2025 SPRAYFOAM Convention & Expo
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Unvented Attics

ACCELERATING SPF MARKET GROWTH IN COLDER CLIMATE ZONES

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Kevin Wiacek is the Director of Strategic Accounts and Product Management at No Burn, Inc. Before joining No Burn, Inc., Kevin held various product marketing and new business development roles at Carlisle Spray Foam Insulation and raw material chemical manufacturers including INVISTA and DuPont. Kevin began his career in the United States Air Force as an active-duty officer serving in various assignments including research and development, weapon system acquisitions, and space operations. Kevin holds a B.S. and M.S. in chemistry and an MBA.

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Even an agreement by competitors that is for the good of society and our industry may be a violation of the antitrust laws if it could affect competition.

If a topic of antitrust concern is raised at any time during a meeting, note your objection for the record. If the topic continues to be discussed, you should leave the room immediately and contact SPFA's general counsel and your company's attorney for further guidance.

Ensure that every SPFA meeting, where members are present, has an agenda, the agenda is followed, and minutes are kept by SPFA staff of the proceedings.

Understanding and acting on the requirements of U.S. and foreign antitrust and competition laws sometimes can be difficult. If you have a question about the propriety of activities or discussions in SPFA, you are encouraged immediately to contact your company's legal counsel and SPFA management.

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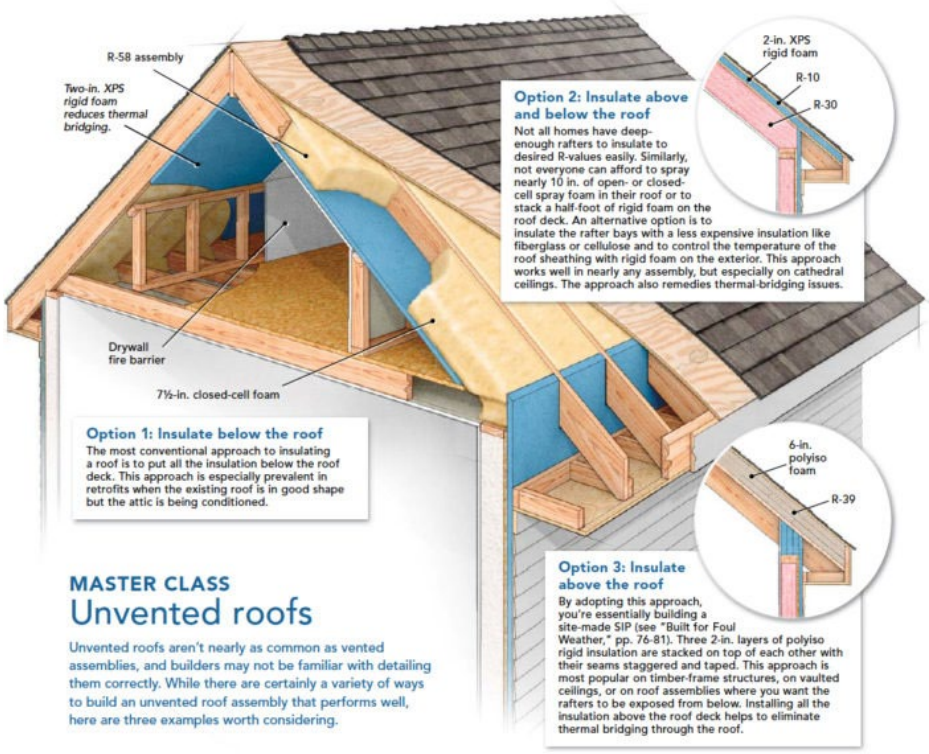
The *Annual Builder Practices Survey* measured spray foam insulation usage in new single-family homes at 10-12% from 2017-2021.

Unvented Attics



www.finehomebuilding.com/project-guides/roofing/a-crash-course-in-roof-venting

Energy efficiency

Unvented attics are more energy efficient because they reduce air exchange and improve insulation. The attic's temperature is usually within 10–12°F of the occupied space below.

Moisture control

Unvented attics help prevent condensation and moisture problems by keeping out humid air and wind-driven rain.

