



RAiNA REPORT

2ND QUARTER 2024

FEATURE ARTICLE

Understanding Embodied Carbon in Rainscreen Facades

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**Re-appointed & New
Directors to the Board**

RAiNA Conference 2024

SAVE THE DATE



NOVEMBER 7, 2024

CHICAGO, IL

RAiNA CONFERENCE



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Letter from the Chairperson

2024 Q2 for RAINA is in the books. As we head into the summer, we should feel proud of all of our accomplishments thus far. The RAINA 2024 Educational Symposium in Reston, VA was well received by our attendees and participants alike. To quote one of our attendees, "The range of presentations from beginner to advanced subject matters was well thought out and catered to a diverse audience." It was great to have a room full of engaged building professionals and the alignment with the Air Barrier Association of America was a success once again, with a solid networking session to end the day. We've had over 1700 cumulative attendees at our live and virtual events so far in 2025, simply outstanding.



On the committee front, our Definitions Committee has continued to work on terminology, our Retrofit Committee has been busy working on their Guideline Document Outline, the Codes Committee prepared for a number of items to address in the IBC hearings, the Residential Committee made good progress with their white paper on NFPA 285 and Type V construction, and the Performance Committee started their review of the Division 1 Rainscreen Specification.

We are also excited to announce that Brian Nelson, General and Technical Manager of founding member Knight Wall Systems Inc., was elected to the RAINA Board of Directors at our Annual General Meeting in May. Brian has been an instrumental part of the association since inception, serving as Co-Chair of our Codes Committee right from the start, not to mention being an active member of multiple standing committees. We're fortunate to have him now join the Board! Of course, the Board is also sad to say goodbye to Dave Brown of Gibraltar. Dave was a founding board member and instrumental to the growth and success of our association. Dave will continue to be a member and support our Residential Committee moving forward.

And lastly, stay tuned for more information on our inaugural public rainscreen training session in the fall! Enjoy the summer...stay cool, dry, and ventilated

Todd Kimmel

Welcome New Members

[P.C.L. Finishes Inc.](#)

[Genna Drafting](#)

[Starborn Industries](#)



Member Opportunities

RAINA Hosted Monthly Member Webinars

Amplify your voice by showcasing your rainscreen-related presentation in our monthly AIA-accredited webinars. Contact our office to schedule your webinar.

Presenting? Let us know!

Whether it's an in-person presentation or virtual, let RAINA help spread the word via the events calendar on our website. Email us with the details to start sharing your next upcoming presentation.

Member Spotlight

We want to continue to feature our incredible list of members on our social media platforms. This include a write up, your company logo and images of projects your company has been working on, any image you feel best represents your company/brand. Contact our office to be featured.

[**EMAIL US**](#)

RAiNA Committee Updates

Performance Committee is in the final stages of developing a Division 1 Specification with help from a specification writer. The final draft of the specification is currently being reviewed and voted on by the performance committee. The Performance Committee is in the final stages of development for two additional technical bulletins on the following topics: "Understanding Rainscreens Applied to, or as Part of Aluminum Curtainwall Systems" and "Components of a Rainscreen Wall Assembly".

The Building Codes Committee & Performance Committee have created a joint task group to begin work on creating a Design Guide for Rainscreens and what should be considered. The first meeting of the group to develop is set to take place in June where they will outline the title, scope and boundaries of the document.

The Codes Committee has worked closely with our Codes Consultant, Theresa Weston on the current ICC Code Cycle. They have reviewed numerous proposals, deciding to support, oppose or remain neutral during the hearings. Additionally, RAiNA's two proposals, with guidance and tactical support from Theresa, were approved during the hearings. Comments are currently being drafted for the next steps in the Code Cycle.

The Definitions Committee is continuing to work on their priority list of terms to define. New terms being discussed are Open Joint, Closed Joint and Sealed Joint. The committee continues to discuss the term Air Space.

A peer review task group has met to review all of the terms RAiNA has published to date to ensure alignment in terminology. Their next committee meeting is scheduled early in July, and the task group will review their findings to the committee for discussion.

The Residential Committee task group has been working on installation details for a guidance document on residential rainscreens. Top of wall details were reviewed at the last meeting, with wall to roof transitions and stucco transitions being reviewed in June.

Education & Training Committee

The Introduction to Rainscreen Walls presentation was shared at our May 6, 2024 Symposium in Reston, VA. Chris Caricato, the committee's co-chair, had the opportunity to be the first to present it live! The presentation and content was very well received.

Retrofit Committee

The committee work is well underway for a Retrofit Guideline document they have been working on. Everyone on the committee was assigned a specific section and the committee hopes to have this shared in Early 2025.

Soon to be sharing a Retrofit Case Studies template that will be shared with RAiNA members and will create a FAQ on how to complete this template with a focus on mandatory information and nice to have/share details.

Get Involved - Join a Committee

There are seven committees which are led by two Board-appointed Co-chairs. The committees develop policies and procedures, as well as make recommendations to the Board of Directors.

[LEARN MORE](#)

NEW & Noteworthy

RAiNA Rainscreen Presentations

You can now request a RAiNA Rainscreen presentation for your company or association.

RAiNA is proud to offer AIA-accredited presentations, each providing 1 LU/HSW Credit, catering to architects and professionals seeking to enrich their knowledge base. As the foremost authority on Rainscreen, RAiNA ensures that its presentations deliver comprehensive insights into this critical architectural element. Our presentations promise to equip attendees with practical and relevant information.

