada in 2021, as well as the mental health effects of climate change anxiety. [Ms. Eyquem](#) also pointed out that following catastrophic events such as flooding, the social fabric in affected communities weakens when homes are not rebuilt. In a similar vein, [Michael Goetz](#), Mayor, City of Merritt, said that after the November 2021 atmospheric river storm in British Columbia, all of the city's low-income housing was washed away by flood water, and there has been no rental housing since.

[Ryan Ness](#), Director, Adaptation, Canadian Climate Institute, also pointed out that the effects of climate change on infrastructure are going to have a major impact on lifestyles in certain regions, particularly in northern Canada as permafrost melts.

Water and Shipping Infrastructure

The study included much discussion on the state of water infrastructure and its resilience to the current and anticipated impacts of climate change. [Sylvain Dupuis](#), Mayor of the City of Saint-Ours, said that existing infrastructure is not adapted to future challenges, and that adaptations are needed to minimize sewer backups and overflows that affect water quality. Like other witnesses, he also addressed the challenges shoreline erosion and shoulder washouts pose for the integrity of riverside

2 Standing Committee on Transport, Infrastructure and Communities (TRAN), *Evidence*, 44th Parliament, 1st Session: [Sylvain Dupuis](#) (Mayor, City of Saint-Ours); [Andrée Bouchard](#) (Mayor, Ville de Saint-Jean-sur-Richelieu); [Ryan Ness](#) (Director, Adaptation, Canadian Climate Institute); [Amy Martin](#) (Mayor, Municipality of Norfolk County) and [Spencer Coyne](#) (Mayor, Town of Princeton).

3 Federation of Canadian Municipalities, [Climate adaptation estimated to cost municipalities \\$5.3 billion annually](#), press release, 27 February 2020.

infrastructure, including roadways.⁴ He emphasized that the federal government’s lack of communication about water levels in the Richelieu River is leading to accelerated shoreline erosion and difficulties for ferry operators crossing the river. [Coree Tull](#), Co-Chair, BC Watershed Security Coalition, stated that British Columbia's watersheds are increasingly deteriorating, and that an estimated \$3 billion investment will be required over the next decade to “strengthen natural infrastructure and enhance watershed security in B.C.”⁵

[Antonin Valiquette](#), Mayor of the Municipalité des Îles-de-la-Madeleine, said he was satisfied with the support provided by Fisheries and Oceans Canada to maintain small craft fishing harbours, but pointed out that additional funds would be needed very soon to ensure that they are able to cope with “new climate realities.” He also suggested that the Cap-aux-Meules commercial dock, which handles cargo, needs investment, as it is “aging and unsuitable for its current intensive use.”

Water Treatment

[Mr. Gemmel](#) stated that the most recent core public infrastructure survey revealed that 14% of wastewater treatment infrastructure is in poor or very poor condition.⁶

[Andrée Bouchard](#), Mayor of Saint-Jean-sur-Richelieu, noted that her city's biggest challenge is the housing shortage, but that one obstacle to densification is the city's aging water infrastructure, which does not allow for adequate drainage. [Mr. Goetz](#) suggested that due to the atmospheric river storm of November 2021, certain areas of the City of Merritt had to be evacuated because the city's water and wastewater treatment systems failed. He explained that they “were flooded due to the fact that these systems are gravity-fed and in the lowest area of the city.”

[Sydney Clarysse](#), Project Lead, Energy and Facilities, Municipality of Norfolk County, said that in Norfolk County's climate change adaptation plan, 13 of the 18 climate risks listed in the vulnerability assessment were high or very high risk. Of that, eight involved wastewater infrastructure and water quality. [Amy Martin](#), Mayor, Municipality of Norfolk County, explained that it will cost \$390 million to upgrade the municipality's water

4 TRAN, *Evidence*: [Antonin Valiquette](#) (Mayor, Municipalité des Îles-de-la-Madeleine) and [Jonathan Chalifoux](#) (Mayor, Municipality of Saint-Antoine-sur-Richelieu).

5 In a discussion paper on the development of a watershed security strategy and fund, the British Columbia government states that watershed security requires that decent quality water be available for healthy communities and ecosystems. British Columbia, Ministry of Environment and Climate Change Strategy, [Watershed Security Strategy and Fund](#), discussion paper, p. 6.

6 Statistics Canada, “[Canada's Core Public Infrastructure Survey: Replacement Values, 2020](#),” The Daily, 20 March 2023.



infrastructure, a project she described as “essential,” to improve systems and preserve water quality as well as quantity. Regarding the challenges facing municipalities in terms of infrastructure financing, [she](#) made the following observation:

When municipalities can't afford to upgrade their infrastructure that simply keeps the taps on in 2023, I just don't know how we get creative and bold and how we make investments that can help us create sustainable communities for years to come. A lot of climate change initiatives are directly tied into the groundwater—the quality, the quantity and the infrastructure with which we pump that water.

Flood Protection Structures

Witnesses addressed the state of protective infrastructure, including dikes, that protect southern British Columbia from flooding.⁷ [Lina Azeez](#), Director, Habitat Programs, Watershed Watch Salmon Society, suggested that a 2015 assessment by the British Columbia government concluded that 90% of dikes did not meet standards and were not well adapted for climate change. She added that floodgates and pump stations were also deficient and that all this makes the lower Fraser (from Hope to the Salish Sea) vulnerable to flooding. [Ms. Azeez](#) also maintained that many of the protective structures currently in place are “blocking side channels, tributaries and sloughs that should be salmon habitat” and hoped that salmon habitats would be given greater consideration in strategies to deal with flooding.

[Spencer Coyne](#), Mayor, Town of Princeton, explained to the committee that in British Columbia, some municipalities have their own protective works, but many kilometres (km) are protected by orphaned dikes, meaning they are not maintained by a diking authority. The British Columbia government estimates that more than a hundred protective structures in the province are not actively maintained by a diking authority.⁸

[Mr. Goetz](#) explained that flood protection infrastructure has not been upgraded in his city since the atmospheric river storm of November 2021, that some areas have no dikes, and that there is a risk of flooding in other low-lying areas protected by temporary dikes that were built by the military. Raising similar concerns, [Mr. Coyne](#) noted two-thirds of his community is still without potable water since the weather event. [He](#) said the most immediate infrastructure concern for his city is reinforcing the diking system, which requires \$100 million to \$500 million in upgrades. Both [Mr. Goetz](#) and [Mr. Coyne](#)

7 TRAN, *Evidence*: [Ralf Nielsen](#) (Director, Enterprise Sustainability, TransLink); [Ness](#) (Canadian Climate Institute); [Coyne](#) (Town of Princeton) and [Michael Goetz](#) (Mayor, City of Merritt).

