

# Infrastructure and Buildings Working Group

## IBWG Meeting 45

June 25, 2025 – 1:00 pm to 2:30 pm ET

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## 1. IBWG Updates and Announcements

- For new members, please join the IBWG directory by completing this quick form:  
<https://forms.gle/vgJqG1ayWKVUMTy48>
  - Please note that the information shared in this form will be publicly available.
- **FireSmart Canada:** June 17, 2025, FireSmart released a new Residential Development Guide, and Builders and Landscape Checklists to help Canadians better protect communities from wildfires. These are informed by NRC's National Guide for Wildland-Urban Interface Fires.
  - Documents are now available on the [FireSmart Canada Resources Webpage](#), and are located under the "Home Construction Heading".
- **Envision v4 Feedback:** The Institute for Sustainable Infrastructure is refining the Envision Sustainable Infrastructure Framework to create Envision version 4. Feedback to strengthen the tool is sought by July 11, 2025.
  - Envision v4 Feedback [link](#)
- **Adaptation Canada 2026:** Adaptation Canada 2026 will take place from September 22-24, 2026, in Toronto and ICLEI has initiated work on the conference program and themes.
  - More information on Adaptation Canada 2026 available [here](#)
- **Building resilient energy infrastructure:** In reference to today's first presentation, see a recent article that highlights a major blackout in April that affected much of the Iberian Peninsula. It disrupted transport, communications, and emergency services in many cities.

Triggered by a power failure in Granada and while technical in cause, the blackout revealed deeper structural and the need for greater resilience.

- Read the article [here](#)
- **IBWG.ca Walkthrough:** Release of latest draft of the IBWG platform we had been working on in collaboration with CanAdapt (climate adaptation capacity-building hub led by the Climate Risk Institute and Royal Roads University)
  - Members are invited to explore the site and the content [here](#)

## 2. Presentations

[PDFs attached]

### ***A) Prioritizing Climate Adaptation Investments across the Ontario Electric Sector***

#### **Speakers:**

**Maren Ihlemann is a Senior Engineer** in EPRI's Resource Adequacy group. Her research focuses on flexibility in resource adequacy and climate-resilient, integrated planning. Prior to joining EPRI, she completed her PhD at the KU Leuven University, Belgium, in the Group of Energy Systems Integration & Modelling, focused on developing a highly flexible, multi-energy system modelling tool.

**Anna Lafoyiannis is a Program Lead** at EPRI, leading the Bulk System Integration of Renewables and Distributed Energy Resources group. Before joining EPRI, she was supervisor of reliability assurance at Ontario's IESO, where she developed its capacity market and set specifications for long-term contracts. She also held leadership roles at the North American Electric Reliability Corporation (NERC), including a term as chair of NERC's Reliability Assessment Subcommittee.

#### **Meeting Notes:**

##### **EPRI Overview:**

- Founded after a major 1965 U.S. blackout to understand and prevent similar events.
- Focuses on applied research for utilities worldwide.
- Though U.S.-based, operates as a global organization.

##### **Climate READi Power Framework:**

- Developed to integrate climate resilience into power system planning.
- Aims to create a consistent, collaborative global approach to justify investments and reduce risk aversion.
- Started as a high-level, general effort.

##### **Texas Case Study – Using the Climate READi Power Framework:**

Integrated planning approach combines technical side of power-systems with climate data. Uses a climate risk screening approach:

- **Climate Risk Screening:** Assesses asset vulnerabilities using localized weather data to identify stress events.
- **Bulk System Capacity Expansion:** Considers climate impacts in system growth planning.
- **Resource Adequacy Assessment:** Uses climate-projected weather years and outage probabilities to assess system readiness.

#### **Key Challenges:**

- Varying utility ownership and responsibilities complicate framework application.
- Data sharing and agreeing on assumptions can be difficult.
- Climate hazards differ by region, requiring tailored approaches.

#### **Project underway: Ontario Climate READi Power Framework Case Study**

- Collaborated with funders to gain consensus on priority climate hazards for planning.

#### **Discussion**

**Dan:** How are wildfires considered, in southern Ontario case study?

**Anna Lafoyiannis:** Outside of the scope of the project, if electrical systems cause wildfire. Would love to explore further in the future.

**Marianne Armstrong:** How can this framework or results of the case studies inform policy and regulation?

**Anna Lafoyiannis:** Been working on developing what codes and standards could or should change. Companies are looking for regulators to set the tone, and regulators are looking for data to be well-informed. We're hoping that this drives conversations, motivates next steps, and to ensure we're aligned.

**Kelly Montgomery:** Thanks for the presentation, have you come across any indicators that utilities are using to indicate climate resiliency of the grid? You mentioned outages, any other indicators?

**Anna Lafoyiannis:** We have a full report on resilience metrics being used - many are related to outages, but there are other that have been proposed that look at social vulnerability, costs, health, and so forth. You can find that specific paper here: [Metrics to Evaluate Effectiveness of Resilience Strategy Deployment](#)

We are continuing to do research in this space, so we will likely publish more in the future.

**Maren Ihlemann:** This is the report on investment prioritization and cost-benefit analysis: <https://apps.epri.com/climate-readi-investment-guide/en/> . All of our published reports and information on the framework are available at : [Climate READi](#)

## ***B) ICLR/CHBA Resilient Homes Task Force: Advancing Resilient Home Construction***

### **Speaker:**

**Dan Sandink** is Director of Research at the Institute for Catastrophic Loss Reduction. He has authored or co-authored over 60 technical reports and peer-reviewed articles on extreme weather and disaster resilience. Dan manages ICLR's PIEVC Program and co-chairs Canada's National Infrastructure and Buildings Working Group. He also contributes to numerous national, provincial, local, and industry initiatives focused on improving climate resilience for Canadian homes. Dan studied geography and land use planning at the University of Guelph, Western University, and the University of Toronto.

