



Critical Canadian  
**Building Science**  
Webinar Series

# Beyond Energy Efficiency: Tackling Embodied Carbon and Resilience

March 5, 2026 | 1:00 – 2:30 PM (ET)



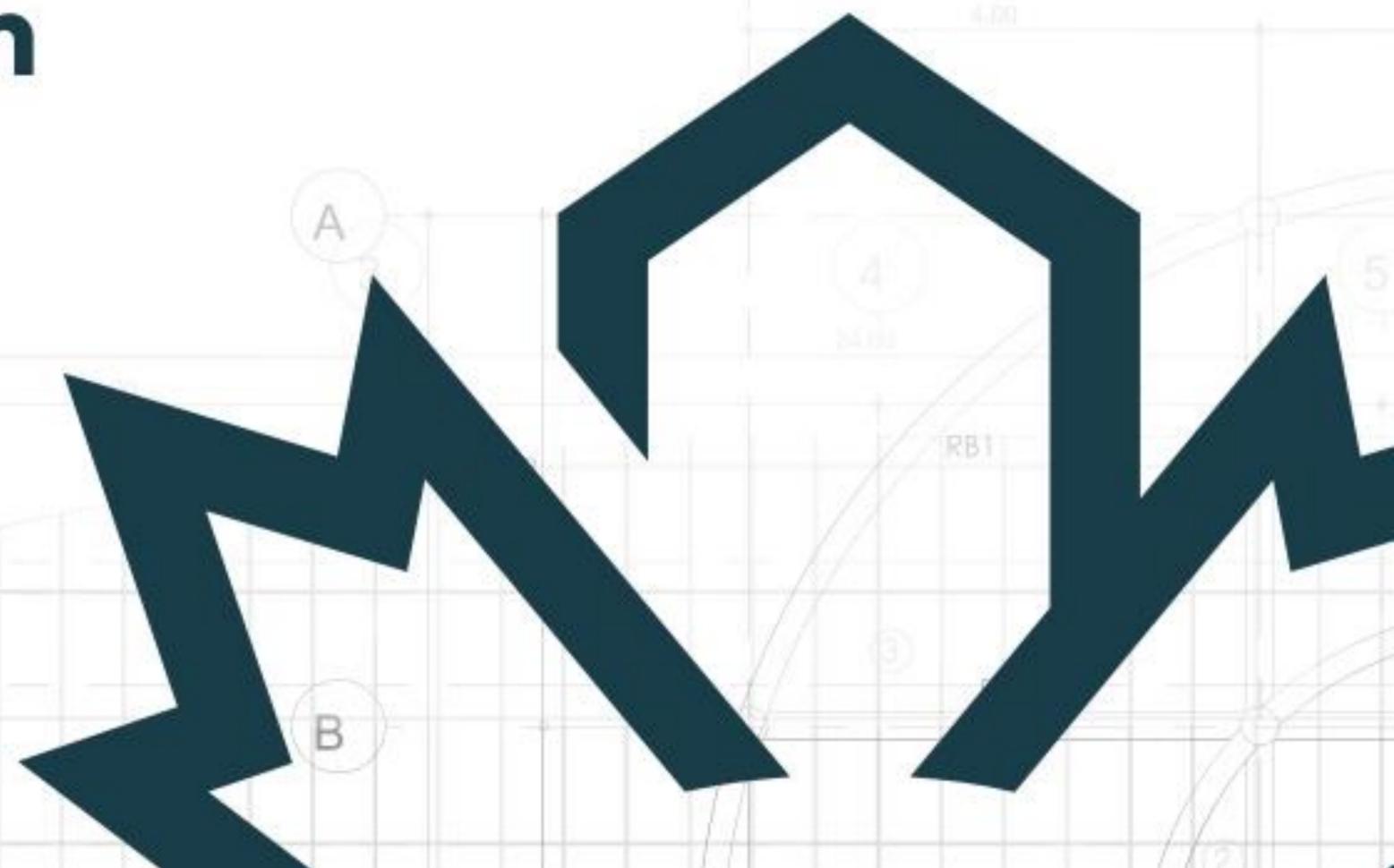
**Mark Rosen**  
Building Knowledge  
Canada