8 British Columbia, [Flood Protection Structures in B.C.](#)

emphasized the need to ensure that the diking system is adapted to climate change, and therefore to floods that may run higher in the future. Additionally, [Chief Patrick Michell](#), retired chief, Kanaka Bar Indian Band said the following:

We warned people: Change the culvert sizes. Spend \$60,000 today to save \$6 million tomorrow. Do not go into our future in response mode. Change the conversation from cost to investment.

According to [Mr. Ness](#), the cost of upgrading and maintaining dikes that are “allowed to degrade” represents only “a fraction of the cost of the damage” resulting from their failure. [Ralf Nielsen](#), Director of Enterprise Sustainability, TransLink, made the following comment:

The importance of the Lower Mainland flood strategy across the entire system is that what we do in one part of that overall watershed for diking, improving or taking back orphan dikes or making them seismic-resilient is really important. It can't be just one body doing that, so I think the federal government has a role in that regard.

Ice Bridges

[Mr. Dupuis](#) explained that one consequence of climate change in the City of Saint-Ours is the ice bridge that has made it possible for cars to cross the Richelieu River during the winter since the 19th century has no longer been a viable transportation solution in recent years. During the rest of the year, there is a ferry service between Saint-Ours and Saint-Roch-de-Richelieu. Without the ice bridge, [Mr. Dupuis](#) argues that residents have to make a 30-km detour to get to the other side, and this affects regional economic development, access to services and the social fabric. [He](#) said that since 1982, the city has been proposing that a bridge be built at the national historic site Darvard Island. The city would also like to see the water dam built in the 1960s upgraded to accommodate road traffic.

[Jonathan Chalifoux](#), Mayor of the Municipality of Saint-Antoine-sur-Richelieu, reported a comparable situation: since 2018, the municipality has only been able to offer a wintertime ice bridge on three occasions. During the rest of the year, cable ferry service is provided between the municipality and Saint-Denis-sur-Richelieu. [Mr. Chalifoux](#) maintained that the ferry operator “has no interest in offering this service during the winter period.” He hoped that the municipalities would be consulted in the future on the operation of these ferries, and that the Canadian government would “give us a say in the renewal of permits and agreements for the river crossing [Richelieu].” As Saint-Ours is located about 10 km from Saint-Roch-de-Richelieu, [Mr. Chalifoux](#) indicated that a bridge between the two cities would be a good thing for his municipality, but it would not be a magic bullet.



Abandoned Oil and Gas Wells

In her testimony, [Ms. Martin](#) touched briefly on the issue of abandoned or inactive oil and gas wells. Ontario has an estimated 27,000 oil and gas wells, mostly on private land,⁹ and Norfolk County is home to 2,600 of them, according to Ms. Martin. She explained that these can pose health and safety risks in the event of a leak, and that the municipality's emergency management team is not equipped to deal with this type of situation. Calling this a “big issue,” [she](#) noted that, as far as she knew, federal involvement was currently limited, and that although the Ontario government had recently provided some funding, this is “not enough and [...] not sustainable.”

Telecommunications Infrastructure

In his testimony, [Patrick Bousez](#), Prefect, RCM of Vaudreuil-Soulanges, spoke of the ice storm that struck his regional county municipality (RCM) in April 2023 leaving major damage in its wake and, in his words, depriving 97% of residents of electricity for “long periods of time.” When RCM staff tried to reach residents and all the local actors who must be mobilized during this type of event, they realized that the telecommunications networks were partly or completely down. This lasted several hours, even several days in certain parts of the RCM, complicating delivery of services to the public for the RCM, but also essential services. Pointing out that extreme weather events are becoming more and more frequent, [he](#) stressed that during these emergency events, communication is “essential.” [He](#) therefore made the following appeal to the Government of Canada:

We need to ensure that we have a more robust system. Our cell phone networks, our emergency telecommunications towers and even the communication systems of our fire services must be more robust, but all cell phone networks across the country even more so.

[Mr. Bousez](#) suggested that some telecom towers could be equipped with a generator to supply the power needed to operate them in the event of a failure. According to [Mr. Ness](#), the Canadian government has a role to play in regulating telecommunications systems to ensure that they are designed “to face the future climate.”

In its [brief](#), TELUS Communications Inc. stated that no telecommunications facility is immune to extreme weather events, but that the most effective way to ensure connectivity during such events is to have “multiple networks” in place. As such, it recommended that the Government of Canada “support network builders so that they

9 Ontario, [Ontario Taking Action to Address Risks Posed by Abandoned Oil and Gas Wells](#), press release, 2 June 2023.

can prevent single points of failure.” TELUS Communications Inc. also recommended that a digital climate policy framework be adopted to “ensure that the connectivity and uptake of emissions reducing technologies is maximized.”

National Flood Insurance Program

In Budget 2023, the Government of Canada indicated that it intends to establish a low-cost flood insurance program “aimed at protecting households at high risk of flooding and without access to adequate insurance.”¹⁰ [Craig Stewart](#), Vice-President, Climate Change and Federal Issues, Insurance Bureau of Canada (IBC), explained that IBC welcomes this program, adding that it would be appropriate to eventually expand it to address other challenges, such as wildfires.

Meanwhile, [Mr. Goetz](#) noted that the “vast majority” of residents in zones 3 and 4 of the City of Merritt—both areas were flooded during the November 2021 atmospheric river storm— either had no overland water insurance or were “under-insured completely.” Like [Mr. Stewart](#) and [Mr. Gemmel](#), he supported the implementation of the national program, as long as the insurance remained affordable and accessible.