Protection for mechanical equipment

Unvented attics protect HVAC equipment and ductwork from temperature extremes, which helps them last longer and operate more efficiently.

Ice dam prevention

Unvented attics help prevent ice dams, which can damage roofs.

Pest exclusion

Unvented attics can reduce the likelihood of pests like insects, rodents, and birds entering the attic.

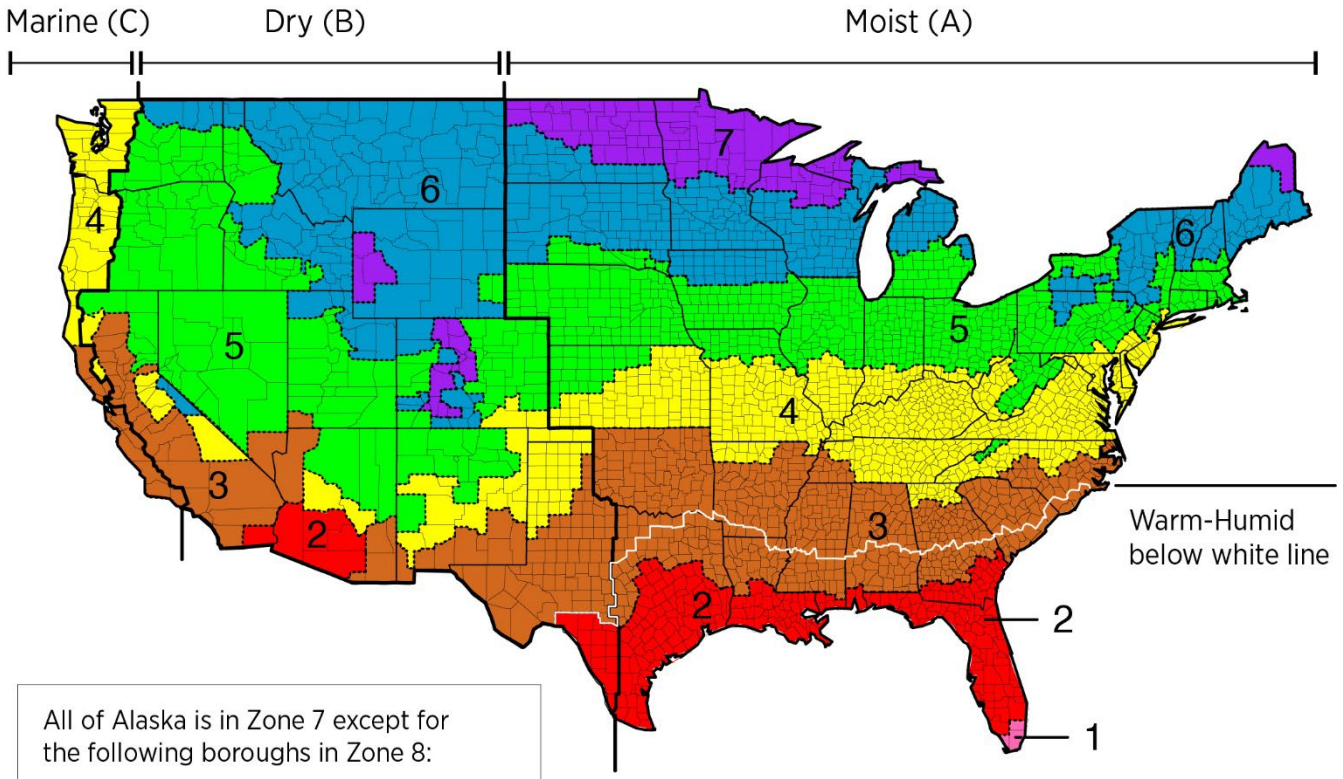
Storage space

The conditioned attic space can be used for storage or converted into living space.

Building envelope problems

Unvented attics can help address building envelope problems in historic buildings or buildings with complex roof geometries

A tale of two climates…



All of Alaska is in Zone 7 except for the following boroughs in Zone 8:

Bethel, Northwest Arctic, Dellingham, Southeast Fairbanks, Fairbanks N. Star, Wade Hampton, Nome, Yukon-Koyukuk, North Slope

Zone 1 includes Hawaii, Guam, Puerto Rico, and the Virgin Islands

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The very initiatives encouraging overall insulation market growth are the same programs constraining SPF growth.

