American Chemistry Council | Plastics Division

May 23, 2023

Honorable Trevor Squirrell
Chair, Legislative Committee on Administrative Rules (LCAR)
115 State Street
Montpelier, VT 05633

RE: Vermont Residential Building Energy Standards

Dear Chair Squirrell and Members of the Vermont LCAR:

The American Chemistry Council (ACC) appreciates the opportunity to comment on the proposed final rules to amend the Vermont Residential Building Energy Standards (RBES). ACC's Plastics Division is a large stakeholder in the construction sector and offers the information below for consideration.

ACC is a national trade association representing chemicals and plastics manufacturers in the United.[1] ACC's Plastics Division represents America's Plastic Makers℠ and the half million+ scientists, engineers, technicians, and other innovators who make plastics for many essential and lifesaving products that are vital to modern life. Our members produce products for the whole of the U.S. market and in some cases have a global presence as well.

These products include but are not limited to plastic building materials like foam plastic board insulation, spray foam insulation and air sealants, house and building wraps, liquid applied water resistive barriers, plastic pipe, plastic glazing, and roof membranes. These products provide a wide range of benefits including thermal, air, and moisture management.

Due to performance related to climate control and energy efficiency, two important considerations in the State of Vermont, **ACC supports earlier versions of the amended RBES that included stronger wall insulation R-values.** We urge the Committee and Department of Public Service to include those stronger values in the final RBES.

ACC also continues to have serious concerns with the proposed amendments to Vermont RBES that give preference to low embodied carbon insulation materials. We are opposed to these provisions and encourage the consideration of the following information:

All materials require an investment of carbon to produce them including those with high embodied carbon like concrete, steel, and glass. However, only some materials provide carbon savings benefits during the operational life of the building like insulation and air barriers. The fact that insulation is the only material included in the language is baffling for these reasons.

[1] Over 96% of all manufactured goods are directly touched by the business of chemistry, making this industry an essential part of every facet of our nation's economy. The industry supports a quarter of U.S. gross domestic product (GDP) and creates more than half a million skilled, good-paying American jobs. The products of chemistry enable higher living standards and are crucial to meeting the needs of a growing global population.

ACC members have been making great progress in lowering their embodied carbon emissions. In addition, many of their innovative and durable building materials enable greater carbon savings over their service life than the amount it takes to produce them. Their progress has also minimized the difference in CO_2 emissions between different insulation products.[2]

A recent report by McKinsey & Company also demonstrates the carbon benefits of plastic building materials in comparison to alternative products. In fact, this report shows that in thirteen of fourteen cases tested plastic materials provide lower total GHG emissions over their life. This climate-related benefit commonly associated with the use plastics, including plastic construction materials, is further detailed in McKinsey's report.[3]

Insulation manufacturers have been providing transparency information in the form of Environmental Product Declarations (EPDs) that provide CO_2 embodied carbon emissions data for over a decade. This data was not intended for comparison purposes. If it is used in this manner, it is important for users to be educated regarding the limitations of comparisons as well as the tools and data sources they are using.

Unfortunately, many tools do not accurately account for industry improvements in a timely manner or follow standard guidance for comparing products. They often allow products with different baseline assumptions and utilize different Product Category Rules. They also often include comparisons between industry and product specific EPDs, etc.

Due to the above concerns, ACC recommends that total carbon accounting be used to understand the full impact different products have over the life of the building. We do not recommend providing incentives for embodied carbon as a single attribute that could lead to regrettable substitutions.

Embodied carbon decisions should not be made prior to considering the other primary and necessary functions of building materials like their ability to eliminate other products, mitigate air leakage, manage moisture, etc. Operational offsets must be considered.

Decoupling the embodied carbon of products like insulation can have negative effects on building performance and the performance characteristics of the insulation regarding thermal protection, moisture management and air leakage should not be sacrificed for relatively small differences in embodied carbon.

ACC along with several other insulation industry associations published a Building Decarbonization Statement of Policy Principles that supports this total carbon or whole building view of the carbon impacts.[4] Use of these principles is important so that decisions are not made that would unintentionally affect the building performance (thermal, air, moisture management, etc.).

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[2] See Life Cycle Greenhouse Gas Emissions Reduction from Rigid Thermal Insulation Use in Buildings by Michael H. Mazor, John D. Mutton, David Russell, Gregory A. Keoleian :: SSRN

[3] See Climate impact of plastics | McKinsey

[4] See Building Decarbonization Statement of Policy Principles (americanchemistry.com)

Please see more on the Insulation Industry Decarbonization Policy Principles here:
Building Decarbonization Statement of Policy Principles (americanchemistry.com)

We respectfully request that you remove the requirements that single out embodied carbon provisions for insulation.

Thank you again for the opportunity to comment. Please feel free to contact me if you have any questions.

Sincerely,

Amy Schmidt

Amy Schmidt
American Chemistry Council
Director, Plastics Building and Construction
Amy_Schmidt@americanchemistry.com
700 2nd Street, NE | Washington, DC | 20002
O: (202) 249-6610 C: (989) 513-2169
www.americanchemistry.com