[Chris Rol](#), Manager and Senior Adviser, Climate Adaptation and Flood Policy, IBC, said she believes the Canadian government should emulate the U.S. government's program by ensuring that insurance premiums under the new program are calculated to reflect investments made by communities in infrastructure that reduces their risk of flooding.¹¹

10 Department of Finance Canada, [A Made-in-Canada Plan: Strong Middle Class, Affordable Economy, Healthy Future](#), Budget 2023, p. 136.

11 United States, Federal Emergency Management Agency, [What impacts flood insurance policy costs?](#), National Flood Insurance Program.



KNOWLEDGE OF CLIMATE CHANGE RISKS

“[M]unicipal asset management and long-term capital planning have been highlighted by the municipal community in Canada as vital parts of planning, maintaining and operating infrastructure that is climate resilient.”

[Ryan Ness](#),

Director, Adaptation, Climate Institute of Canada

Municipal stakeholders explained to the committee that they have adaptation plans and knowledge of the risks associated with climate change in their area.¹² [Chief Michell](#) noted that his community of Kanaka Bar had been aware of climate change since 1990, published a land use plan in 2015, a climate change assessment and transition plan in 2018, and a community resilience plan in 2021. He maintained that this planning has enabled the community to upgrade and adapt existing infrastructure and build new infrastructure that accounts for future climate challenges. To this end, [Mr. Nielsen](#) suggested that both Indigenous and Western knowledge must be considered to find “long-term adaptations and solutions that we may otherwise not see or discover on our own.” In a similar vein, [Chief Michell](#) called for Indigenous knowledge to be used as a reference and supplemented with accurate data, through a new network of weather observation stations, among other things.

Identifying Infrastructure at Risk

According to [Mr. Ness](#), while many provincial, territorial and municipal authorities have conducted risk and vulnerability assessments on their territory to determine infrastructure priorities, many have not completed these assessments because they lack the capacity to do so. [Will Balsler](#), Coastal Adaptation Coordinator, Ecology Action Centre, suggested that an inventory of the most at-risk infrastructure or communities should be compiled, as, in his view, there is a “lack of information” about what is most vulnerable in Canada.

[Mr. Gemmel](#) noted that investment in local and regional climate data and risk and vulnerability assessments was identified as a priority for FCM when the Government of

12 TRAN, *Evidence*: [Martin](#) (Municipality of Norfolk County); [Goetz](#) (City of Merritt); [Valiquette](#) (Municipalité des Îles-de-la-Madeleine); and [Bouchard](#) (Ville de Saint-Jean-sur-Richelieu).

Canada developed Canada's National Adaptation Strategy.¹³ [He](#) reported that, as part of this strategy, the Government of Canada is planning to invest \$530 million in FCM's Green Municipal Fund, a program whose funds will be used to support conducting these assessments, among other things.¹⁴ [Mr. Gemmel](#) also noted that asset management planning can be an effective way “to integrate climate considerations throughout a municipal government's operation.”

[Carlo Dade](#), Director, Trade and Investment Centre, Canada West Foundation, said that Canada is one of the few G7 and G20 countries “not engaged in national infrastructure planning—long-term, 10- to 30-year ...” He explained that such planning involves decision-making based on criteria of national significance that are “rigorous criteria that apply across decades.” He also pointed out that it includes analysis of risk and risk mitigation measures. [Mr. Dade](#) invited the committee to draw up recommendations for a national infrastructure plan as part of this study and suggested that Infrastructure Australia¹⁵ might be a good model. In a similar vein, [Ms. Rol](#) made the following remark about infrastructure planning:

We need to plan with a view to the future, not just looking at past climate and past challenges on the weather side but also looking to the future and building almost a physical infrastructure life-cycle assessment. What job are we asking that infrastructure to do over the next 20, 30 or 40 years? Make sure we're planning to build something that's fit for purpose.

[Mr. Ness](#) suggested that the Government of Canada should do more to “lead and coordinate the development and publication of accurate information about climate-related infrastructure risks across the country.”

Flood Mapping

According to [Mr. Ness](#), the state of flood mapping in Canada is not ideal. He pointed out that the average age of mapping is over 20 years, and that it does not reflect the changing risk of flooding caused by climate change, since it reflects historical risk. [He](#) argued that “probably half of households that are at high risk of flooding in Canada are not on a flood map anywhere ...” [Mr. Stewart](#) agreed that maps illustrate the current risk, not the future risk of flooding, but argued that flood zone mapping has improved in

13 Government of Canada, [Canada's National Adaptation Strategy](#).

14 Government of Canada, [Government of Canada Adaptation Action Plan](#), p. 43.

15 Infrastructure Australia is an independent organization that advises governments, industry and communities on the investments and reforms needed to deliver better infrastructure in Australia. It was established in 2008. Australia, Infrastructure Australia, [About us](#).



Canada in recent years as a result of private sector innovation and investments by Natural Resources Canada.¹⁶ [Mr. Stewart](#) also stated that Canadians need to be better informed about the risk they face with their property, and recalled that the Government of Canada has committed to setting up a flood portal that will be available to Canadians.¹⁷

IMPROVING THE RESILIENCE OF CANADIAN COMMUNITIES

“What we've done to protect our roads, our wastewater treatment systems, our water, our electricity and our communications is not a cost. It's an investment.”

[Chief Patrick Michell](#),
Retired Chief, Kanaka Bar Indian Band

Canada's National Adaptation Strategy was published in November 2022.¹⁸ [Mr. Gemmel](#) stated that FCM supported the development of such a strategy, welcoming the move towards “a whole-of-Canada approach to climate resilience.” [Mr. Stewart](#) argued that it was essential that the strategy adopt “explicit near-term targets to reduce disaster risk and increase recovery,” and that these be measurable. He said that New Zealand's national adaptation plan was a model in this respect.¹⁹

[Mr. Gemmel](#) maintained that all levels of government will need to further invest in adaptation, and [he](#) agreed that it is in everyone's interest to invest in preventing and mitigating disasters, “rather than pay for the cost of cleanup and recovery in the wake of” them. [Mr. Gemmel](#) claimed that every dollar invested in adaptation would save \$13 to \$15 in future costs.

16 Natural Resources Canada, [Flood Hazard Identification and Mapping Program](#).

17 Department of Finance Canada, [A Made-in-Canada Plan: Strong Middle Class, Affordable Economy, Healthy Future](#), Budget 2023, p. 136.