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Air Sealing Alternatives

www.smuckerexteriors.com/blog/3-best-housewraps-for-your-home

Homes with identical R-values and ACH 50 rates should have similar energy efficiency performance.

www.builderonline.com/products/aerobarrier-successfully-seals-old-defense-department-buildings_o

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Continuous Insulation

https://www.greenbuildingadvisor.com/article/the-case-for-continuous-insulation
Image Credit: David Pill

2021 and 2024 IECC

R-30 (2 x 10) or (2 x 6)

R-20 (2 x 6) + R-5

R-13 (2 x 4) + R-10

Beyond 2024?

R-20 (2 x 6) + R-7

Joe Lstiburek, Building Science Corporation

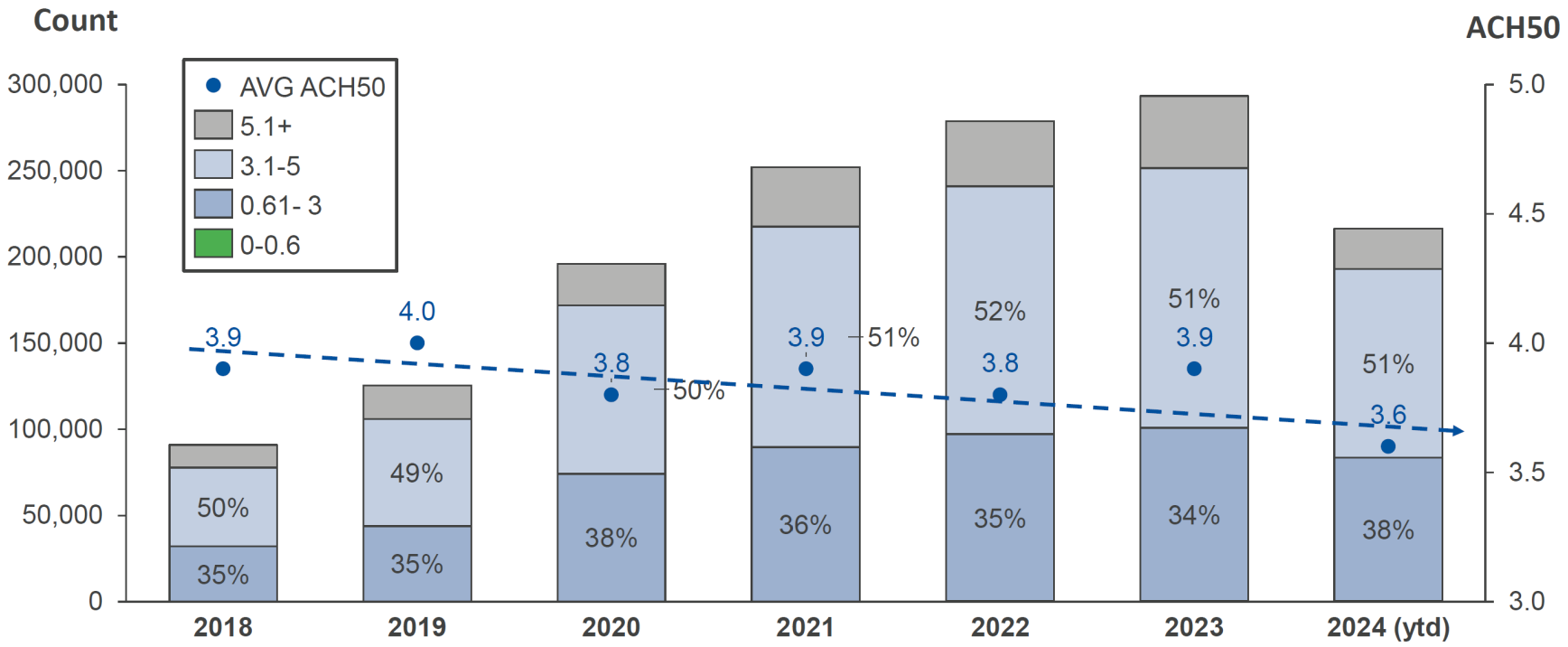
"Unvented attics make a lot of sense.

