"From Knowledge to Action" Workshop Summary

Defining Future Directions and Increasing the Impact of Climate Resilient Infrastructure Guidance in Canada

Gillian Koh, Standards Council of Canada

Catherine Hallmich, Housing, Infrastructure and Communities Canada

National Research Council Canada

SCC CCN

Housing, Infrastructure and Communities Canada

Workshop Overview

- Held in Ottawa on December 4
- Hosted by the Standards Council of Canada (SCC), the National Research Council of Canada (NRC) and Housing, Infrastructure and Communities Canada (HICC)
- Attended by over 60 senior leaders, experts and federal officials responsible for public infrastructure and/or climate adaptation
- Objectives:
    1. Identify the **gaps in guidance** for top climate hazards and key infrastructure assets
    2. Define the needs and commit to aiding the **uptake** and **impact** of existing guidance

Summary: Context and Progress To Date

Plenary Session 1: Stage Setting and Progress To Date in Guidance for Climate Resilient Infrastructure

- Importance of robust guidance for climate-smart investments and meeting the targets of the National Adaptation Strategy, HICC
- Climate Resilient Built Environment Initiative: Building the Pipeline from Fundamental Research Through to Guidance and Codes, NRC
- Standards to Support Resilience in Infrastructure Program and Increasing Climate Resilience in Infrastructure: From Guidance Creation to Implementation, SCC

Summary: Context and Progress To Date

Since 2016, the NRC, the SCC and HICC have collaborated to :

- Develop a foundational understanding of climate resilience for infrastructure, encompassing design data, climatic loads, deterioration, and strengthening technologies.
- Develop a suite of standards, tools and guidance for major asset areas, including buildings, bridges, water/wastewater, urban transit, and roads
- Advance understanding and guidance in new areas: permafrost zones, dams, nature-based solutions, low-carbon resilience, and residential resilience
- Enable significant updates to three National Codes
- Establish and mobilized a network of over 300 experts and stakeholders
- Establish global leadership in climate resilience research and standardization

Summary: Gaps Assessment

Breakout Session 1: Identify infrastructure climate change adaptation needs and gaps (e.g., standards, guidance, research and tools)

Question: What are the gaps in research and guidance (including standards, guidelines and tools) you are seeing in your field of work?

Topic tables:

- Coastal flooding
- Urban flooding
- Extreme heat
- Permafrost thaw
- High winds
- Wildfire
- Decarbonization
- Data
- Emergency management

Summary: Solutions for Greater Uptake

Breakout Session 2: Understand organizations' roles in implementing climate resilient guidance and identify barriers and enabling factors for increased use/uptake.

- What is your organization's role in implementing climate-resilient guidance?
- What would it take (e.g., barriers and solutions) for your organization to implement or promote the use of guidance upon publication?
- What can your organization do to keep available guidance in the public eye and to keep it relevant and widely communicated among practitioners?
- How can the federal government accelerate the uptake of climate-resilient guidance?

Groups:

- Scientists and researchers
- Civil Society
- Engineers, architects and planners
- Funders
- Insurers
- Asset owners and managers
- Policy makers and regulators

Results

Received over 100 suggestions, including:

Gaps identification

- Standard to prevent embers from travelling into buildings (through dryer and HVAC vents)
- Asset-specific guidance to increase resilience to coastal flooding
- Guidance on designing, locating and operationalizing cooling measures during heat waves
- Tools for prioritizing the implementation of resilience measures in building design, considering multi-hazards, trade-offs, costs and building location

Solutions for greater uptake

- Insurers and bankers can inform homeowners of actions they can take to protect their property.
- Professional associations can reach out to their members to promote climate resilience in training curriculums and certification.
- Scientists and civil society can help distill technical information for “non-technical” audiences who can support greater uptake (e.g., real estate agents, insurance brokers, asset managers, politicians)
- Funders and asset owners can write resilient guidance into procurement requirements

Opportunities for Post-workshop Feedback

- A follow-up survey including questions on gaps and driving uptake will be shared with IBWG members in the coming days.

- A webinar will be held in February 2025 to present the draft workshop summary report and gather additional input. A final report will be published in 2025 by the NRC.