NAIMA

NORTH AMERICAN INSULATION MANUFACTURERS ASSOCIATION

2023 ANNUAL REPORT

★ SERVING THE INSULATION INDUSTRY FOR 90 YEARS ★

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PRESIDENT'S MESSAGE

2023 may be remembered as the year policy trends coalesced to transform residential construction in the United States. It's happening in three ways: (1) through newly available robust federal incentives encouraging energy-efficient home construction; (2) via federal policies requiring new homes to meet updated energy code standards; and (3) with increased private sector and government interest in low-carbon building construction.

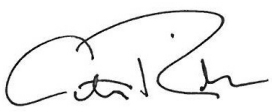
Last year's Inflation Reduction Act (IRA) updated the 45L Builder New Energy Efficient Home tax credit. Effective in 2023, new homes that obtain ENERGY STAR certification are eligible for a $2,500 tax credit, while homes that meet a more stringent Department of Energy (DOE) Zero Energy Ready Home standard receive a $5,000 tax credit. Last year, more than 120,000 homes participated in the ENERGY STAR new home program. These lucrative incentives should lead to an even greater percentage of new homes meeting ENERGY STAR certification in the years to come.

A majority of states remain stuck on the 2009 International Energy Conservation Code (IECC) – a 30 percent less efficient code than the 2021 IECC. State homebuilder associations are politically powerful and generally entrenched in their opposition to any more than the bare minimum of energy code compliance. Fortunately, federal policy plays a role in financing new home construction. The Federal Housing Administration (FHA) and U.S. Department of Agriculture (USDA) administer new home mortgage programs that account for upwards of 15 percent of new home sales and have proposed requiring that all new homes purchased using FHA/USDA mortgages meet the 2021 IECC. Such a policy will impact builder practice even in those states that remain stuck on the 2009 IECC.

Low-carbon building material standards are now selectively applied to government construction projects through the U.S. General Service Administration and through "Buy Clean" requirements in a few states. Momentum is likely to build for these policies across the country. In California, regulators are working to create new low-carbon building standards for all new construction in the state beginning in 2025. Non-governmental standards and ratings organizations such as the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), the International Code Council (ICC), and Residential Energy Services Network (RESNET) are all in the early phases of developing protocols for establishing embodied carbon budgets for new buildings, including new homes.

NAIMA's committees are deeply engaged in each of these developments that will transform our market. The Marketing and Communications Committee is educating the contractor base on the building energy efficiency incentives available under the Inflation Reduction Act. The Policy & Practice Committee has successfully lobbied the Biden Administration to require updated energy code compliance in all federal policies that apply to building construction. The Regulatory Affairs Committee and Product Committees are working to ensure we get these new building decarbonization standards and regulations right, including ensuring that insulation is appropriately credited for reducing building operational carbon emissions.

As we close out a very active 2023, I want to thank our members for recognizing how dramatically policy impacts the market for insulation and using NAIMA to speak with one unified, thoughtful voice to drive outcomes that make the world more resilient, sustainable, and energy efficient!



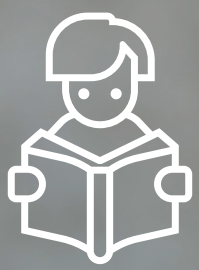
Curt Rich
President and CEO

POLICY & PRACTICE

NAIMA's Policy & Practice Committee actively works on code development, monitoring, and advocacy to ensure efficiency remains a top priority in residental and commercial construction.

CODES & STANDARDS

POLICY ADVOCACY



CODES & STANDARDS

Federal Advocacy

NAIMA successfully advocated for requiring the 2021 IECC in FHA and USDA new home mortgages. This is currently a draft rule under comment. If enacted, this will require that the approximately 170,000 homes built each year with these government-backed mortgage products meet the 2021 IECC Residential code.

We also strengthened the insulation recommendations in the DOE guidance for energy efficiency initiatives and engaged with both DOE and the White House to improve the government's marketing support of the IRA retrofit incentives.

State Energy Code Activity

State homebuilder trade associations in a handful of states introduced legislation to restrict building energy-efficiency code updates. Bills introduced in Alabama, Colorado, Connecticut, Florida, Georgia, Iowa, Minnesota, Missouri, Nevada, Texas, and Utah all support restrictions. NAIMA filed comments against such restrictions and argued for increased state code adoption and implementation. While we were successful in defeating anti-energy code legislation in Missouri, our efforts did not result in similar success in a handful of states, including North Carolina, Idaho, Indiana, and Montana, whose homebuilders supported legislation aimed at limiting the state's ability to implement more stringent energy codes.