**Chris Magwood**  
Rocky Mountain Institute



**Dan Sandink**  
Institute for Catastrophic  
Loss Reduction



# Agenda

- Introductions
- Housekeeping
- Embodied Carbon and Climate Resilience Intro: Mark Rosen, BKC
- Expert/Guest Speaker – Dan Sandink, ICLR
- Expert/Guest Speaker – Chris Magwood, RMI
- Q&A





*Life Takes Energy*®

**Mark Prociw**  
**Manager, Mass Market Strategic**  
**Accounts**  
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# Traditional Acknowledgement





# Falls Are 100% Preventable

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March is national ladder safety month

# National Ladder Safety Month

## Fall Risk Statistics

In 2023, over 47,000 deaths were caused by falls, making up 21% of preventable fatalities in the US.

## Safe Work Practices

Use proper equipment, maintain three points of contact on ladders, and avoid overreaching to prevent falls at work.

## Home Fall Prevention

Keep walkways clear, use handrails, ensure good lighting, and wear slip-resistant shoes to reduce home fall risks.

## Vulnerable Populations

Older adults face the highest risk of injury-related death from falls, requiring extra preventive measures.

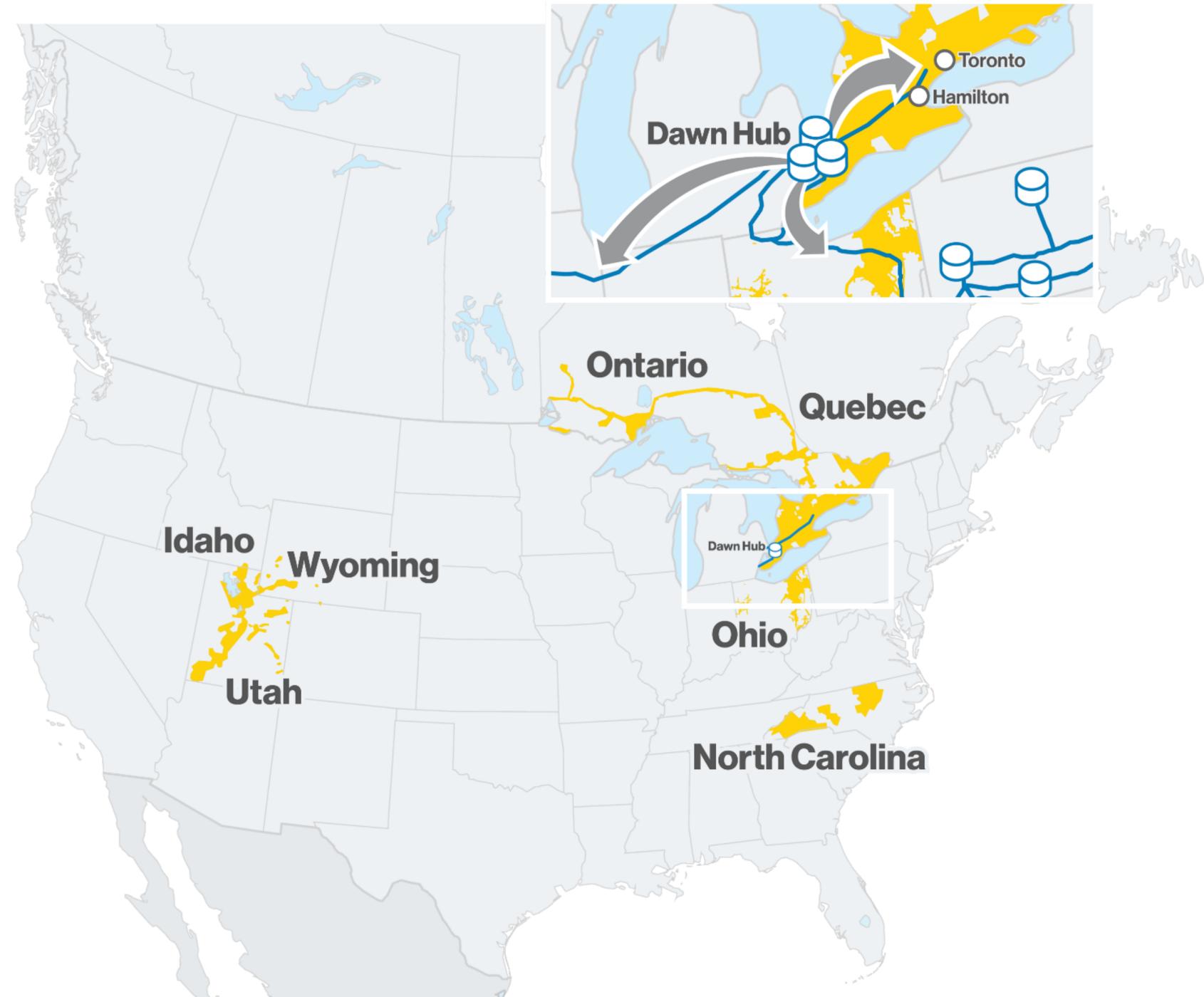


# Enbridge Gas

North America's largest natural gas distribution and storage company

We deliver the energy that enhances people's quality of life.

- **Values:** Safety, Integrity, Respect, Inclusion, High Performance.
- **Ambition:** To be your first-choice energy delivery company.
- **Distribution business:** Five natural gas utilities provide safe, affordable and reliable energy to 7 million customers in Ontario, Quebec, Ohio, Utah, Idaho, Wyoming and North Carolina.
- **Gas supply:** The Wexpro Company develops and supplies a portion of natural gas supply to Enbridge Gas in Utah, Wyoming, and Idaho.
- **Storage:** 351.6 Bcf of natural gas storage, largely at the Dawn Hub, Canada's largest integrated underground storage facility and one of the top gas trading hubs in North America.





## Mark Rosen

HOST

MEA, OAA, AIBC

Director of Building Science

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Mark Rosen is a professional architect, CACEA Master Energy Advisor, and nationally recognized building science leader. As Partner and Director of Building Science at Building Knowledge Canada (BKC), Mark leads the integration of building science, energy modeling, and systems innovation across residential projects nationwide.