18 Canada's National Adaptation Strategy was first released in November 2022. After feedback was obtained from national Indigenous organizations and provincial and territorial governments, the current version of the strategy was released on 27 June 2023.

19 New Zealand, Ministry for the Environment, [Adapt and Thrive: Building a Climate-Resilient New Zealand - New Zealand's first national adaptation plan](#), 2022.

Climate Governance

Some witnesses stressed that it's important all levels of government work together to adapt to climate change.²⁰ [Mr. Gemmel](#) acknowledged that sharing the costs of climate change in Canada is a challenge, pointing out that although municipalities own most public infrastructure in Canada (around 60%),²¹ they have limited financial capacity. [Mr. Ness](#) made the following remark on the Government of Canada's role:

[T]he Government of Canada should play a leadership role in ensuring that all government spending and regulatory decisions around infrastructure explicitly take into account climate risks and adaptation benefits.

According to [Ms. Eyquem](#), there is a lack of coordination between the federal departments responsible for climate adaptation. [She](#) suggested that a responsible authority similar to the Federal Emergency Management Agency in the U.S. be set up in Canada to “oversee the whole of resilience across government.”²² [Ms. Eyquem](#) said she believes the National Adaptation Strategy is a good step forward, but that it's the strategy's implementation on the ground that will count. In addition to governments, she added that the public and private sectors also have a role to play in adaptation. [Ms. Tull](#) and [Neil Fletcher](#), Director of Conservation Stewardship, B.C. Wildlife Federation, BC Watershed Security Coalition, also spoke of partnerships with First Nations. [Ms. Bouchard](#) also pointed out that her city is working with both provincial and federal authorities, as well as the United States and more specifically the State of Vermont, to ensure vigilance in the international Lake Champlain–Richelieu River basin.

[Ms. Eyquem](#) maintained that the Canada Infrastructure Bank (CIB) should be involved in adaptation efforts. [She](#) suggested that the CIB's green infrastructure investment stream be expanded to include investments in nature-based infrastructure, as well as measures to enhance “flood, wildfire and heat resilience.”²³ [She](#) added that “climate adaptation, mitigation and nature-positive solutions should all be dealt with in tandem.” [Ms. Rol](#) also suggested that the CIB allocate an additional \$2 billion “for disaster mitigation” and find

20 TRAN, *Evidence*: [Matt Gemmel](#) (Director, Policy and Research, Federation of Canadian Municipalities); [Coyne](#) (Town of Princeton); [Dupuis](#) (City of Saint-Ours); [Coree Tull](#) (Co-Chair, BC Watershed Security Coalition); [Nielsen](#) (TransLink); [Valiquette](#) (Municipalité des Îles-de-la-Madeleine); and [Bouchard](#) (Ville de Saint-Jean-sur-Richelieu).

21 Infrastructure Canada, *Building the Canada We Want in 2050*, engagement paper on the National Infrastructure Assessment, 2021, p. 13.

22 United States, Federal Emergency Management Agency, *About us*.

23 Canada Infrastructure Bank, *Green Infrastructure*.



an additional \$4 billion in “matching private capital.” [Mr. Stewart](#) added that the CIB is “a necessary vehicle to make sure that the private sector is also at the table.”

Infrastructure Program Structure

[Mr. Gemmel](#) stated that predictable federal transfer sources that go directly to municipalities without them having to fill out an application, such as the Canada Community-Building Fund, are an “ideal” way to fund municipal infrastructure.²⁴ Noting that transit agencies plan and build their infrastructure on a 50- to 70-year life cycle, [Nielsen](#) said a permanent transit fund would be an “excellent means of delivering the support needed to enable transit agencies” to manage climate change risk.

[Mr. Valiquette](#) said that municipalities “need significant and predictable financial support and a flexible regulatory framework.” He stated that, to adapt their territory to the impacts of climate change, municipalities need access to funding that is predictable enough to carefully plan projects, but also flexible enough to allow them to quickly change their priorities in the wake of an extreme weather event, without having to “restart the lengthy acceptance processes.” [Mr. Valiquette](#) also called for better alignment of infrastructure programs between the Canadian and Quebec governments.

[Mr. Coyne](#) pointed out that the maximum federal contribution for eligible expenses incurred by municipalities under the Disaster Mitigation and Adaptation Fund (DMAF) administered by Infrastructure Canada is 40%, which he said does not reflect the reality of small municipalities “that are facing hundreds of millions of dollars in infrastructure upgrades post-flood.”²⁵ [He](#) recommended that the Government of Canada put in place a national flood strategy with funding based on risk and recovery costs, not on population. In a similar vein, [Mr. Gemmel](#) noted that one of FCM's recommendations for a national adaptation strategy was to prioritize investment in communities most at risk, which he said was justified both by a cost-benefit analysis and by a concern for fairness:

[I]t is often lower-income or marginalized or racialized communities that are at higher risk from climate change.

[Mr. Balser](#) also recognized the need to focus on risk, not population, and to prioritize communities that have already suffered from the impacts of climate change. [Ms. Rol](#) also said that the allocation of funds should prioritize protection of the 300,000 homes most at risk for flooding in Canada by 2028. [Mr. Gemmel](#) maintained that one of the

24 Infrastructure Canada, [The Canada Community-Building Fund](#).

25 Infrastructure Canada, [Disaster Mitigation and Adaptation Fund: Applicant guide](#).

obstacles for municipalities when seeking DMAF funding is the complexity of the application form and procedures. Specifically, [Mr. Gemmel](#) noted that the climate lens criteria the government applies to infrastructure funding applications burdens smaller and rural municipalities, often requiring months of planning and the spending of thousands of dollars on consultants just to fill out the application. [Mr. Gemmel](#) noted the criteria need to be “realistic and in line with the capacity that municipal governments have to be able to comply with those criteria” and not “over and above what is needed to assess climate risk and vulnerability assessments.”

Where the DMAF was concerned, [Mr. Gemmel](#) recommended that the Canadian government provide an additional \$2 billion and invest \$1 billion a year for the next 10 years. [Ms. Rol](#) also supports this recommendation.

