March 18, 2022

The Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114
Attn: Nina Mascarenhas
Email: stretchcode@mass.gov

Re: **Stretch Code Straw Proposal Comments**

Dear Commissioner Woodcock, Secretary Theoharides, and Secretary Kennealy,

I am writing to you as the Executive Director of the Massachusetts Climate Action Network, a non-profit organization whose mission is to accelerate the equitable decarbonization of our buildings and municipal utilities. With over 65 chapters across the Commonwealth, MCAN empowers our local chapters through technical training and educational events focused on projects, policies and plans that improve the health of communities while decreasing disease-inducing pollution with the goal of ensuring a livable, breathable future for all.

MCAN is committed to transforming buildings from being polluters to being protectors of our health, communities and our environment. Building code is a powerful tool to accelerate this transformation, and make sure that change happens in an equitable way that addresses historic injustices related to housing.

I want to recognize the hard work that DOER has already put into the straw proposal specialized code for municipal opt-in, as well as the updates to the base and current stretch codes.

The draft specialized stretch code for municipal adoption that DOER presented for public review on February 8th is, however, inadequate to support the kind of transformation of our buildings that is so urgently needed. This letter outlines MCAN's primary suggestions for drastically improving the next version of the specialized stretch code for public comment.

MCAN's primary recommendations for the specialized stretch code include:

1. Align the specialized stretch code language to conform with published standards of “net zero”;
2. Include major renovations in the specialized stretch code, capturing a crucial step for decarbonizing buildings in MA;
3. Mandate electrification and renewable energy to align the code with the MA Decarbonization Roadmap;
4. Account for and curb embodied carbon emissions related to new construction and major gut rehabs;
5. Improve the energy efficiency standards to support net zero buildings and Passive House standards;
6. Incentivize the adoption of a true net zero stretch code by existing Green Communities, to avoid slowing down the decarbonization of new buildings across the state;
7. Require building commissioning and retro-comissioning;
8. Require the selection of low-impact refrigerants and refrigerant recycling to limit ozone depletion and carbon emissions.

Specific recommendations are detailed below.

1. Align the specialized stretch code language to conform with published standards of “net zero.”

    a. The net zero definition appearing on Slide 31 of DOER’s webinar slideshow is inadequate and flawed judged against any published standard or regulation. The slide says, “Net-Zero new construction is compatible, as built, with the Commonwealth’s net-zero emissions economy in 2050.” DOER is required by statute to adopt a definition of a "net zero building."

    b. The current allowance of fossil fuels for newly constructed buildings is at odds with every standard and professional definition of net zero, and ensures that residents, tenants, and owners of newly constructed fossil fuel buildings will still have to bear the cost of decarbonizing down the line. Moreover, the current draft looks at the aggregate economy as opposed to individual buildings.

    c. A building code is for buildings, and I urge DOER to draft a net zero stretch code that supports net zero buildings – buildings that are energy efficient, all-electric, with low-embodied carbon that achieves carbon neutral building operations through the production and/or purchasing of renewable energy.

2. Include major renovations in the specialized stretch code, capturing a crucial step for decarbonizing buildings in MA.
    a. This omission ignores a crucial step in decarbonizing our buildings as mandated by the Next Generation Roadmap bill. As outlined in the 2050 Decarbonization Roadmap, the most cost-effective time for an existing building to transition to clean energy technology, like a heat pump, is during routine home improvements or when an older HVAC system must be replaced. The electrification of space and water heating is a low-risk, cost effective strategy for decarbonizing the majority of the Commonwealth's building stock.

    b. I have heard from so many communities -- like Chelmsford, North Andover and others -- that new construction is not their primary worry. They are more concerned about making sure existing buildings are renovated to be healthy, made more affordable to heat and cool because they are energy efficient.

3. Mandate electrification and renewable energy to align the code with the MA Decarbonization Roadmap.
    a. The current draft of the specialized stretch code does not require renewable energy to offset 100% of the annual site emissions. As a result, projected growth this decade will take us further from the 2030 goal. A true net zero stretch code requiring renewable energy to offset 100% annual site emissions is needed to level emissions.

    b. The current draft of the specialized stretch code also allows for a fossil fuel pathway for newly constructed buildings, which will guarantee expensive retrofits down the line. Making buildings electrification-ready is not rigorous enough.

4. Account for and curb embodied carbon emissions related to new construction and major gut rehabs in the current and specialized stretch codes.
    a. MCAN applauds DOER for introducing embodied carbon reductions and strongly encourages. This decade is the window of opportunity for reducing emissions and towards that end, MCAN recommends that DOER apply this metric to other building systems in both the stretch and municipal opt-in code. In addition, DOER should consider prescriptive paths such as low-carbon concrete specifications.

    b. The sourcing, production, transportation, and installation of building materials must be accounted for to ensure the most accurate understanding of how new construction contributes to emissions. DOER's current emissions calculations DO NOT include embodied carbon

emissions. I urge DOER to rectify this.

c. DOER also needs to require Whole Building Life Cycle Assessment to account for and minimize embodied carbon. MCAN suggests that DOER additionally require a whole building life cycle assessment (LCA) for operating carbon and embodied carbon for all new commercial buildings. Requiring LCA ensures a more comprehensive view of the environmental impacts that requires designers to consider more than just the "use" phase of a building by focusing on the quantification of overall energy consumption and air emissions.