With over 18 years of experience in high-performance housing, Mark serves on multiple advisory committees and contributes to national discussions on building codes, energy policy, and sustainable housing. He was named Ontario's Energy Advisor of the Year in 2013 and 2018 for his leadership and technical excellence.

He is driven by a commitment to advancing practical, scalable solutions that improve building performance, resiliency, and environmental outcomes.



## Dan Sandink

Senior Director, Resilience Programs, ICLR

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Dan Sandink is Senior Director, Resilience Programs at the Institute for Catastrophic Loss Reduction (ICLR). ICLR is a research institute of Western University, and is affiliated with the Canadian P&C insurance industry. Dan has authored or co-authored more than 70 technical reports and peer-reviewed articles on topics related to protecting people and their property from the impacts of extreme rainfall, urban flooding, high wind, wildland-urban interface fire, and hail. Dan currently manages ICLR's PIEVC Program ([www.pievc.ca](http://www.pievc.ca)), serves as Co-Chair of Canada's National Infrastructure and Buildings Working Group, is a member of NRCan's Adaptation Plenary, advised on the development of Canada's National Adaptation Strategy, and leads or collaborates in dozens of national, provincial, local, building industry, and insurance industry initiatives aimed at increasing the resilience of Canadian homes to severe weather and climate change. Dan studied geography and land use planning at the University of Guelph, Western University (MA), and University of Toronto (MScPI).





## Chris Magwood

Manager, RMI

SPEAKER

Chris Magwood is working to help create a world where buildings are a leading part of the climate solution instead of a major contributor to climate change and doing so in a way that makes the world more equitable, healthy, beautiful, and efficient.

In 2022, Chris joined the Rocky Mountain Institute's Carbon-Free Buildings team. There he leads efforts on HomebuildersCAN, a unique community of practice for homebuilders working to decarbonize, and the development of RESNET Standard 1550 for the measurement and reporting of embodied carbon for homes.

In 2019, he helped to establish Builders for Climate Action, and has been leading development of the BEAM carbon estimator tool for low-rise construction. At BfCA, he co-authored four major studies on embodied carbon in homebuilding.