### **Meeting Notes**

- The purpose of this project between ICLR and CHBA looking to implement Resilience options in Part 9 building construction
- Tiered resilience options (good better best) were created to address the limited uptake of resilience measures in residential sector in Canada. Want accessible and constructable before we can get to full blown guidelines. That's why tiers were created :
  - **Basic:** recurring vulnerabilities, key drivers of disaster risk for part 9 construction, that can be worked on from the private homeowner side
    - Applicable anywhere in Canada
    - Low cost
  - **Better:** builds off of the above
  - **Best:** application of full guidelines from CSA and NRC
- Market research shows that there is a significant willingness of buyers to participate to pay for resilience options, if presented in a certain way. There is a market for these options.

### **Discussion**

**Q:** Are the illustrations (renderings) publicly available, or in a format that can be shared?

**Dan:** will publish these guidelines- will be publicly available

**Sarah Cunningham:** Are the research papers you referenced available now?

**Dan:** yes, the background research is available via our website.

**Q:** What is the process for different products and materials to find themselves on to the tier lists? Is it all done through testing, and are you ever approached by vendors to get their products on the better/best tier list?

**Dan:** Wherever possible. A challenge area is siding and impact testing, because we don't have an impact test. Working on creating those tests. While we wait on those testing standards.

**Frank Lohmann:** housing affordability – the building industry must be listened to to consider the low-costs. We hear from builders that their suppliers don't know what we're talking about- we have to build capacity there. So we have to do the footwork to get everyone on the same page.

**Harshan Radhakrishnan:** Dan, I just wanted to highlight the work being done under the umbrella of the Climate Hazard and Response Tool (CHART) project supported by NRCan and suggest exploring synergies between these two efforts. Happy to connect offline as needed.

**Dan:** Great - thanks Harshan. We are participating in Rob LePage's project as well!

### 3. IBWG Member Roundtable Updates

*This section provides updates from IBWG members on tools, workshops, publications and new adaptation and resilience strategies.*

#### **A) Katie Pearson: updates to ClimateData.ca**

- Ssp3 7.0 is a new high emissions scenario that has been added to ClimateData.ca
- It falls between 8.5 (high emissions) and ssp2 4.5, and includes the projection of high concentrations of aerosols, which has effects on regional precipitation.
- M6 replaced previous U6 data sets
  - Use the same global climate ensemble, but M6 preserves relationship between variables, which is particularly helpful when projecting freeze thaw cycles
  - Uses different historical observational targets, which is better for projections on the west coast

#### **B) Ulrikke Oernholt (Standards Council Canada) SSRIP Updates**

2025 Updates to Standards to Support Resilience in Infrastructure Program

- 1) Northern Infrastructure Standardization Initiative (NISI)
  - Reflect new climate data and new climate change adaptation strategies
- 2) Nature-based solutions Workshop Agreement
- 3) Integrated Risk Management Update
- 4) Strengthening Assets Against Extreme Weather Events Update
- 5) Moving ahead on Transportation aspects of SSRIP

For information, you can find SCC SSRIP deliverables here [Published projects | Standards Council of Canada](#). For any questions, feel free to reach out to me at [ulrikke.oernholt@scc.ca](mailto:ulrikke.oernholt@scc.ca)

#### **C) Global Infrastructure Resilience Survey: International Coalition for Sustainable Infrastructure (ICSI)**

Survey link: <https://www.surveymonkey.com/r/GIRS2>

*Interested in 1h interview? Reach out to George Karagiannis, Risk and Resilience Director, ICSI*

A LinkedIn post you could share:

<https://www.linkedin.com/feed/update/urn:li:activity:7336059170674151427>

## 4. Events

### **Marianne Armstrong**

Quick announcement from NRC to share: Concordia University and the NRC are co-chairing 17th International Conference on the Durability of Building Materials and Components (DBMC 2026), which will take place July 20-24, 2026, in Montreal, Canada. The [call for abstracts](#) is now open, seeking submissions especially on the impacts of climate change and emerging construction technologies on the durability and performance of building materials, components, and systems. Deadline is August 1.

### **Joanna Eyquem**

Additional News: At CZCA2025 we officially launched CoastAdapt– a national initiative to connect coastal communities with the knowledge and resources they need to build a safer, more resilient future, wherever they are starting from.

- Read the press release: <https://financialpost.com/globe-newswire/supporting-people-on-the-front-lines-of-coastal-change-coastadapt-launches-to-strengthen-coastal-resilience-in-canada>
- Respond to the Call for Input: <https://forms.office.com/r/g22gL7vzRh>
- Join the mailing list: <https://news.coastadapt.ca>

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- Lisez le communiqué de presse: <https://www.globenewswire.com/news-release/2025/06/11/3097499/0/fr/Soutenir-les-collectivit%C3%A9s-en-premi%C3%A8re-ligne-du-changement-c%C3%B4tier-CoastAdapt-se-lance-pour-renforcer-la-r%C3%A9silience-c%C3%B4ti%C3%A8re-au-Canada.html>
- Répondez à l'appel à contributions: <https://forms.office.com/r/5wMZsUPaS7>
- Inscrivez-vous à la liste de diffusion: <https://news.coastadapt.ca>

### **Chad Nelson**

FYI - Housing, Infrastructure and Communities Canada's core climate resilience guidance webpage is here continues to be updated. It contains a link to standards and guidelines developed by the NRC and SCC - <https://housing-infrastructure.canada.ca/climate-resilience-climatique/codes-standards-normes-guidances-eng.html#standards>