[GET STARTED](#)



Special Feature in Metal Architecture

Extra, Extra - Read all about it!

Rainscreens were a special feature in the May 2024 Issue of Metal Architecture. A special thank you to our members for your time in putting together the articles for this special

[READ ARTICLES](#)

We're thrilled to announce the re-appointments of Phil Frederick and Steven Gaynor, as well as our newest director, Brian Nelson.

Director Re-appointments



Philip Frederick



Steven Gaynor

Director New Appointments



Brian Nelson

Understanding Embodied Carbon in Rainscreen Facades

by Philip Frederick, P.E., & John Jackson, SGH

If you were in attendance for RAINA's recent spring symposium in Reston, VA, you likely heard John Jackson's presentation on "Carbon and Facades". If you missed it, and the dynamic in-depth Q&A afterwards, you're in luck...John and Anna Burhoe (both in SGH's Building Technology group) are giving an encore presentation as part of a RAINA hosted member webinar on July 31st, 2024.

The discussion around carbon emissions, and specifically embodied carbon, is one of the hottest topics in the AEC industry. The impact of building projects on global energy consumption and greenhouse gas emissions cannot be overstated. While efforts have traditionally focused on reducing operational carbon, namely the carbon consumed in-service, through enhanced energy-efficiency, there's a growing recognition of the importance of addressing embodied carbon in building materials themselves. By now, we've all probably heard of embodied carbon and in building projects, structural and building enclosure materials—such as those used in rainscreen assemblies—can account for a substantial portion of the overall embodied carbon of the building. To effectively tackle embodied carbon, design and construction professionals employ several tools and methodologies:

- **Life Cycle Assessments (LCA):** These evaluations quantify the environmental impact of a product or system throughout its entire lifecycle (i.e., cradle to grave).
- **Environmental Product Declarations (EPD):** EPDs provide information on the environmental performance of building materials, aiding decision-making processes.
- **Modeling Software and Benchmarking Tools:** Tools like Building Information Modeling (BIM) software and benchmarking tools (e.g., Tally, EC3) estimate a project's carbon footprint based on material choices and construction methods, allowing for comparison between various materials, assemblies, and industry standards.

Embodied carbon is typically expressed in Global Warming Potential (GWP) units, measured in kilograms of carbon dioxide equivalent (CO₂e). However, it's important to recognize that not all EPDs are currently created equally, as the industry has not yet standardized reporting and calculation procedures. In the meantime, evaluators should take a critical look at all embodied carbon data and inputs to help inform an accurate comparison.

Case Study: Applying Embodied Carbon Reduction Strategies in Rainscreen Facades

To illustrate the practical application of reducing embodied carbon in building facades, consider a hypothetical project with a rainscreen facade.

The project team can optimize material choices and construction methods to find the right balance between environmental impact, architectural intent, durability, and in-service performance:

- **Material Selection:** Evaluate low-carbon materials, preferably products with a track record of in-service performance, for cladding panels, insulation, and support structures.
- **Manufacturing Processes:** Identify suppliers with sustainable practices and locally sourced materials to reduce transportation emissions.
- **Design Optimization:** Streamline the rainscreen design to minimize material use while maintaining structural and material integrity.
- **LCA and End-of-Life Considerations:** Consider product service life, disassembly, and recyclability at the end of the facade's lifecycle.

While rainscreen facades, and specific components within the assembly, may contribute less to the total embodied carbon compared to the building structure and other materials, evaluating and minimizing the carbon footprint of the rainscreen assembly remains crucial for overall sustainability of each individual project. By implementing these strategies, project teams can reduce the embodied carbon associated with rainscreen assemblies, thereby contributing to overall environmental sustainability and foster a resilient built environment for future generations.

About the Authors

Philip Frederick and John Jackson are both Associate Principals in the Building Technology group at Simpson Gumpertz & Heger Inc's (SGH's) Washington, DC office.



Philip Frederick's primary experience focuses on the design of building enclosure systems, including rainscreen assemblies, with a focus on performance, integration, and constructability. He is a current board member for RAINA and a regular participant in RAINA's Performance Committee.

John Jackson currently leads SGH's Glass and Glazing Systems practice area. He is also an active member of ASTM Subcommittee E06.52 – Glass Use in Buildings and frequently delivers lectures on building enclosure design.



Upcoming Events

JULY

- 31 **RAiNA Hosted Member Webinar**
Carbon & Facades: Understanding
Operational & Embodied Carbon

OCTOBER

- 9-10 **Facades Tectonics Institute 2024
World Congress**
- 18 **Facades+ Toronto***
- 30-1 **METALCON '24***

NOVEMBER

- 7-8 **Facades+ Los Angeles***



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Rainscreen Resources

Rainscreen Presentations

Enrich your knowledge base with RAiNA's AIA-accredited presentations.

[See all available presentations](#)

Glossary

Intended to provide standardized terms and definitions for the rainscreen industry and associated systems, assemblies, sub-assemblies, accessories, materials, and products.

[View the Glossary.](#)

RAiNA Literature Review Report: Rainscreen Performance

Providing a baseline of knowledge, this comprehension literature review looks at seven categories of information

[View the report](#)