Several states updated their energy codes in 2023, including Colorado, Florida, Louisiana, Massachusetts, Maryland, Mississippi, New Jersey, Oregon, and Utah. Based on census data and projections for housing starts in the states that updated their residential energy code, there will be approximately 18,477,862 additional pounds of insulation installed in homes per year. That amounts to two additional semi-trucks full of insulation leaving the plants every day all year long.

POLICY ADVOCACY

California

NAIMA organized a government advocacy day with broad participation from members in meetings with the California Energy Commission and state legislators. Also, in 2023, we commissioned a survey on California construction practices to document equipment trade-offs against insulation in Title 24 implementation. As a result of the engagement in this area, NAIMA successfully advanced improved insulation in the 2025 Title 24 pre-rulemaking process.

In 2023, NAIMA produced more than 20 state energy code fact sheets. As states adopt and implement code changes that impact the prescriptive envelope for insulation, we aim to ensure that code fact sheets are available on our website the day the new code goes into effect. These fact sheets have become an invaluable resource to the sales teams within our member companies as they meet with customers.

2024 IECC Code Development Process

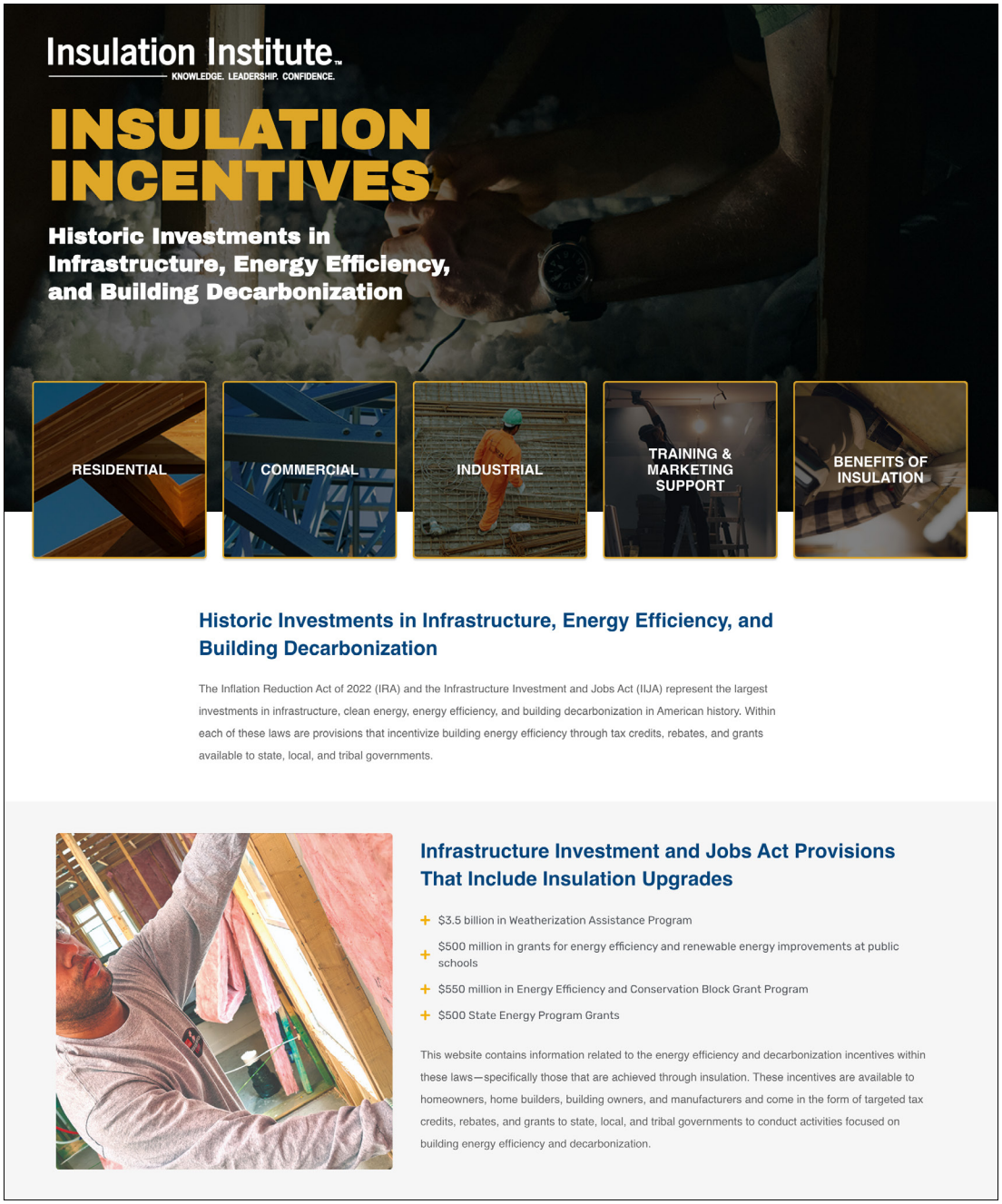
NAIMA also participated in the 2024 IECC residential and commercial code update process, with the publication of the 2024 code update on track for early 2024. Some of the significant changes in the 2024 IECC include:

- The prescriptive envelope, ceiling, and walls requirements revert to the 2018 IECC levels in most climate zones.
- Electric readiness, solar-ready, and EV-ready provisions are now mandatory.
- The maximum air leakage (ACH50) rate is reduced in most climate zones.
- The duct location assumptions changed in the Standard Reference Design. Ten additional energy efficiency credits must be achieved. Six new appendices are included.

Promoting the Inflation Reduction Act Incentives for Insulation

NAIMA is the leading insulation industry organization promoting the insulation incentives available through the IRA. In 2023, we established an industry website, https://insulationincentives.org, to inform stakeholders about the provisions covered under that legislation and worked closely with the Insulation Contractors Association of America (ICAA) to educate contractors about the details of these incentives.

NAIMA actively engaged with federal officials – working with the White House, DOE, and EPA ENERGY STAR staff to urge increased marketing of IRA incentives.



Decarbonization and Sustainability

NAIMA pursued several sustainability and decarbonization activities in 2023. Analysis funded by NAIMA and conducted by the American Council on an Energy Efficiency Economy (ACEEE) determined that as federal policymakers push building electrification, modest weatherization measures such as air sealing and increasing insulation can reliably reduce energy usage by 12-18 percent. Thus, air sealing and insulation should be addressed before electrification. Additionally, envelope improvements in electrified buildings help reduce peak electric load by 7-10 percent.

On the sustainability front, NAIMA continued its successful Georgia glass recycling campaign, encouraging stakeholders to step up their glass collection efforts. This activity resulted in a 20-30 percent increase in retail glass collection in the state. In 2024, the focus will be on expanding the success of the glass recycling campaign to other states, including California, Indiana, Ohio, and Texas.

- NAIMA is investigating the feasibility of recycling insulation packaging in 2023 to decrease waste. At this writing, it is seeking processors to take insulation packaging for recycling to expand that activity.
- Finally, NAIMA issued an Environmental Product Declaration (EPD) for fiberglass insulation in 2023.

REGULATORY AFFAIRS

NAIMA's Regulatory Affairs Committee advocates for economically and technically feasible, science-based regulations for the fiberglass and mineral wool insulation industry.

REGULATORY

HEALTH & SAFETY LEGACY

REGULATORY

In 2023, NAIMA submitted comments on various regulatory proposals from agencies, including the EPA, the Occupational Safety and Health Administration (OSHA), and the Federal Trade Commission (FTC).

EPA comments filed:

- **NAIMA filed comments on EPA's IRIS Hexavalent Chromium (hex chrome) analysis** and provided scientific data that EPA had ignored. This additional data will assure the creation of responsible and feasible emission guidelines for hex chrome.
- **NAIMA formed a special task force on particulate matter** to formulate comments opposing EPA's proposal that would impose draconian limits on particulate matter emissions. NAIMA's comments included scientific research and analysis that the EPA had not cited. The analysis NAIMA provided has been published as a peer-reviewed article.
- **NAIMA provided comments on fugitive emissions,** cumulative risk, and hazardous air pollutants (HAPS) air emissions revisions. NAIMA also conducted a fiber toxicology presentation for EPA staff.

HEALTH & SAFETY

Fiber Health Research and Stewardship

As part of its fiber health and safety stewardship activities, NAIMA sponsored an article published this year in *Toxicology and Industrial Health*, "Indoor Airborne Fiber Level of MMVF in Residential and Commercial Buildings: A literature review and qualitative synthesis." The article documented that peer-reviewed studies showed synthetic vitreous fiber (SVF) exposure levels in indoor environments are consistently lower than exposure limits developed to prevent adverse health outcomes among sensitive populations.