In humid climates, venting attics brings a great deal of moisture into the structure.

In cold climates, venting attics brings in a great deal of snow.

Not venting makes these problems go away."

Blower Door Performance starting to Plateau



Can new building practices help builders push the envelope?

Liang Gwee, Henry Company. Inhale or Exhale? How the mode of your blower door test affects your score…and why it matters! 2024 Energy & Environmental Building Alliance (EEBA) Summit

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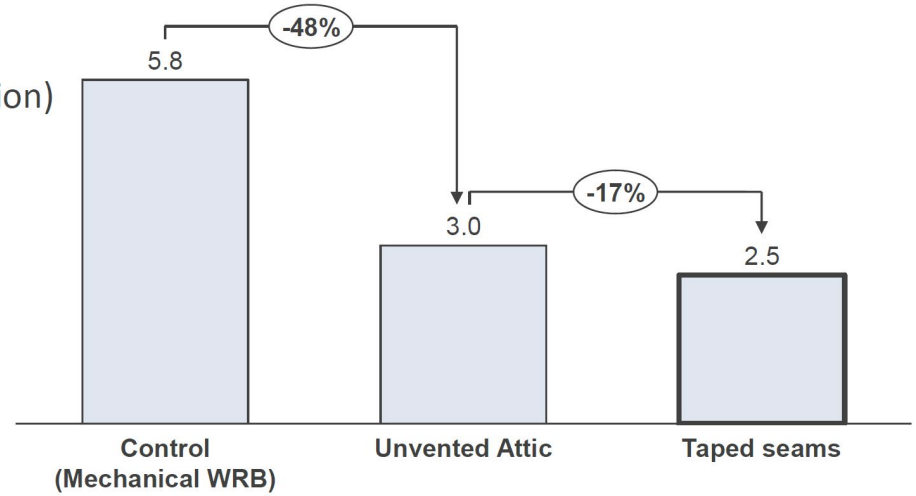
Unvented attic alone reduces ACH 50 rates by half

Blower Door [ACH50]
(de-pressurization)



Sprayfoam unventilated attic
1. **Simplifies the geometry for air-sealing**
2. **Increases the conditioned volume**
3. **brings the ducts and mechanicals into conditioned space**

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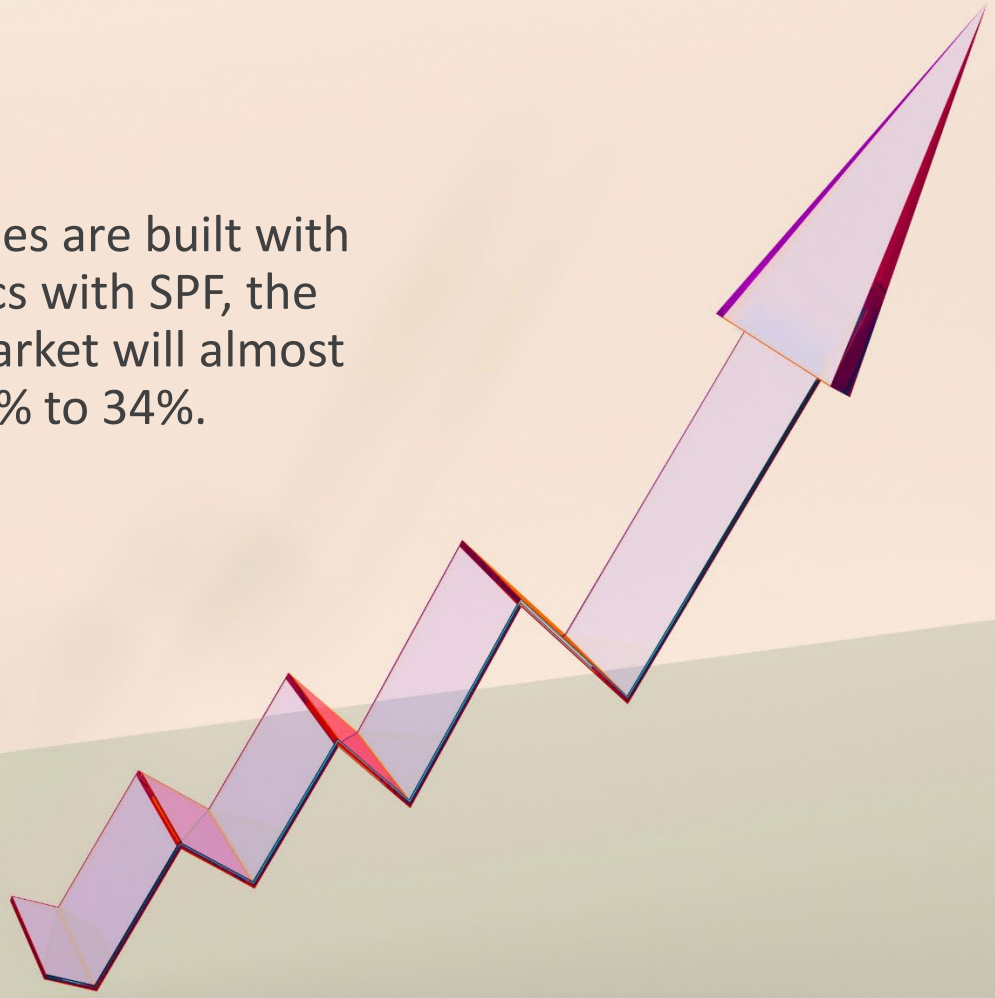
If all new homes are built with unvented attics with SPF, the spray foam market will almost triple from 12% to 34%.