On the subject of federal infrastructure programs, [Mr. Bousez](#) suggested that there may be a lack of awareness of the programs available to municipalities. He suggested that setting up a one-stop shop to inform municipal governments about available programs would simplify matters. [Mr. Dupuis](#) said that the issue for the city of Saint-Ours’ administration is not its ability to submit grant applications. In [his](#) view, a better balance should be struck in the amounts awarded between municipalities of different sizes in Canada. [He](#) believes that right now, it is a “game that favours the municipalities that submit their projects the fastest, rather than the ones that are the most ready.”

[Ms. Martin](#) called on the Government of Canada to provide more dedicated funding to local governments to adapt critical infrastructure. [She](#) argued that urban and rural municipalities the size of Norfolk County are “typically competing against the GTA—the greater Toronto area—for funding and resources.” [She](#) said that distribution must “be treated equally and given consideration of size” and not population.

Nature-Based Infrastructure

[Mr. Balser](#) explained that nature-based solutions, and therefore nature-based infrastructure, are focused on “implementing the existing defence capabilities and services provided by ecosystems and native species.” [Ms. Azeez](#) noted that nature-based infrastructure initiatives are currently supported by infrastructure investment programs such as the Disaster Financial Assistance Arrangements (DFAA) program administered by Public Safety Canada,²⁶ and the DMAF, but that they should be “the norm” and not “the novelty.” [Ms. Eyguem](#) also stressed that nature-based solutions, which are “often less

26 Public Safety Canada, [Disaster Financial Assistance Arrangements](#).



costly,” should be demarginalized or standardized, a point also raised by [Ms. Tull](#) and [Mr. Balsler](#).

[Ms. Azeez](#) explained that wetland restoration is one nature-based solution to flooding, and [Ms. Eyquem](#) pointed out that considering nature-based infrastructure does not necessarily happen on a specific initiative. Instead, it is part of a sustainable management approach. For example, [she](#) noted that “the sustainable management of riparian areas can really help us with flood risk upstream of a flooded community.”

Referring to the B.C. government's March 2023 investment (\$100 million) in the Watershed Security Fund,²⁷ [Ms. Azeez](#) hoped that the federal government would also provide funding to improve watershed health. In a similar vein, [Ms. Tull](#) commented as follows:

Investing in natural infrastructure and watershed security will advance climate mitigation, adaptation, reconciliation, and sustainable economic development. Moreover, it will create vital employment opportunities and economic benefits.

[Mr. Nielsen](#) also stressed the need to better protect the country's natural heritage, which “oftentimes can not only be our best protection against severe events but can also sequester carbon, improve biodiversity and bring nature back” to cities and suburbs. To this end, [Ms. Bouchard](#) made the following recommendation to the Government of Canada:

In the next few years, it will be critically important for municipalities to obtain the federal government support necessary to fund the acquisition of the last remaining natural environments, the lungs of the highly urbanized living environments that we occupy.

Building Resilience

[Mr. Ness](#) explained that codes and standards govern infrastructure construction in Canada.²⁸ The Canadian Board for Harmonized Construction Codes develops the National Model Codes, including the National Building Code (NBC), which “sets out technical requirements for the design and construction of new buildings.”²⁹ It also applies to the demolition, change of use and conversion of existing buildings. As

27 British Columbia, [Watershed strategy co-developed with First Nations, \\$100 million invested](#), press release, 6 March 2023.

28 National Research Council Canada, [Canada's construction system - The context for model codes](#).

29 National Research Council Canada, [National Building Code of Canada 2020](#).

[Mr. Gemmel](#) points out, the Government of Canada plays a limited role in enforcing the codes, since adoption and implementation are the responsibility of provincial and territorial authorities.³⁰

According to [Mr. Ness](#), these codes and standards are an “essential” component of construction in any country that wants resilient infrastructure. He argued that to adapt quickly to the impacts of climate change, the process of updating codes will need to be accelerated, as he believes that the process is too long from research being done at the national level to implementation at the provincial and territorial level. According to [Mr. Gemmel](#), everything that is built or rebuilt “needs to be built to a higher standard” that accounts for climate change.

Meanwhile, [Kevin Lee](#), Chief Executive Officer, Canadian Home Builders' Association (CHBA), indicated that the CHBA is heavily engaged in the NBC process and pointed out that, while the NBC is based on historical data, the challenge now is to update it to account for the “climate of the future.” [Mr. Lee](#) also pointed out that modernizing the NBC is just one of many measures to protect housing from climate risks. He provided the following examples:

[W]ithout forest management, protecting homes from wildfire might be futile. If there are no catch basins, flood protection such as using things like back-flow valves in basements will have limited effects.

[Mr. Lee](#) also urged the committee to ensure “that regulation not be rushed without proper cross-disciplinary analysis,” and therefore to consider a house as a system. [He](#) gave the following example:

[A]dding more insulation in airtightness is good for extreme heat, but only if you have air conditioning. It helps your air conditioner be more efficient.

Compounding this challenge are those of the housing shortage, housing affordability and efforts to make housing more energy efficient. [Mr. Lee](#) suggested that affordability be added to the NBC's core objectives. [Mr. Lee](#) stressed that more research and development and innovation are required, particularly to reduce construction costs and make energy-efficient homes more affordable.

To this end, [Wing-On Li](#), Director and Chief Executive Officer, Horizons Group, explained that property developer Horizons Group strives to build energy-efficient homes in the town of Essex. He maintained that one of the challenges his group faces is the high price of its homes. [Mr. Li](#) suggested that every level of government could step in to make

30 Canadian Commission on Building and Fire Codes, [National Model Codes provincial/territorial adoption](#).



these homes more affordable, and welcomed the proposal announced in the 2023 federal budget to expand eligibility for the Clean Technology Investment Tax Credit by including geothermal energy systems.³¹ However, [he](#) said that, in his view, the most important level of intervention is the municipal level, suggesting, for example, that net-zero homes be exempted “from development charges, which you have a lot of.”

[Mr. Ness](#) also pointed out that Canadians can make their homes more resilient, and that various levels of government offer programs to support them. This was echoed by [Mr. Lee](#), who maintained that grants can help Canadians make their homes more energy efficient or prevent future losses if, for example, they put in a more hail-resistant roof.