NAIMA also sponsored the publication of an extensive update on fiber toxicology that further substantiated that fiber dimension, durability, and dose were critical factors in evaluating fibers for fibrogenesis and carcinogenesis as well as an article that established that sand is not disappearing but is an abundant resource. The Guide to SVFs, a comprehensive history of NAIMA's involvement in essential regulatory and health and safety issues, was also created.

- NAIMA completed a near-source fiber exposure project demonstrating that fiberglass exposure was non-detectable at the fence line of its members' plants. This research will be the basis of a published article. NAIMA maintains its worker exposure database annually and adds new data each year. Arizona State University manages the database.
- NAIMA's Scientific Advisory Board held its third annual meeting this year to discuss efforts to identify a reliable *in vitro* test method for assessing the bio-solubility of fibers.
- NAIMA conducted two joint meetings with its European counterpart, EURIMA, to collaborate on fiber health-related issues.

Challenging Competitive Product Claims

In letters to various sources, NAIMA challenged more than 39 false and misleading claims about fiberglass and mineral wool products.

Other Federal Regulatory Matters

NAIMA provided comments to OSHA on heat stress and walk-about representatives and gave input to the FTC on four separate FTC guides, including the Green Guides.

MARKETING & COMMUNICATIONS

NAIMA's Marketing & Communications Committee advocates for the use of fiberglass and mineral wool insulation products to increase residential and commercial building energy efficiency.

MARKET EDUCATION

MARKET EDUCATION

Targeted marketing collateral, marketing campaigns, and media activities in 2023 were aimed at educating a wide range of stakeholder audiences, including residential and commercial builders, insulation contractors, and building energy efficiency professionals.

IRA Market Education

Following the passage of the IRA and the Infrastructure Investment and Jobs Act (IIJA), NAIMA focused considerable attention in 2023 on educating the market about the historic funding available for insulation and energy efficiency within the legislation.

IRA Website, Collateral, and Earned Media Campaign

NAIMA built and promoted https://insulationincentives.org to provide information for our members about the details of the various provisions included in the IRA and IIJA. The site quickly became a valuable tool to educate the industry about the tax credits available through these laws.

IRA-Related Marketing Collateral Development

NAIMA published a number of marketing guides aimed at educating the marketplace about the IRA, including:

- **Commonly Asked Questions about the 25C Energy Efficient Home Improvement Tax Credit.** This pamphlet answers the most common questions about the consumer tax credit for insulation improvements in existing homes.
- **Getting Your Home Heat Pump Ready.** This consumer-focused guide details why addressing your home's insulation and air sealing is necessary before installing a heat pump.
- **How 3E Plus® Can Help You Apply for School Retrofits Funding Programs.** This educational piece is aimed at school facility administrators and others working on increasing energy efficiency in America's schools and details how NAIMA's 3E Plus pipe insulation thickness program can be used to help schools apply for federal energy efficiency retrofit funds.

In addition to those activities, NAIMA conducted an earned media campaign focusing on the role of insulation in electrification efforts that received coverage in the following outlets:

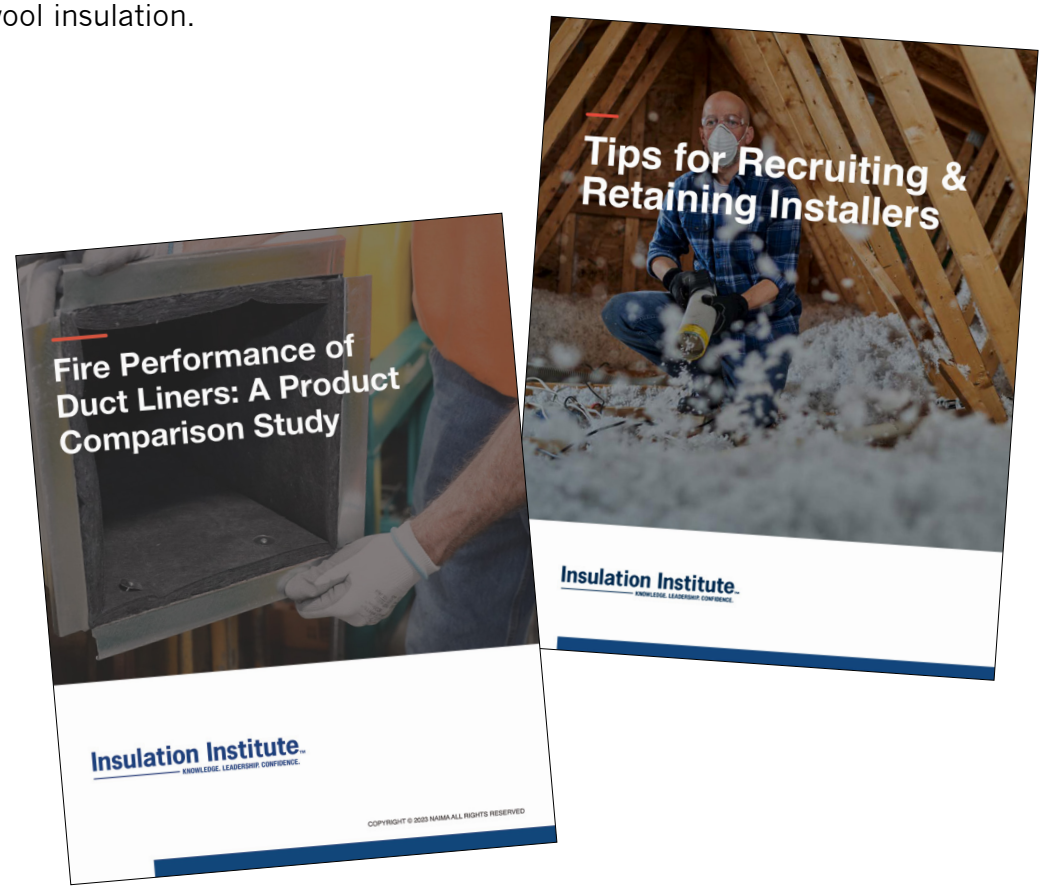
- ACHR News
- Accuweather
- Accounting Today
- Arizona Republic
- Bloomberg Law
- MarketWatch
- MSN
- NBC
- Reuters
- Utility Dive

Live Educational Sessions

NAIMA presented educational sessions at the annual meetings of the ICAA, National Insulation Contractors Exchange (NICE), Insulate America, and Southland Insulation.

Other Market Literature Development

- **Fire Performance of Duct Liners: A Product Comparison.** In independent laboratory tests of fiberglass and elastomeric duct liner products, elastomeric products showed a consistent failure to meet ASTM E84 performance requirements for flame spread index and smoke developed index.
- **Tips for Recruiting and Retaining Insulation Installers**. This guide provides tips for insulation contractors on how to find and keep top-performing insulation installers.
- **Continuing Education Unit (CEU) Course: Fire Performance of Mineral Wool.** This course provides architects and specifiers with a detailed look at the fire performance characteristics of mineral wool insulation.
- **Builder Guide to Decarbonization.** This piece provides guidance on reducing operational and embodied carbon in buildings using fiberglass and mineral wool insulation.
- **Working with Fiberglass and Mineral Wool Insulation as a DIYer.** This homeowner-focused piece is designed to provide consumers with simple guidance on how to safely install fiberglass and mineral wool insulation as a do-it-yourself (DIY) project.
- **Thermal Shift Results of Aerogel Testing.** This guide details the test results showing degradation of aerogel insulation after it has been installed for a period of time.



State Code Fact Sheets

As building energy efficiency codes were updated for many jurisdictions in 2023, NAIMA produced more than 20 state energy code fact sheets with updated information on the key changes for the building thermal envelope.

Social Media Education

NAIMA publishes two to four builder-focused blog posts each month on a wide array of topics related to high-performance building, energy efficiency, and insulation. These blog posts are shared via our social media channels, including LinkedIn and Twitter, and the blog has more than 3,200 subscribers.

Market Research

NAIMA regularly conducts market research to understand the needs of its target audiences. In 2023, we conducted a focus group with builders at the International Builders Show in Las Vegas on decarbonization, building codes, and the importance of the thermal envelope.

We also surveyed insulation contractors, including members of ICAA, NICE, Insulate America, Building Performance Association (BPA), and Insulation Distributors Inc. (IDI). The survey focused on contractors' current marketing efforts for the 25C tax credit, as well as their needs for further marketing materials.

Industry Webinars

As part of the effort to help educate the building industry about issues related to energy efficiency and insulation's role in achieving it, NAIMA hosted ten webinars in 2023 on topics such as:

- The resilience benefits of building energy efficiency codes.
- The role of building envelope efficiency in promoting electrification.
- Using the 3E Plus tool to apply for Renew America's Schools grants.