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The intended consequence of the 2021 IECC

HOUSE OF REPRESENTATIVES STAFF ANALYSIS

BILL #: HB 1185 Thermal Efficiency Standards for Unvented Attic and Unvented Enclosed Rafter Assemblies
SPONSOR(S): Griffitts
TIED BILLS: **IDEN./SIM. BILLS:** SB 1130

REFERENCE	ACTION	ANALYST	STAFF DIRECTOR or BUDGET/POLICY CHIEF
1) Regulatory Reform & Economic Development Subcommittee	12 Y, 1 N	Wright	Anstead
2) Commerce Committee			

SUMMARY ANALYSIS

The Florida Building Code (Building Code), Energy Conservation (EC Code), regulates the design and construction of buildings for the effective use and conservation of energy over the useful life of each building. The EC Code is intended to provide flexibility to permit the use of innovative approaches and techniques to achieve this objective.

The Building Code and EC code requires that unvented attics and unvented enclosed roof framing assemblies in residential homes must meet the following requirements:

- The unvented attic space is completely within the building thermal envelope.
- Where only air-impermeable insulation is provided, the insulation must be applied in direct contact with the underside of the structural roof sheathing.
- The attic is built using **R-30 insulation** in Climate Zone 1, and **R-38 insulation** in Climate Zone 2.
- The home is verified as having an air leakage rate not exceeding seven air changes per hour (**7 ACH50**) in Climate Zones 1 and 2.
- If the home has an air leakage rate less than three air changes per hour (**3 ACH50**), the home must have whole-house mechanical ventilation.

The bill provides that unvented attic and unvented enclosed rafter assemblies that are insulated and air sealed with a minimum of **R-20 air-impermeable insulation** meet the requirements of the EC Code, if all of the following apply:

- The building has a blower door test result of less than **3 ACH50**.
- The building has a positive input ventilation system or a balanced or hybrid **whole-house mechanical ventilation system**.
- If the insulation is installed below the roof deck and the exposed portion of roof rafters is not already covered by the R-20 air-impermeable insulation, the exposed portion of the roof rafters is insulated by a minimum of **R-3 air-impermeable insulation** unless directly covered by a finished ceiling. Roof rafters are not required to be covered by a minimum of R-3 air-impermeable insulation if continuous insulation is installed above the roof deck.
- All indoor heating, cooling, and ventilation equipment and ductwork is inside the building thermal envelope.