[Michael Gordon](#), Director, United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada, Canada’s Building Trades Unions (CBTU), acknowledged that the Government of Canada has made investments to support retrofits through grants under the Canada Greener Homes Initiative.³² He recommended that the Government of Canada increase grants both for home retrofits and for industrial and commercial facilities to become more energy efficient. According to [Mr. Gordon](#), if we want to achieve net zero by 2050, we need “to have strong energy-efficient standards for all new buildings and update existing infrastructure.”³³

Workforce and Training

[Rita Rahmati](#), Government Relations Manager, CBTU, pointed out that many skilled trade unions are currently experiencing labour availability challenges, citing as an example the Labourers' International Union of North America, which could use over 15,000 workers in Ontario alone to meet demand. [Mr. Gordon](#) praised the Union Training and Innovation Program administered by Employment and Social Development Canada, which supports apprenticeship training.³⁴

[Mr. Gordon](#) maintained that a process should be put in place to ensure that the skills of new Canadians practicing a regulated trade meet Canadian requirements. He suggested

31 Geothermal energy systems included in this announcement are those eligible for Class 43.1 and Class 43.2 capital cost allowance. Department of Finance Canada, [A Made-in-Canada Plan: Strong Middle Class, Affordable Economy, Healthy Future](#), Budget 2023, p. 91; and Canada Revenue Agency, [Class 43.1 \(30%\) and Class 43.2 \(50%\) - Classes of depreciable property](#).

32 Natural Resources Canada, [Canada Greener Homes Initiative](#).

33 Government of Canada, [Net-Zero Emissions by 2050](#).

34 Employment and Social Development Canada, [About the Union Training and Innovation Program](#).

that the Government of Canada “work with” the Red Seal program and the organizations representing these trades to provide a “road map” for these new Canadians to practice their trade.

According to [Mr. Gordon](#), the Red Seal program, a partnership between the provinces and territories to establish common standards for assessing tradespeople skills, is “best poised to serve mobility challenges for infrastructure development and maintenance here in Canada.”³⁵ When a red seal is affixed to a provincial or territorial Certificate of Qualification, it indicates that “a tradesperson has demonstrated the knowledge required for the national standard in that trade.”³⁶ [Mr. Gordon](#) said he would like to see the Red Seal team work with the federal government to establish a national public database of Red Seal certificates, a move he believes would promote labour mobility across the country. [Ms. Rahmati](#) added that measures to allow travel expense deductions would also help increase tradesperson mobility.

[Ms. Rahmati](#) addressed the issue of training, pointing out that in “transitioning to net zero,” it will be necessary to ensure that workers have the skills needed to, for example, construct buildings with “more energy-efficient standards.” In its [brief](#), Colleges and Institutes Canada (CICan) states that Canada's colleges are “ideally positioned to train, upskill and reskill” the workforce to meet the needs of a green economy, and emphasized the importance of investing in training at the college level. CICan recommended that the Government of Canada do an inventory of the infrastructure used to teach strategic skills for the country's economy, to ensure that there is sufficient capacity to “meet the needs of key economic sectors going forward,” such as construction. CICan said it believes that the Government of Canada should enhance financial assistance for mid-career learners through a new program that could be called “Career Jump.”

[Mr. Stewart](#) also spoke of labour shortages when it comes to deploying assessors after extreme weather events, particularly those in eastern Canada.

Post-Disaster Reconstruction

In his testimony, [Mr. Balse](#) argued that the best way to adapt infrastructure to climate change is to avoid building in areas known to be at risk. He lamented that some of the

35 Red Seal, [Red Seal Program](#).

36 Ibid.



funds allocated to this effort in Canada are used to “rebuild communities and infrastructures in areas that were just levelled by floods, erosions and storms.”

Ms. Azeez explained that under the DMAF, communities must rebuild to the same standards, and since communities rely on government financial assistance, they therefore find themselves encouraged to rebuild in high-risk areas. She said that this is “inherently counter to the concept of adaptation.” Mr. Goetz argued that the DMAF is designed so that funds are advanced to the provinces only when the total cost of disaster-related losses has been established, which means that funds may be received years later. On a related point, he said that in the aftermath of the flood events of 2021, the DMAF program was not available to his city, with the intake closed for a period of 13 months. He testified: “We had our DMAF request ready to go, but we had nowhere to send it. It was like sending it into the netherworld.” He recommended that the Government of Canada expedite the release of funds from this program to the provinces so that support for reconstruction projects arrives more quickly.

Mr. Goetz also stated that the DMAF excludes land acquisition as an eligible cost and said he would like to see the program include acquisition of land and buildings needed to build mitigation infrastructure. Mr. Coyne pointed out that Canada's National Adaptation Strategy does not include a “program to assist in the mass relocation of areas out of flood plains.” He pointed out that, although local governments can zone out new development in these areas, they have no means to relocate those already there, which is why he recommended that all levels of government work together to develop a program to fund this type of initiative.

CONCLUSION

During the Committee's study, stakeholders highlighted the impacts of climate change on Canada's infrastructure. In particular, they emphasized the need to improve the resilience of water and shipping infrastructure, telecommunications infrastructure and private residences, and proposed various solutions to this end. Some also agreed that the Government of Canada needs to improve its knowledge of the infrastructure most at risk in Canada. To improve the resilience of Canadian communities, stakeholders suggested a concerted approach by all actors and levels of government.

APPENDIX A LIST OF WITNESSES

The following table lists the witnesses who appeared before the committee at its meetings related to this report. Transcripts of all public meetings related to this report are available on the committee’s [webpage for this study](#).