PRODUCT COMMITTEES

NAIMA's product committees leverage the expertise of our member companies to advance our products and counter competitors' false claims.

PRODUCT TESTING

PRODUCT TESTING

Air Handling Committee:

- **Elastomeric Testing.** In May 2023, NAIMA published the results of the round-robin fire testing of elastomeric duct liner products completed in 2022. These tests showed widespread deficiencies in the flame spread and smoke developed index for elastomeric products via ASTM E84 fire test specifications. NAIMA-member fiberglass duct liners were also tested for comparison. However, they easily met the code requirements with no failures.

- **Reflective Insulation Testing.** NAIMA completed testing on the thermal performance of reflective bubble wrap duct insulation. This testing is designed to address claims from the reflective industry that these products meet code R-value requirements for ductwork.

- **NEW UPDATE: Fiberglass Duct Board Training Manual Update.** NAIMA has had a long-standing partnership with dozens of trade schools nationwide to teach duct board fabrication. An update to the duct board training manual, which shows how to fabricate the product, is currently underway. The review is expected to be completed before the end of 2023.

Building Insulation Committee:

- **Comprehensive Update of RESNET Insulation Installation Grading Standards.** NAIMA has been engaged with RESNET to update the insulation grading standards to more straightforward pass/fail criteria. This work is planned to go out for comment at RESNET in November 2023.

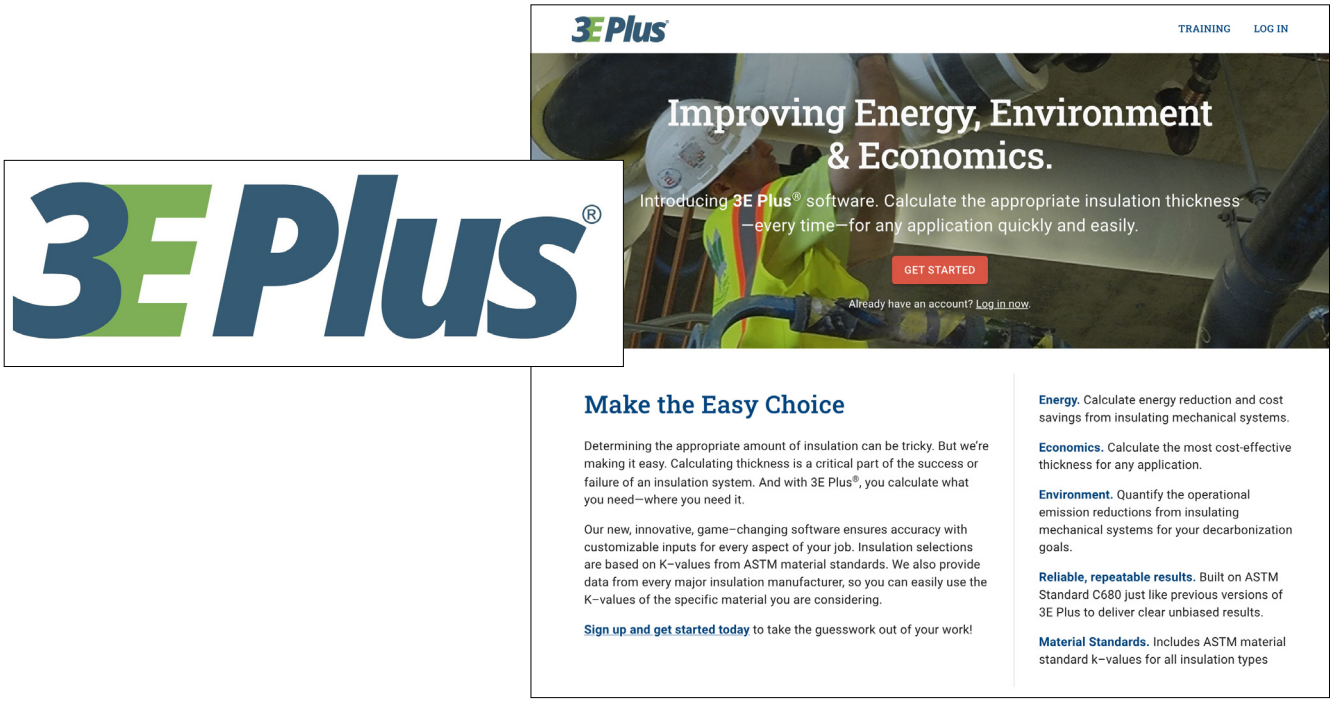
- **ICF Study on Embodied Carbon in Building Systems Included in Energy Codes.** ICF Consulting completed a study of the embodied carbon of various building systems covered by residential energy codes. This study was conducted in 2023.

