

March 18, 2022

Massachusetts Department of Energy Resources (DOER)

“Stretch Code Straw Proposal Comments”

Dear Commissioner Woodcock, Director McCarey, Mssrs. Finlayson and Ormond, et al:

The HeatSmart Alliance (see end) offers the following comments with regard to the proposed building code updates, aka the “Stretch Code Straw Proposal”.

The HeatSmart Alliance strongly encourages that ALL building code updates result in buildings that will not need significant improvements to reach net zero greenhouse gas emissions in the future. We believe it makes sense for this to apply to new construction and major renovations of buildings.

State law requires the Commonwealth to be net zero by 2050 [see [Global Warming Solutions Act](#) and the [Climate Act of 2021](#)]. All buildings built today and in the coming years will be built with the intention to exist to that year and beyond. Therefore these buildings need to be able to comply with the requirements of those laws. Fortunately the technologies, systems, and knowledge required to build buildings that will support the demands of the near future already exist, and add only marginally to first costs, if at all.

Key Issues

It is well known that retrofitting upgrades to building envelopes is *much* more expensive than building to high standards from the outset. There are cost and fairness issues with building buildings that will require energy retrofits in the future to meet laws that are already in the books:

1. The most direct issue is that the buyer/owner of ‘today’s’ new building will in the future be forced to bear the expense of upgrading the building and energy system.
2. The Commonwealth and its taxpayers will end up paying a price for today’s energy shortcut. That home built today will need to be upgraded in the future, and the home will likely qualify for some financial support or subsidy. This

support will take away from the ability to support other retrofits. This is not only a cost issue but also a fairness issue. It is a hidden subsidy to developers.

3. This last point illustrates the issue of fairness. It is not fair for society as a whole to effectively subsidize current development at the expense of everyone else's ability to meet the Net Zero laws in the future.

Specific Recommendations on Building Codes

Standard Building Code:

Although the standard building code update is an improvement from the previous base building code, this new base code does a disservice to building owners who will bear extensive renovation costs in the future in order to reduce energy costs and emissions associated with heating and cooling these buildings.

Stretch Energy Code:

The stretch building code, although improved, does not require building envelopes where they need to be in order to avoid costly retrofits in the future.

However, if this new standard does pass, we request that:

1. there be no concurrency period (or if one is required that the concurrency period be limited to 90 days), and
2. that the stretch building code be updated again within one year to achieve higher efficiency.

Specialized Opt-in Code:

The specialized opt-in code is generally very good, but we believe that new buildings should not be built that require on-site combustion of fossil fuels. Electrification of the primary heating system should be mandatory, even if some supplemental fossil heating is allowed. In addition, there should be a provision in the opt-in code to allow municipalities to adopt an all-electric code.

If the specialized opt-in stretch code is not going to proceed with electric-only heating and appliances, then we advocate following the tiered HERS Ratings requirements, namely HERS 45 for all-electric construction, and HERS 42 for the fossil-fuel alternative.

Additional Recommendations

Accounting for Embodied Carbon

The building code updates do not take into account embodied carbon. Embodied carbon is a substantial portion of building emissions overall. For new buildings in particular embodied carbon dwarfs GHG emissions from operations. A path to account for embodied carbon needs to be made, and adopted soon. We recommend this version of the code require an accounting of embodied carbon associated with building construction, but not set embodied carbon limits. Rather, we recommend such limits be set in a future code revision. HERS Index uses a spreadsheet tool that already calculates material quantities which could be extended to make embodied carbon calculations. The DOER could provide embodied carbon emissions factors.

Defining Net Zero

We believe that a definition of Net Zero needs to be clear and consistent. The Net Zero Buildings Coalition definition of Net Zero is acceptable and should be adopted.

Very truly yours,

Robert A. Zogg, Member, HeatSmart Alliance and Carlisle, MA resident

Stephen Breit, Member, HeatSmart Alliance and Wayland, MA resident

Michael Duclos, Member, HeatSmart Alliance and Stow, MA resident

George Whiting, Member, HeatSmart Alliance and Medfield, MA resident

About the HeatSmart Alliance

The HeatSmart Alliance is a group of volunteers with members and associates from 28 communities in the Boston metrowest area. Our mission is to reduce greenhouse gas emissions by accelerating adoption of energy-efficient heat pumps in Massachusetts homes, municipal buildings, and commercial buildings. We primarily work at the grassroots level to achieve this mission.

Our experience is primarily with single-family homes. A number of us are veterans of the MassCEC HeatSmart initiative and we also have members who are knowledgeable in the areas of retrofits, heat-pump technology, community outreach, and overall approaches to reducing greenhouse gas emissions.

Learn more about the Alliance at <https://heatsmartalliance.org>