Organizations and Individuals	Date	Meeting
City of Merritt Michael Goetz, Mayor	2023/05/04	66
Ecology Action Centre Will Balsler, Coordinator, Coastal Adaptation	2023/05/04	66
Federation of Canadian Municipalities Matt Gemmel, Director, Policy and Research	2023/05/04	66
Town of Princeton Spencer Coyne, Mayor	2023/05/04	66
BC Watershed Security Coalition Zita Botelho, Director, Watersheds BC Neil Fletcher, Director, Conservation Stewardship, B.C. Wildlife Federation Coree Tull, Co-Chair	2023/05/30	71
Canada's Building Trades Unions Michael Gordon, Director, United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry of the United States and Canada Rita Rahmati, Government Relations Specialist	2023/05/30	71
Canadian Home Builders' Association Kevin Lee, Chief Executive Officer	2023/05/30	71
City of Saint-Ours Sylvain Dupuis, Mayor	2023/05/30	71

Organizations and Individuals	Date	Meeting
Intact Centre on Climate Adaptation Joanna Eyquem, Managing Director, Climate-Resilient Infrastructure	2023/05/30	71
As an individual Patrick Michell, Retired Chief, Kanaka Bar Indian Band	2023/06/01	72
Canada West Foundation Carlo Dade, Director, Trade and Investment Centre	2023/06/01	72
Insurance Bureau of Canada Chris Rol, Manager and Senior Advisor, Climate Adaptation and Flood Policy Craig Stewart, Vice-President, Climate Change and Federal Issues	2023/06/01	72
Municipalité Saint-Antoine-sur-Richelieu Jonathan Chalifoux, Mayor	2023/06/01	72
Municipality of Norfolk County Sydney Clarysse, Project Lead, Energy and Facilities Amy Martin, Mayor	2023/06/01	72
Watershed Watch Salmon Society Lina Azeez, Director, Habitat Programs	2023/06/01	72
Canadian Climate Institute Ryan Ness, Director, Adaptation	2023/06/06	73
Horizons Group Wing-On Li, Director and Chief Executive Officer	2023/06/06	73
MRC de Vaudreuil-Soulanges Patrick Bousez, Prefect	2023/06/06	73
Municipalité des Îles-de-la-Madeleine Antonin Valiquette, Mayor	2023/06/06	73

Organizations and Individuals	Date	Meeting
TransLink Ralf Nielsen, Director, Enterprise Sustainability	2023/06/06	73
Ville de Saint-Jean-sur-Richelieu Andrée Bouchard, Mayor	2023/06/06	73

APPENDIX B LIST OF BRIEFS

The following is an alphabetical list of organizations and individuals who submitted briefs to the committee related to this report. For more information, please consult the committee's [webpage for this study](#).

Canadian Public Works Association

Colleges and Institutes Canada

Telus Communications Inc.

REQUEST FOR GOVERNMENT RESPONSE

Pursuant to Standing Order 109, the committee requests that the government table a comprehensive response to this report.

A copy of the relevant *Minutes of Proceedings* ([Meetings Nos. 66, 71 to 73, 78 and 79](#)) is tabled.

Respectfully submitted,

Peter Schiefke
Chair

Supplementary Report of the Conservative Party of Canada

Introduction

Conservative Members of the Standing Committee on Transport, Infrastructure and Communities would like to thank the number of witnesses who shared their valuable perspectives and insights concerning how to ensure that Canada's infrastructure and housing is not only adapted and built more resilient to face increasingly frequent weather events, but to also ensure that current infrastructure needs communities face today are addressed.

Conservative Members support the thrust of this report and its recommendations. However, Conservatives believe there are key concerns that needed further emphasis. First, it is important to understand that the infrastructure gap, which continues to widen to the tune of billions is, in large part, the result of the failure of the government to properly design and effectively prioritize and distribute its infrastructure dollars to get needed investment out the door to communities with critical infrastructure gaps. Second, the report did not go far enough in underscoring the importance of affordability as a guiding policy principle at a time when Canadians are arguably facing the worst cost-of-living crisis and housing crisis in its history. It is imperative that governments develop holistic policy solutions that consider not only climate change, but affordability and socio-economic outcomes for Canadians.

Federal Infrastructure Program Review & Redesign

While the Committee's report describes the barriers that face communities in accessing federal infrastructure programs, Conservatives wish to further emphasize that it is the government's top-down, ideological filters and bureaucracy that have stalled the building of roads, bridges and critical infrastructure that regions need to mitigate against climate impacts and to grow Canada's economy. We believe this has been a primary driver behind the infrastructure deficit we have today.

The Federation of Canadian Municipalities (FCM), for example, testified that 14% of all municipal infrastructure is in poor or very poor condition and at least \$175 billion is required to upgrade Canada's aging wastewater, stormwater, transportation and community infrastructure. Mayors of several small municipalities in different parts of the country spoke to the red tape, the complicated application processes, and the lack of flexibility in eligibility criteria for many of the government's infrastructure programs – all of which have kept communities from getting funding for critical infrastructure.

In addition, if more proactive mitigation investments had been made to address vulnerabilities in the high flood risk areas in British Columbia in advance of the atmospheric river events of

November 2021, many impacts would have been prevented – including the loss of life – and saved millions, if not billions in damage. The Committee heard how towns in British Columbia are still reeling from the aftermath of the 2021 flood events and have been prevented from both rebuilding infrastructure due to conditions on program funding, but also prevented from rebuilding dikes and other mitigation infrastructure to a higher standard because of the limitations imposed by the government’s Disaster Mitigation Adaptation Fund. As a result, some areas have no dikes at all – or have only temporary dike structures in place – and are left less protected from flooding today than they were two years ago.

The Conservative Party also wishes to underscore the Committee’s recommendation that a re-evaluation of the climate lens criteria is needed. The Committee heard testimony from the FCM and echoed by BC mayors that these criteria are onerous and often lack common sense. For example, critical infrastructure such as dikes should not be unfairly subjected to these criteria when it is impossible for them to be given credits for reducing carbon emissions. In terms of the application process, Matt Gemmel, Director of Policy and Research with the FCM testified: “It’s not really in anyone’s interest, other than the consultants’, to have municipalities have to spend hundreds of thousands of dollars and many months of planning time to comply with a climate lens that’s really over and above what is needed to assess climate risk and vulnerability assessments.”

Housing Affordability

There is an urgent need to prioritize addressing an unprecedented housing affordability crisis while being good stewards of the environment. The Canadian Home Builders' Association (CHBA) as well as Ontario eco-builders, Horizons Group, emphasized to the Committee that affordability needs to be a central priority as we pursue the goal of more resilient, energy-efficient homes.

Specifically, Mr. Kevin Lee, CHBA President, recommended that affordability be added to the National Building Code's core objectives as the government develops new regulations. He also testified that the government needs to do its research upfront before implementing changes to the way homes are built that could drive up costs for consumers, saying, “A lot of the energy needs to go into research and development and innovation focused around affordability.” Mr. Lee also said, "Over-regulation can quickly drive up costs, when our housing crisis can't afford it...".