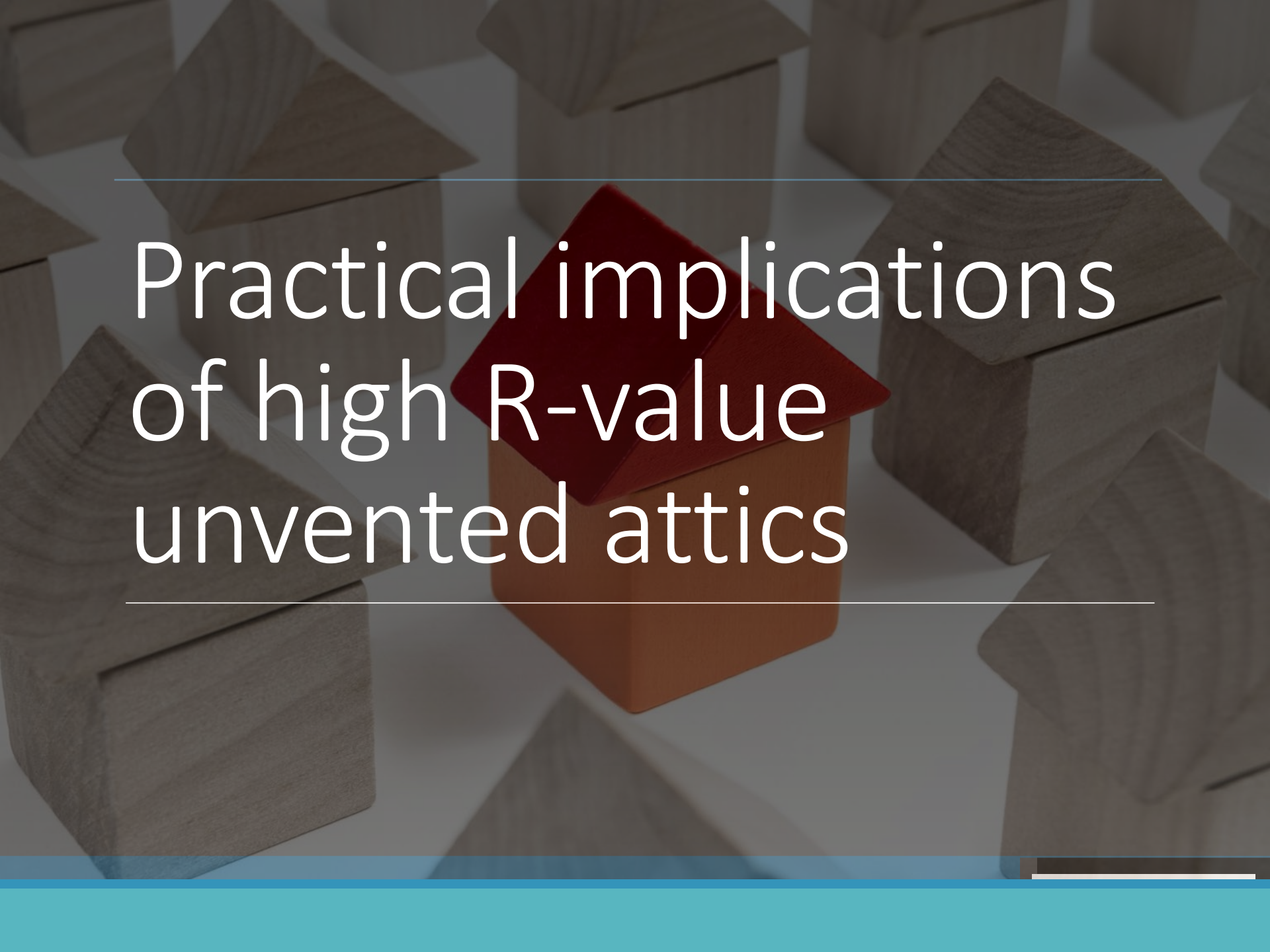
The bill provides an effective date of July 1, 2024.

