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Owens Corning Comments on 2022 Title 24 45-day Language

Additional submitted attachment is included below.

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June 18, 2021

California Energy Commission
Attention: Docket No. 21-BSTD-01
Dockets Office 1516 Ninth Street, MS-4
Sacramento CA 95814

RE: 2022 Building Energy Efficiency Standards (BEES) 45-day Language Comments

To Commissioner McAllister and Commission Staff:

We would like to begin by thanking Commissioner McAllister and Commission Staff for their efforts thus far in the development and transparency related to the 2022 BEES. Owens Corning acknowledges that there are a variety of perspectives regarding the BEES and we can appreciate the very difficult job staff has in accommodating the various perspectives and opinions.

Owens Corning is a leader in fiberglass and related materials, systems and solutions. Our products are largely a result of our applied Building Science and Sustainability efforts which drive our innovation and our global operations. Owens Corning product specifications and operational activities are specifically undertaken with a measurable awareness towards natural resources stewardship as an integral part of our self-imposed sustainability journey. Thus, it is with long-term resource sustainability, durability, occupant comfort and energy efficiency, that we provide the following perspectives.

We support the Commission's efficiency and carbon reduction goals for residential homes and non-residential buildings. In doing so, it is critical that the Commission maintain the historical and well-established loading order of focusing on energy efficiency first, followed by renewables and associated technology. We believe energy efficiency, renewables and bolt-on technology, when applied in the proper balance are inherently complimentary. To achieve this complimentary equilibrium, the building envelope must be optimized to the maximum extent feasible. Only when viewed in this context and with proper weight given to sustainability concerns and thereby provide society and the industry with maximum value and performance. This is not an "either/or" conversation, but one of using optimized compliance paths to create an intelligent and predictable outcome in support of the Commission's stated goals.

With respect to the current 45-day language, we strongly encourage the Commission to consider the following:

Compliance Path Boundaries
The 2019 code cycle was a good first step in defining boundaries between energy efficiency and renewable energy paths. Additional efforts should be taken to further shore up the boundaries between efficient envelope design, renewable energy and to include an approach limiting mechanical trade-offs against the building envelope. This would be a third leg of the compliance path. One of the arguments supporting such boundaries with renewable energy devices is their shorter lifespans as compared to the building envelope/structure, and the lack of guarantees regarding maintenance and end-of-life replacement with like equipment. The same argument applies for mechanical systems. Any device or system that requires ongoing maintenance, along with shorter lifespan as compared to the building envelope should not be given equivalent compliance credit when compared to longer lasting assemblies.

Embodied Carbon Material Properties

There is much debate regarding the topic of all-electric vs. mixed-fuel approaches. Regardless of where this debate ends up regarding new connections and new generation facilities, the fact remains that there will be millions of existing homes and businesses continuing to be served by mixed-fuel systems. Any attempts to convert this existing building stock will likely be a generational effort at best. Therefore, it seems prudent that we begin considering how we can more appropriately weight the embodied carbon properties of our building materials, and, incentivize the use of those materials which perform better in this regard. We understand there is a lot to unpack here, but if we don't start considering this now, we will only fall further behind. Acting on this metric would supplement existing legislation such as Buy Clean California, The Clean Air Act, and other state and national carbon reduction efforts. This is not an easy task and we acknowledge that the road forward is likely to be challenging in some fashion for all parties. However, given our internal commitment to sustainability, Owens Corning remains willing to collaborate with the Commission and other stakeholders on how we might incorporate an embodied carbon metric and related components into the California Energy Code.

Complimentary Strategies

1. When coupling strong, boundary-driven building envelope and decarbonization measures, they become complimentary strategies returning multiple benefits. As it pertains building envelope insulation requirements, we feel that the prescribed values should be mandatory and not subject to trade-off and should be enhanced above the current baseline – either in this code cycle or at minimum on the table for 2025. This is because building envelope insulation generally:
    - **a.** pays compounded dividends in the form of energy savings for the life of the building
    - **b.** leverages the lack of need for maintenance, repair, or replacement and landfilling like other energy efficiency features of the home
    - **c.** does not consume energy like other energy efficiency measures
    - **d.** does not drop off in performance over time and maintains its efficacy for its life, unlike other energy efficiency equipment, appliances, renewables, and storage
    - **e.** lowers HVAC equipment first costs as better and more sustainable building envelopes allows this equipment and ducts to be downsized,
    - **f.** provides savings 24/7 while other measures deliver value and savings only for portions of the day
    - **g.** reduces the peak energy demand which reduces energy costs (time of day energy pricing),
    - **h.** contributes to improved thermal comfort,
    - **i.** permits the house to have a longer "time constant" which isolates the house from the dynamic weather conditions which creates a more stable interior air temperature, and;
    - **j.** helps keep the house at a lower balance point which decreases the total energy consumption
    - **k.** has potential for increased resiliency, especially during climate-induced power interruptions or other disruptions to power generation

Regards,

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