



August 12, 2022

Department of Energy Resources (DOER)
100 Cambridge Street, Suite 1020
Boston, MA 02114
Email: stretchcode@mass.gov

Re: Building Code Comments: Sierra Club Massachusetts

Dear Commissioner Woodcock, Secretary Card, and Secretary Kennealy,

On behalf of our 80,000 members and supporters across the Commonwealth, Sierra Club Massachusetts is writing to support DOER in developing a specialized stretch energy code that ensures the Commonwealth can meet building sector emissions targets while making buildings a core climate mitigator and protector of our health.

First, we want to thank DOER for the revisions that were made to the specialized stretch energy code after the 1200 comments that were submitted in March on the straw proposal. Thank you for listening to the Commonwealth residents by making several key improvements in the revised code language which include:

- incorporating the industry-standard definition of net zero building and the optional pathway found in the 2021 Base Code Appendix, also known as the Zero Code, advanced by AIA 2030 and endorsed by the national AIA;
- requiring multi-family projects greater than 12,000 square feet to meet Passive House standards; and
- forming a Technical Advisory Committee with expertise in building codes and climate resilient buildings.

The recently passed 2022 Act Driving Clean Energy and Offshore Wind is necessary but insufficient to accelerate the scale of net zero construction and renovations. A statewide opt-in net zero building code is urgently needed to transform buildings from polluters to protectors of our health and the climate. A robust opt-in specialized stretch code is required to electrify ALL buildings, new construction, and renovations.

Below are specific recommendations, developed alongside partners at Green Energy Consumers Alliance and the Massachusetts Climate Action Network, to improve this proposal.



Eliminate All Fossil Fuel Pathways for New Construction and Renovations

- We need a specialized stretch energy code that protects the health of our most vulnerable residents by eliminating the fossil fuel pathway for new construction and requiring all building types to be constructed all-electric.

Expand Electrification Requirements

- Make electrification a requirement not just for buildings with more than 50% curtainwall but for ALL new buildings and major renovations, not just for homes greater than 4,000 square feet but for ALL new and substantially renovated homes.
- Any building built today with fossil fuels will need to be retrofitted at greater cost and complexity before the end of its useful life, wasting money, burdening our energy infrastructure, and challenging our emissions reduction goals.

Restore Deleted Embodied Carbon Provisions

- Reducing embodied carbon emissions this decade is critical as they will exceed operational carbon emissions on a short-term basis. Massachusetts does not currently track embodied carbon, but DOER should lead the way.
- Require ALL buildings (not just those with a certain amount of curtainwall) to meet prescriptive specifications for low-carbon construction materials.
- For larger buildings, additionally require Whole Building Life Cycle Analysis which is an emerging practice and will encourage smart design choices.

Accelerate Effective Dates

- Allow municipal adoption by a vote that takes place any time before the Jan 1st or July 1st effective dates.
- Drop the six month minimum lead time for which there is legal requirement.
- DOER plans to issue final code language on December 23, 2022. Municipalities should be free to vote whenever they choose and to have the soonest effective date.

Clarify and Expand On-Site Solar Generation

- For all buildings (not just those heated by fossil fuels), require on-site solar panels in proportion to gross square feet to the extent of available solar access.

Clarify Curtainwall and Electrification Requirements



- Define curtainwall area as the entire system including framing, glazing, and spandrel panels. Set curtainwall performance criteria such as a U value for the whole system as would encourage triple glazing, thermally broken frames, and insulated spandrel panels.
- Require electrification for ALL buildings, not just those with more than 50% curtainwall.

Show How 2030 Building Sector Limits Are Met

- DOER and EEA should publicly demonstrate how 2030 building sector emissions limits can be met through scenario modeling. Based on DOER's numbers, it seems the Straw Proposal might reduce emissions by 10% by 2030. That's not enough. DOER must be transparent and show the public and the legislature what it will take to meet 2030 emissions goals.
- To meet our 2030 goals, the state's own calculations indicate that all future growth must be net zero and approximately 100,000 existing buildings must be electrified each year. The opt-in net zero code must explain how it will deliver these results.

Clarify and Optimize the Threshold for Substantial Improvements:

- DOER should use >50% enclosed area for triggering HERS compliance. Otherwise, DOER risks creating a loophole that unfairly burdens small homes and misses substantial changes on large homes with high valuations.
- Any threshold using cost-to-value burdens low-value buildings in environmental justice communities and relaxes standards for wealthy communities, exacerbating inequities.

Renewable energy and net zero homes offer the perfect duet for grid reliability.¹ When paired with smart grid modification planning, as is accounted for in An Act Driving Clean Energy and Offshore Wind, net zero, all-electric buildings and a renewably-powered grid work in tandem during our hottest summer days and coldest winter nights. In our increasingly hot summers, super-efficient, all-electric net zero buildings will ease the strain on the power grid. What energy they do use will be generated on-site or purchased off-site. In the meantime, our coldest nights are ideal for true net zero, all-electric buildings, and a clean energy grid because wind generation is highest during cold winter nights. Grid reliability and all-electric codes go hand in hand.

The Commonwealth needs the most robust opt-in specialized stretch code to regulate

¹ <https://www.sierraclub.org/massachusetts/blog/2022/02/path-highly-reliable-power-grid-winter>



and electrify all buildings, both new construction and renovations, in a way that is available to all communities. We cannot afford to wait any longer to transform our buildings into protectors of our health, communities and the climate.

Respectfully submitted by,

Deb Pasternak
State Director
Sierra Club Massachusetts Chapter