Conservatives note that the government's proposed changes to the National Building Code under its Emissions Reduction Plan (ERP) have also been criticized by experts as a hit to home affordability. It is incumbent upon this Liberal government to do everything it can to reverse the housing crisis that has doubled mortgage and rent payments for Canadians over the last eight years. If the government makes hastily drafted changes to the building code without factoring in home affordability, Canadians will likely see even higher home prices in the years to come.

Conservatives for that reason would add the following recommendation: That the Government of Canada prioritize both affordable and resilient, energy-efficient buildings and homes by adding affordability as a core objective to the National Building Code. It is essential future changes do not negatively impact home affordability during a housing crisis when most Canadians can no longer afford to purchase a home.

Conclusion

In conclusion, Conservatives believe that communities cannot plan for the future and become more climate-resilient when their basic infrastructure needs and gaps are not addressed. It is not acceptable that a G7 country should have communities without potable water two years after a natural disaster and that indigenous communities are without clean drinking water. The atmospheric river flooding events of 2021, in particular, are a stark example of how the government failed to address known vulnerabilities beforehand, and this points to a broader infrastructure policy failure that needs to be addressed. In addition, Conservatives believe fixing the housing crisis and making homes affordable again for Canadians needs to be at the top of this government's priorities. The government must avoid increasing housing costs on Canadians at a time when our housing crisis and Canadians can least afford it.



Supplementary opinion

Report on infrastructure climate adaptation

By the office of Xavier Barsalou-Duval

Presented to the Standing Committee on Transport, Infrastructure and Communities

October 20th, 2023

Introduction

First, the Bloc Québécois salutes the members of the Committee as well as its staff for the professionalism they demonstrated and the work they accomplished during this study and thanks all the witnesses and citizens who contributed to the debate on the future of our infrastructure in the face of climate change.

Climate action is everyone's business, and it is a fight that must be undertaken on a global scale; however, the impacts of climate change are unique to each region and each biome. It is therefore important to call for caution in the centralization of decisions on mitigating the impacts of climate change, particularly in the Canadian constitutional context.

Legitimate federal action

The environment does not appear explicitly in the Constitutional Act of 1867, so it is through decisions of the Supreme Court that the sharing of this jurisdiction between the federal government, Quebec and the provinces was established. We are delighted to see the adoption of several recommendations proposed by our political party to help municipalities with federal infrastructure use them to address the impacts of climate change thanks to the adoption of recommendation 4:

“ That the Government of Canada facilitate the provision of federal assets to communities to offset the loss of infrastructure or services due to climate change. ”

This recommendation supports the demands of residents of the Richelieu who, for centuries, have traveled in winter on ice bridges between the two banks of the river. Climate change has in recent years led to a reduction in the ice layer on the river, to the point that today the ice bridges are no longer passable. It therefore goes without saying that the federal government listens and works in concert with local stakeholders to allow the circulation of vehicles and active transportation on the Saint-Ours dam to avoid detours exceeding 30km for residents.

Through its spending power, the federal government can also help Quebec and its municipalities carry out the work necessary to sustain infrastructure threatened by climate change. Witnesses from the municipal sector told us about the significant work needed on the aqueduct networks, it is therefore important to note the adoption of recommendations 1 and 2 made by the Bloc Québécois:

“ That the Government of Canada create a permanent federal funding mechanism to support and enhance the cost-effectiveness and sustainability of modern water and wastewater systems in communities of all sizes. ”

“ That the Government of Canada eases conditions for subsidies aimed at the repairs or upgrade of aqueduct systems endangered by climate change or limiting the construction of new housing. ”

Risk of excessive centralization

It will be important in the coming years to particularly monitor the evolution of government action for recommendation 2. Municipal stakeholders raised with concern the possibility

that the federal government would add conditions to the programs that municipalities need to implement upgrades to their infrastructure. Adding a housing construction prerequisite with infrastructure funds is a bad idea, as explained by the mayor of Saint-Jean-sur-Richelieu, Andrée Bouchard:

“ Currently, the main difficulty, as for all municipalities in Quebec, is linked to housing. Our vacancy rate is 0.8%. We really need to aim for densification, but the aging of our aqueduct network prevents us from doing so. ”¹

Asking for housing construction conditions to access infrastructure funds would be *putting the cart before the horse*, by not allowing municipalities to create the conditions necessary for the densification of their urban fabric.

It is also important that the federal government stops its habit of duplicating the work already duly accomplished by the Quebec government. This trend is clearly visible in the ministerial duplication, in the second tax report that Quebecers must send to Ottawa and in the recent debates on healthcare financing, but here once again it is important to note a duplication in the recommendation 6:

“ That the Government of Canada, in collaboration with provinces, territories, municipalities, as well indigenous communities, undertake a comprehensive assessment of at-risk infrastructure (as reflected within municipal secondary plans), including updated flood plain mapping (as reflected within municipal official plans) and an evaluation of redundant telecommunications systems, and work towards building a national, data-based inventory of infrastructure projects to help guide future investment decisions. ”

Quebec has in fact already carried out recent mapping of its floodplains and presents the data on an [interactive map available to all](#). We therefore call on the government to take note of the studies already carried out by Quebec and to instead allocate the sums to enhance the Disaster Mitigation and Adaptation Fund as prescribed by recommendation 11:

“ That the Government of Canada substantially increase the funding for the Disaster Mitigation and Adaptation Fund. ”

Conclusion

Climate change is a polycrisis, a combination of several crises that lead to climate change, that all responsible politicians recognize as one of the greatest challenges of our century. The aspect most often noted concerns greenhouse gas emissions and the warming of global temperatures that accompanies them, but the crisis also concerns the collapse of biodiversity, the acidification of the oceans, the slowing down of marine currents, the spread of new zoonotic diseases and much more. If climate action must be global, adaptation to climate change must be local as the impacts are different in each region and each biome. We therefore call on the federal government to take note of this reality and put

¹ BOUCHARD, Andrée, testimony before the TRAN committee, June 6th 2023, <https://www.ourcommons.ca/DocumentViewer/fr/44-1/TRAN/reunion-73/temoignages>

the means on the table to enable the adaptation of infrastructure to the impacts of climate change without imposing its centralizing vision.