From 2011-2022, Chris was a director and teacher at The Endeavour Centre, a not-for-profit sustainable building school. Prior to that, he ran a design/build firm specializing in carbon-storing, healthy, energy efficiency new construction and renovations.

Chris has authored seven books on sustainable building. His latest book, *Building Beyond Zero: New Ideas for Carbon-Smart Architecture*, is co-authored with Bruce King and published by Island Press.



# Housekeeping – Rules of Engagement

- Have questions? Please place them **ONLY** in **Q&A**.
- Be considerate, thoughtful, and respectful in the CHAT.
- The BKC Admin team is ready to help with tech concerns or general inquiries.
- This webinar is recorded and available after the presentation.
- Please complete SURVEY MONKEY following presentation!
- Links, presentation materials - all will be sent out to attendees following the webinar.
- The Chat is not meant for advertising product or for solicitation. Your messages will be deleted. Thank you for your understanding.
- Closed Captioning is enabled if you require a live transcript while the hosts are speaking. It's between Record and Reactions at the bottom of most screens.



# POLLS!

Where are you from?  
What keeps you busy?



# Embodied Carbon & Climate Resilience

Two urgent priorities shaping the future of Canadian homes

## Reducing Embodied Carbon

- Emissions from materials
- Growing policy and industry focus
- Material selection and reduction



## Improving Climate Resilience

- De-risking wildfire, flooding, wind, hail
  - Insurance losses increasing
- Focus on durability and hazard resistance

Key question: How do we design homes that achieve both goals?

# Where the Tensions Appear

## Embodied carbon priorities vs resilience priorities

Issue	Embodied Carbon Perspective	Resilience Perspective
Material choice	Prioritizes low-carbon materials	Hazards may prioritize alternative materials
Durability layers	Less material may reduce carbon	Additional materials may increase protection
Material application	Material alternatives in assemblies may lower carbon	Resilient assemblies driven by performance (ex. concrete foundations)
Risk response	Materials (ie. cladding) favoured for carbon benefits	Hazard resistance can change material strategy
Service life	Carbon models assume long building life	Hazards may shorten expected lifespan

# Moving from Tradeoffs to Integration

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- Design for longevity — resilient homes reduce lifecycle carbon
- Use low-carbon materials strategically where hazards allow
- Develop better decision tools (EmGHGe + climate hazard risk)
- Innovate assemblies: resilient wood systems and hybrid materials?
- Integrate resilience thinking early in the design process