- **Revisions to the UL Design Guide.** NAIMA has engaged with Underwriters Laboratory (UL) on revisions to standard assemblies in the UL Fire Design Guide. NAIMA managed to halt changes that would have made it harder for designers to specify NAIMA-member products. Additionally, NAIMA continues to work with UL to ensure that designers can more easily utilize the labeled R-value when selecting assemblies.

- **Permanence of Air Sealing for Spray Foam Insulation**. NAIMA tested homes with spray foam insulation installed in ceilings and walls to determine if there has been degradation of the air sealing of the product between installation and after a few years of occupancy.

Commercial & Industrial Committee:

- Following last year's release of the online version of NAIMA's widely used 3E Plus® pipe insulation thickness calculator, additional updates were made in 2023. These updates provide greater usability, including easy access to location-specific energy prices, weather data, and ranged inputs for pipe insulation size – all saving users time while providing more accurate savings estimates for their projects.



Rock and Slag Wool Steering Committee:

- **Environmental Product Declarations (EPDs) for Mineral Wool.** NAIMA has published new industry-wide EPDs for mineral wool loose fill, light-density, and heavy-density boards. EPDs are widely used by architects and specifiers as part of the criteria considered when selecting various building products.

NAIMA CANADA

NAIMA Canada, headquartered in Ottowa, focuses on code development and harmonization at the national, provincial, and municipal levels, as well as training and education to grow the market for insulation.

CODE DEVELOPMENT

TRAINING & EDUCATION

COMMUNICATIONS

CODE DEVELOPMENT

The new Harmonized System Code is now operational in Canada, and the 2025 National Building Code is complete and available for public review. NAIMA Canada sits on the Advisory Council for Harmonized Construction Codes. As per the agreements with the provinces, the 2020 National Building Code should be adopted by the end of March 2024. The 2020 Code is important because it includes a tiered approach to codifying energy efficiency in new homes. There are five tiers that will improve the energy efficiency from Tier 1, which matches the 2020 Code, to Tier 5, which will essentially make all new houses Net Zero Ready. The steps through the Tiers will require more insulation to achieve the requirements of each Tier. Tier 5 is expected to be required by 2030-2032.

Studies Completed

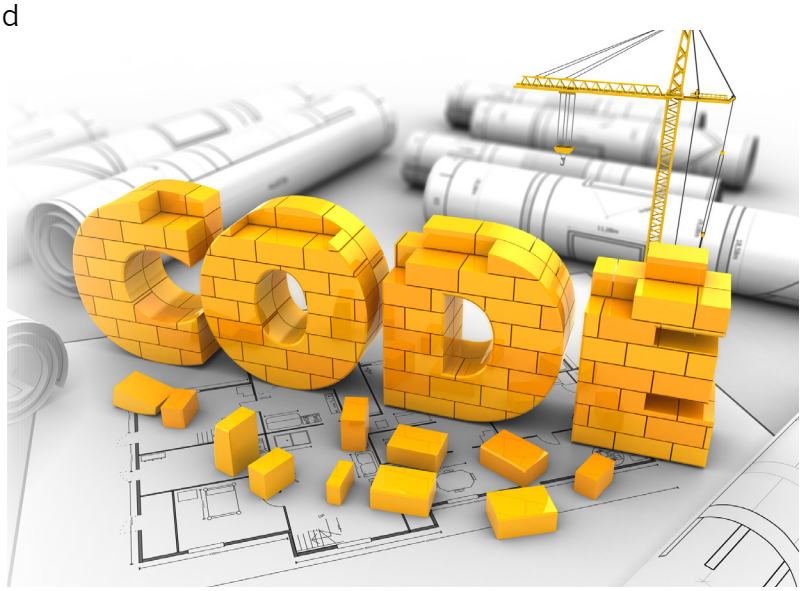
In 2023, NAIMA Canada completed two insulation needs studies focused on new buildings and existing buildings. With the implementation of new building codes requiring increased insulation, these studies aimed to identify how much additional insulation will be required for new buildings in Canada.