5. Improve the energy efficiency standards to support net zero buildings and Passive House standards.
    a. As a member of the MA Net Zero Buildings Coalition, MCAN urges DOER to improve the energy efficiency standards in the current stretch and specialized stretch codes. The updated residential stretch code (HERS 42/45) requires only a 23%/18% improvement as compared to the base code, while the updated commercial stretch code (ASHRAE 90.1 2019) requires only a 5% improvement as compared to the base code (ASHRAE 90.1 2016). Best practice suggests that significantly greater energy efficiency is readily achievable and generates life cycle cost savings. The MA Ready for Net Zero study (March 2021) showed millions of square feet of existing net zero buildings which achieved 40%, 50%, 60% or greater energy efficiency improvement compared to a baseline building.

    b. MCAN appreciates that DOER has included the Thermal Energy Demand Intensity (TEDI) as a performance metric in the stretch and municipal opt-in stretch codes. MCAN supports the upgrade of efficiency envelope requirements in the current and specialized stretch codes. MCAN recommends that the TEDI requirement be supplemented with the Energy Use Intensity calculations. This will allow professionals to better predict utility costs for projects, a measure that is directly linked to a building's energy consumption.

6. Incentivize the adoption of a true net zero stretch code by existing Green Communities, to avoid slowing down the decarbonization of new buildings across the state.
    a. As a member of the MA Net Zero Buildings Coalition, MCAN recommends that DOER should incentivize green communities to adopt the opt-in net zero stretch code using the state-funded green communities grant pool, up to $10 million per year, as provided for in the Green Communities Act.

Only green communities adopting net zero standard should be eligible to compete for the entire pool up to $10 million in the first round of grant applications. Any balance remaining after these net zero green communities receive their awards could be the basis for a second round of grant applications by green communities still using the updated stretch code.

b. DOER should consider allowing green communities a three-year "concurrency period" during which individual municipalities could decide, by vote of Town Meeting or Town Council, whether and when to transition from the updated stretch code to the opt-in net zero stretch code. At the end of the concurrency period, green communities that have not yet adopted the opt-in net zero stretch code should be encouraged to do so through a possible DOER "leading by example" municipal training program.

7. Require commissioning and retro-comissioning.
    a. MCAN urges DOER to require building energy reporting and commissioning in the specialized stretch code. Specifically, MCAN recommend requiring building energy reporting and disclosure, together with initial and periodic commissioning, to ensure that building systems operate as they are designed. We must know how progress is being made. BERDO in Boston is a great start but does not apply to all building types, especially smaller buildings.

8. Require the selection of low-impact refrigerants and refrigerant recycling to limit ozone depletion and carbon emissions.
    a. The current specialized stretch code is silent on refrigerants, and yet additional climate risks are posed by driving toward electrified heating (heat pumps) without specifying low-impact refrigerants and refrigerant handling. As a member of the MA Net Zero Buildings Coalition, MCAN is cognizant of these risks and recommends stretch code provisions to address them.

MCAN also recommends one process related improvement going forward with public sessions expected to resume in the summer months. I want to highlight the Environmental Justice public session that was held on March 4 (a Friday night, from 6-8pm) **only 2 residents from EJ communities gave comments**. What should have been a three month period for soliciting public comment from across the state, was compressed by DOER into a single week. The compression of this process does not support a robust public comment process, especially for residents in environmental justice and frontline communities. In fact, this compression could be perceived as being hostile to ensuring feedback informs the next versions of the draft codes.

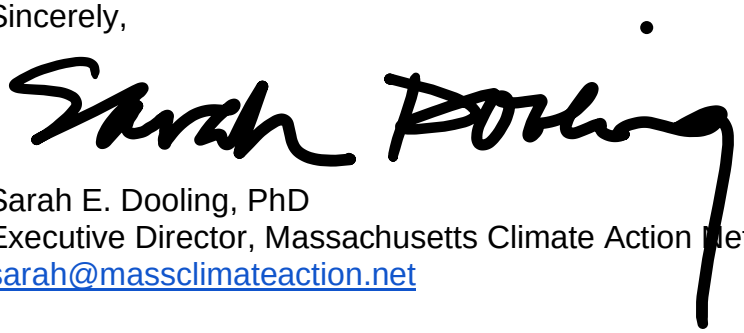
While DOER did extend the deadline for submitting written comments from March 8 to March 18, I urge DOER to conduct targeted outreach to environmental justice communities.

Allowing fossil fuels to continue to burn in new buildings perpetuates health risks and high utility bills, which are most harmful to those living in poorly constructed homes or in environmental justice neighborhoods. It is necessary to note that net-zero code adoption is not just for wealthy towns; energy-burdened communities benefit most from energy-efficient affordable housing and declining emissions. These are the very residents who stand to benefit the most from buildings that are affordable to heat and cool, with high quality indoor air because on-site combustion of fossil fuels is disallowed.

A true net zero stretch code is needed and is needed now. Communities across the state are ready to build even more net zero buildings and make the Commonwealth a national leader on the equitable decarbonization of buildings through building code. Our future depends on your leadership.

Thank you.

Sincerely,



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