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I submit my comments today as a parent, as a concerned citizen of Northampton, Massachusetts, as an environmental scientist and biologist, and a member of Mothers Out Front Massachusetts. Thank you for the work you are doing to provide code tools to the local governments who need them to meet their emission reduction goals. I am concerned that we are not responding to the climate crisis with the urgency it warrants. The Massachusetts Department of Energy Resources has been charged with updating the Stretch Building Code in order to meet the carbon emission reductions mandated by the Massachusetts 2021 Climate Legislation. Communities have the opportunity to opt in to the Stretch Code, but it is not required.

The new opt-in Stretch Code should mandate net-zero buildings (HERS 0) so that Massachusetts can move forward with the necessary speed to create a building stock that moves us toward a healthy and sustainable future. Net zero all-electric buildings are no longer a stretch for new development. In a 2019 report by the Integral Group, titled “Zero Energy Buildings in MA: Saving Money from the Start”, <https://www.caba.org/wp-content/uploads/2020/04/IS-2019-121.pdf>, the U.S. Green Building Council made the following findings:

1. ZE (zero emissions) buildings are being built in Massachusetts today with zero additional up-front costs.
2. Return on investment for ZE Existing and New Office Buildings can be as little as one year for ZE ready buildings.
3. Of the six building types studied, all can be Zero Energy Ready (ZER) for upfront costs of 0 – 7%, and when zero energy, all types break even in eight years or less when there are no additional upfront costs.
4. Existing office buildings retrofitted to zero energy, with renewables, can produce a return on their investment in as little as five to six years, given today's incentive structure.
5. Building energy demand can be reduced 44 – 54% across all building types with technology that's readily available today.

Integral also cited a 2019 study published by the Rocky Mountain Institute (RMI, 2019) titled “The Economics of Zero-Energy Homes”. <https://rmi.org/insight/economics-of-zero-energy-homes/> It found that, with utility energy efficiency rebates, there is no added cost for a new zero energy ready single-family home in Boston.

As noted in the Integral study, substantial renovations to existing buildings pose more challenges due to original design constraints that result in high costs to homeowners and a longer payback period. I agree that we need to recognize the financial burden of retrofits to moderate and low income home owners and landlords. Before we can require building permits for substantial renovations to meet the net zero standard, funding streams must be created to provide assistance to homeowners who have limited financial resources. While funding concerns are not part of the building code, we do need to direct funding for retrofits towards those who are most disadvantaged. Retrofitting existing buildings to allow electrification will take dedication and

thoughtful work and is the thorniest area of local building permit revisions. For now, a focus on net zero new buildings is doable and the only reasonable option, while we have much to do for retrofits. There is no room for fossil fuel options in new buildings.

DOER should ensure that communities have the tools to ensure that housing being built today incorporates available net zero technology. This will also avoid greater costs to retrofit buildings at a later date. Our future and that of our children and grandchildren depends on the actions we take now to reduce emissions wherever and as rapidly as possible.

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Brad Swallow Natick, architect

As an architect constantly weighing benefit of solid for insulation v glass for other benefits; should have substantial glazing; code should require thermal breaks, 50% glazed buildings should be electrified, triple paned glazed windows; if required costs would come down.

Mark Dreenbirger, New England Green Energy
2021 IRC Needs to allow greater solar provisions
Faye Strigler
Mary Gard