TRAINING & EDUCATION

- **New content development for 2023–2024 on Building Resiliency.** Taking cues from the U.S. Department of Housing and Urban Development (HUD) and the Federal Emergency Management Agency (FEMA), NAIMA Canada is creating stand-alone guides on how new and existing buildings can reduce energy consumption, mitigate damage from climate events, and create power-grid-independent buildings by optimizing insulation and air sealing. The central theme will focus on 72-hour emergency readiness and maintaining comfortable indoor environments, regardless of season.

- **NAIMA Canada is plugged in to Canadian Colleges for a Resilient Recovery (C2R2) 'micro-credential' training, including Canada's first Insulation Technician certificate.** NAIMA Canada's Insulation and Air Sealing training content will be featured, and we'll be involved with C2R2 colleges in the development process.

- **The 2023 Fall Outreach Campaign.** NAIMA Canada connected with more than 50 post-secondary institutions and almost 300 faculty and administrators across Canada, asking them to embed NAIMA Canada training in their curriculum. We've developed a comprehensive list of contacts at colleges and universities, specifically targeting construction, renovation, architecture, engineering, and building science programs.



COMMUNICATIONS

Becoming a Trusted Authority. NAIMA Canada established its credibility as a trusted authority in the building industry by providing resources for building industry professionals, policymakers, stakeholders, and allies.

- In 2023, NAIMA Canada developed the Insulation Requirements tool for Canadian cities and regions. This information was gathered from the 2015 National Building Code and the 2017 National Energy Code for Buildings.

This year, we also completed the **Code Booklet Update**. The update contains:

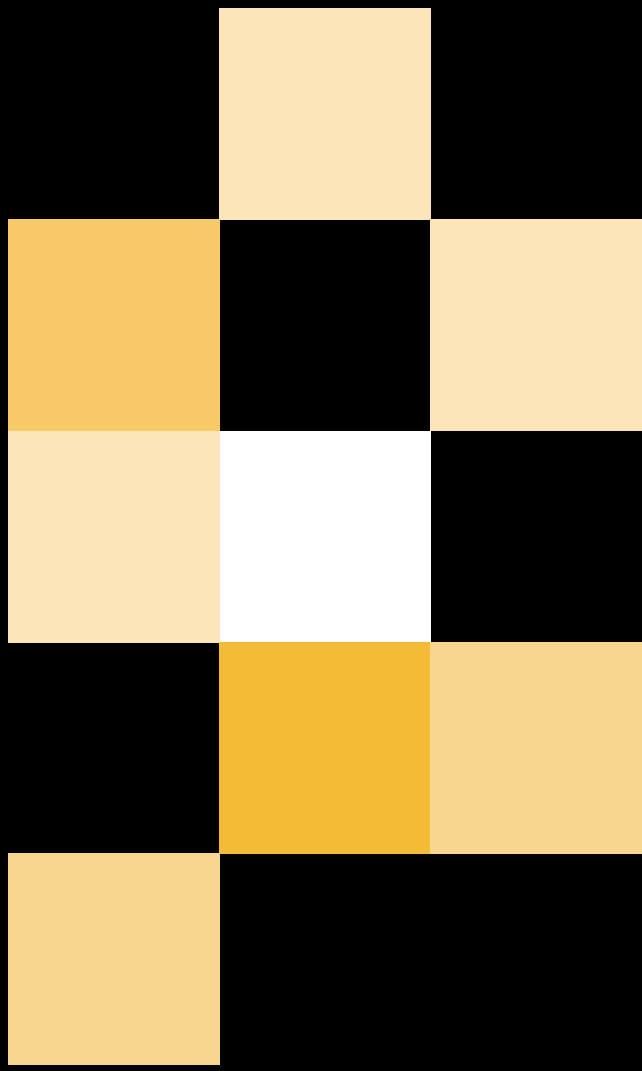
- Current building and energy codes for each province and territory.
- Anticipated code changes from code officials in each jurisdiction.
- Updated contacts for each jurisdiction.
- Thermal resistance codes for each jurisdiction.

The Fundamentals of Passive House Buildings:

- This guide details Passive House construction with a focus on mineral wool and fiberglass insulation. It includes an interview with Evelyne Bouchard, Passive House architect and consultant and a case study from British Columbia, which showcases the practicality of using mineral wool and fiber glass insulation in a multi-unit Passive House residential building.

The Case for Exterior Wall Insulation When Re-Insulating a Home:

- This collaborative article between NAIMA Canada and Proskiw Engineering focuses on improving wall insulation during the siding replacement process, the benefits of enhancing overall energy efficiency, and the resiliency of homes.



NAIMA

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