“Envelope Backstop”

Maximum limit on the area-weighted U-factor (UA) of a building envelope

Ensures a minimum level of thermal performance regardless of how other building systems are optimized

Prevents designers from sacrificing envelope efficiency to achieve overall energy goals



Practical implications of high R-value unvented attics

Ignition Barrier Applications

Appendix X Foam		High Yield + IC
43-51	Max R-value	60
16,500 bdft	Yield	20,000 bdft
-	Material costs	$200-400 savings

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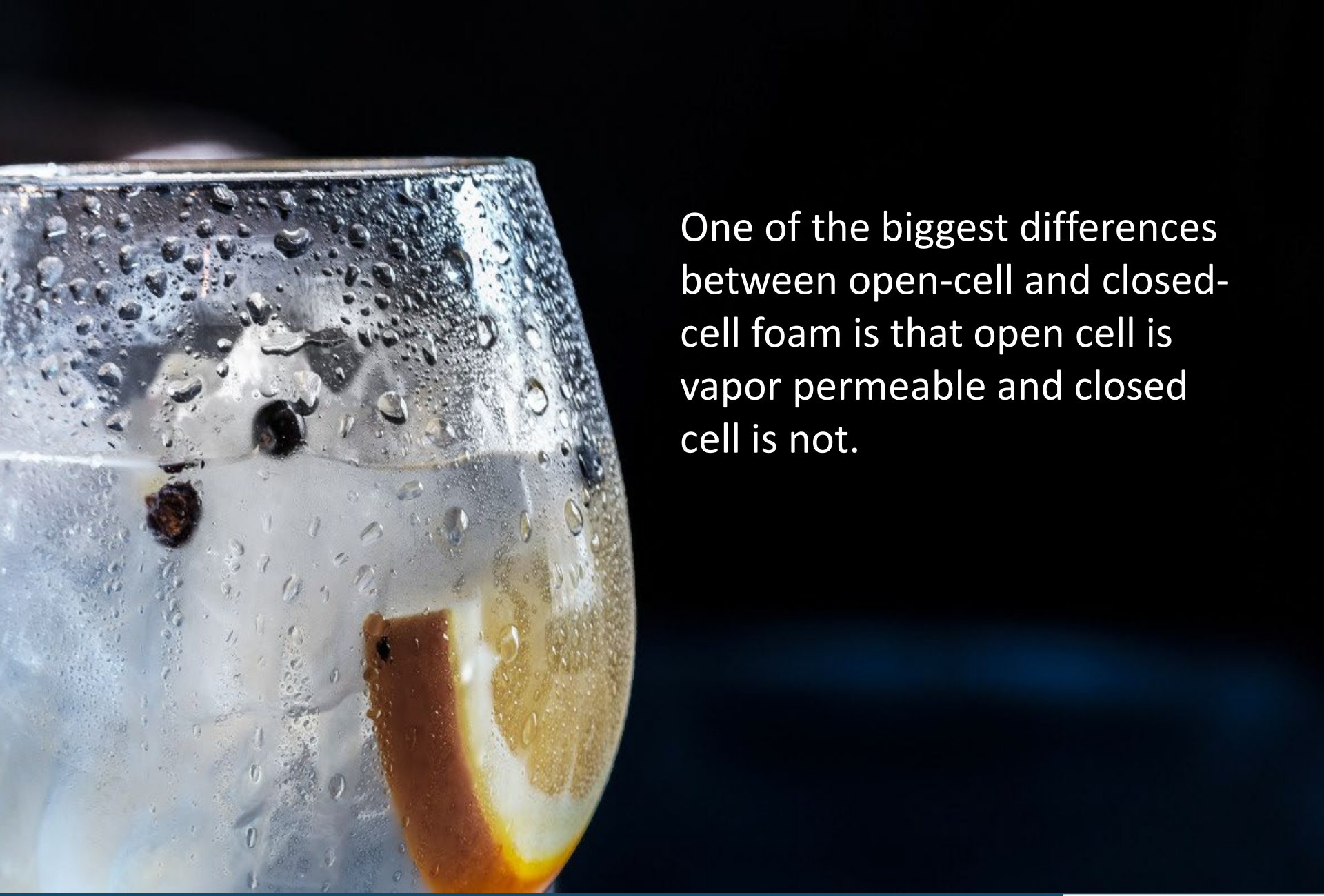
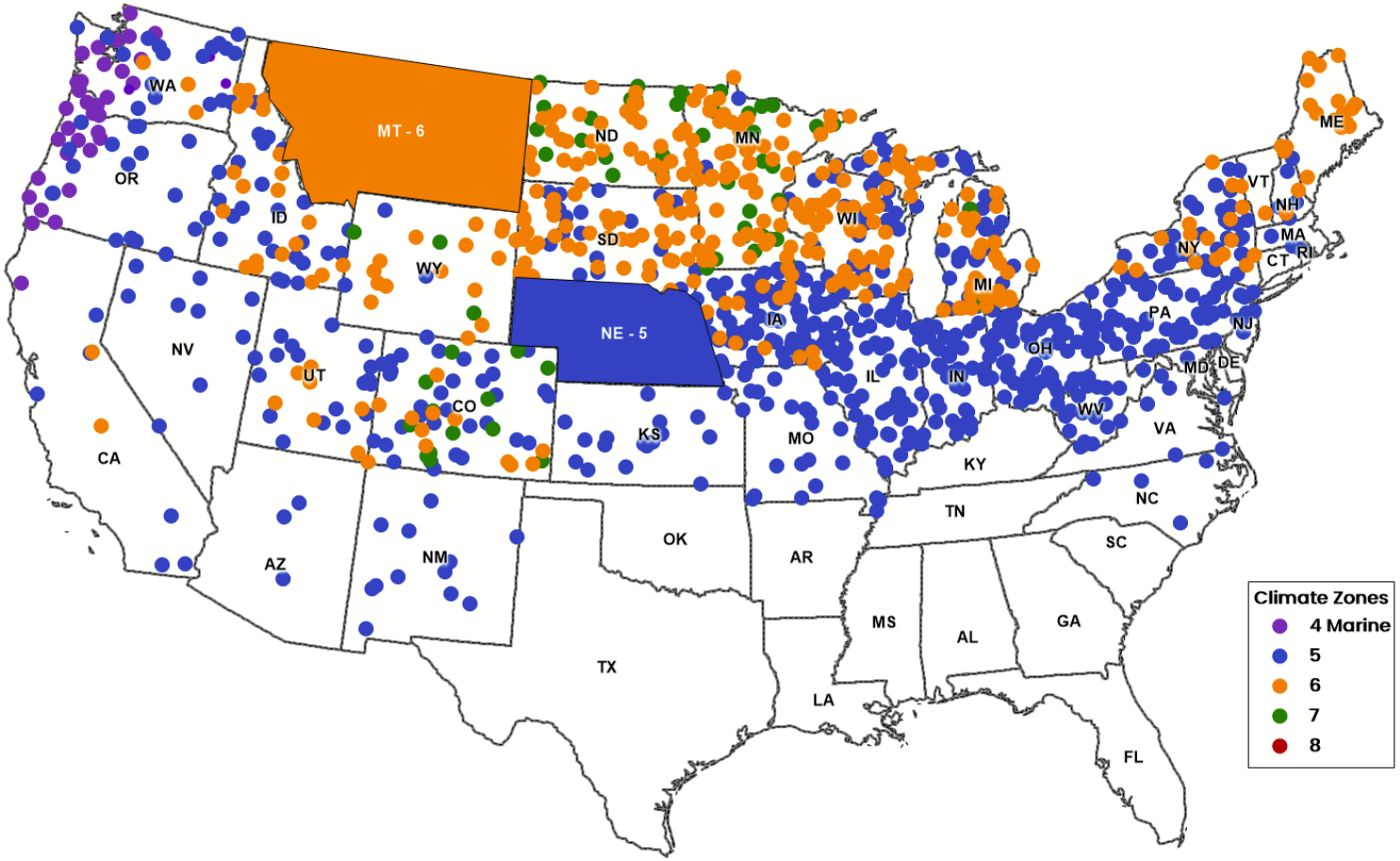


One of the biggest differences between open-cell and closed-cell foam is that open cell is vapor permeable and closed cell is not.

Most states affected by cold climate zones building requirements



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Vapor retarder coatings provide insulation contractors the flexibility to expand margins or create new demand

Attic System Material Cost Estimate per Square Foot

		Closed Cell	Hybrid	Open Cell + Class II VR
R-49	Zone 5	$ 3.54	$ 2.88	$ 1.66

- 53% Material Cost Savings in Thermal Barrier Applications
- 48% Material Cost Savings in **non**-Thermal Barrier Applications

Questions