**What solutions allow homes to be both low-carbon and climate resilient?**

2026 March

# Critical Canadian Building Science Series

## Next up: What's New in NBC 2025



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Webinar Series



Mark Rosen  
Building Knowledge  
Canada



Frank Lohmann  
CHBA



Mike Memme  
Mountainview Homes

### What's New in NBC 2025: Key Code Changes Shaping Residential Construction

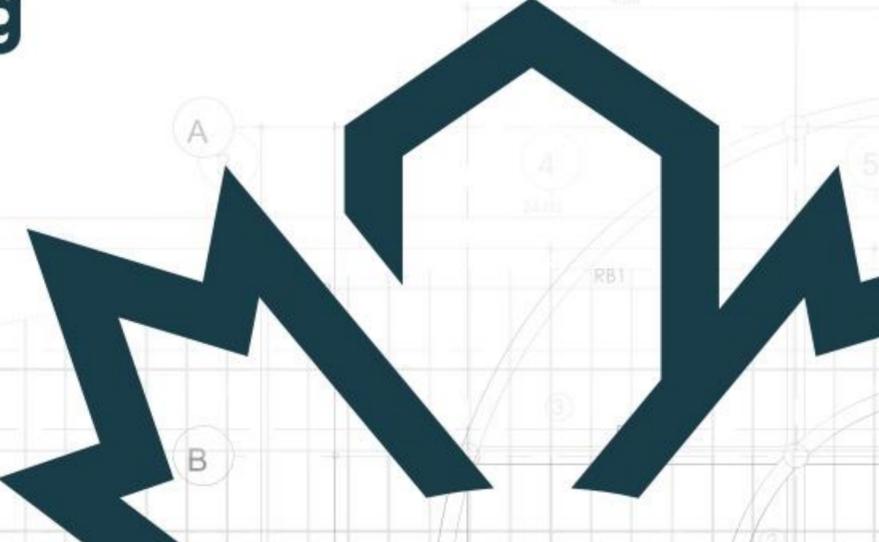
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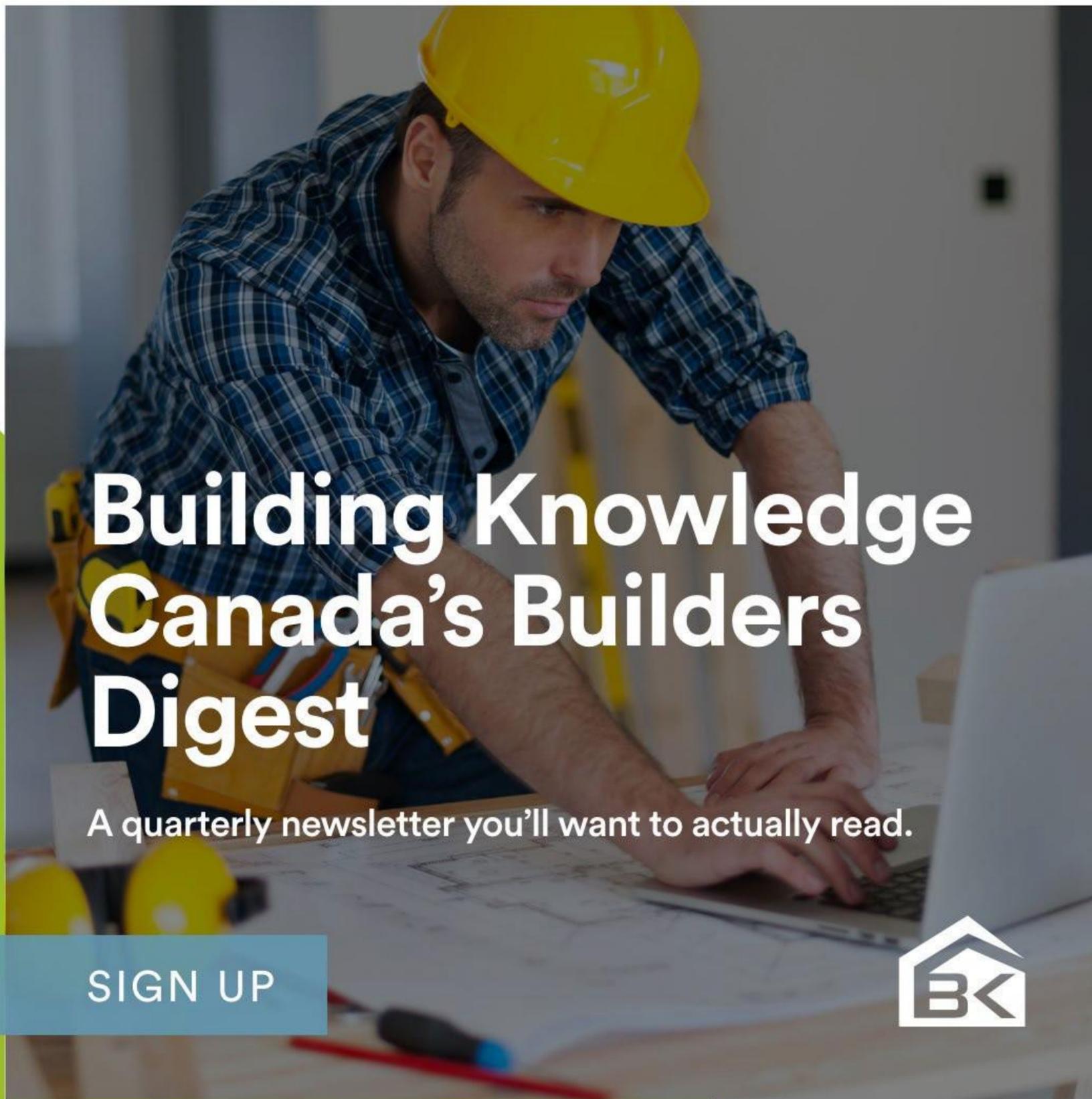
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