



City of Cambridge

Executive Department

OWEN O'RIORDAN
Acting City Manager

August 12, 2022

Commissioner Patrick Woodcock
Massachusetts Department of Energy Resources
100 Cambridge St.
Suite 1020
Boston, MA 02114

Dear Commissioner Woodcock,

Thank you for your work to advance Massachusetts' building energy codes and for this opportunity to comment on the Stretch Energy Code and Specialized Stretch Code Draft Regulation.

The City of Cambridge has long been committed to supporting energy efficiency and clean energy, and to addressing the causes and impacts of climate change. Cambridge is one of Massachusetts' inaugural Green Communities and voted to adopt the Stretch Energy Code in 2009. In 2015, Cambridge enacted its Net Zero Action Plan, which identifies policies and actions to bring buildings across our community to net zero greenhouse gas emissions by 2050.¹ We look forward to utilizing Massachusetts' next generation of building energy codes to further reduce emissions from new and renovated buildings and to rapidly make progress towards net zero.

In support of DOER's work to develop forward-looking codes, and in coordination with the Cities of Boston and Somerville and the Metropolitan Area Planning Council, we wish to provide the following comments:

- *Support for Strong Energy Efficiency Standards.* We support DOER's work to strengthen energy efficiency standards for all building types in the Stretch and Specialized Stretch Codes. Efficient building design can not only reduce building emissions, but also increase climate resilience during extreme weather, and it can enable cost-effective electrification. The promulgation of low HERS standards, the new Thermal Energy Demand Intensity requirements, the support for Passive House as a compliance pathway (including as a requirement for all multifamily under the Specialized Code), and requirements for energy recovery ventilation will all maximize energy efficiency and enhance climate preparedness in Massachusetts.
- *The Importance of Electrification.* We continue to encourage DOER to maximize opportunities for electrification and enable all-electric construction wherever possible.

Electrification is a key part of achieving both Cambridge's and Massachusetts' climate goals; in Cambridge, over 55% of our building GHG emissions come from the onsite combustion of fossil fuels. Moreover, a wide range of building types in Massachusetts – from multifamily buildings to university facilities – are now being built with all-electric heating. In fact, our own Small Residential Net Zero Feasibility Study and Renewable Thermal Study have demonstrated that a wide range of buildings can be cost-effectively built as all-electric, with new construction presenting cost savings from day one for many building typologies. Finally, electrification avoids the lock-in of fossil fuels, as DOER has identified, which would later need to be addressed with additional retrofit expenditures. This lock-in also presents equity issues, as residents of gas-heated multifamily buildings will remain dependent on gas, even as it becomes an expensive stranded asset. We thus encourage enabling electrification from day one for all building types possible to avoid these dependencies and inequities. Specifically, the Specialized Code should allow municipalities to require full electrification for all building types for which it is feasible, no later than January 1, 2025. DOER should then continue to monitor technological developments to expand electrification in the next energy code update to additional building types that become feasible.

- *Need to Maximize Electrification in Commercial Buildings.* We applaud DOER's initiative to reduce thermal demand in commercial buildings and to clearly define the all-electric pathway. However, DOER can support further electrification by setting a higher 'partial electrification' standard for labs and high-ventilation buildings using the ASHRAE pathway, such that a significant portion of heating and hot water is provided by electric systems. We also support the stringent implementation of the proposed Specialized Stretch requirement of sufficient prewiring and electrical service for full electrification. Ensuring that there is both enough service and full prewiring for heating, hot water, cooking, and drying to be electrified will enable a smooth transition to all-electric systems.
- *Support for Stringent Renovation Standards.* In a densely developed city like Cambridge, there is a large volume of gut-renovation of the existing housing stock. We appreciate DOER's clarification around renovations and additions. However, our planning studies have identified renovation as the ideal time for retrofitting a building with renewable thermal systems, in both the commercial and residential sectors. We should thus maximize every renovation opportunity to make progress towards Cambridge's and Massachusetts' shared goals for heat pump deployment. We would encourage DOER to hold residential renovations to more stringent HERS scores, and to hold mixed-fuel residential renovations to the same HERS standard regardless of whether the building installs solar. (The current proposal lets builders choose between solar and greater efficiency for mixed-fuel residential renovations). Finally, there are no renovation standards defined in the proposed Specialized Code, meaning that renovations will only be held to the second-tier Stretch Code standards, in contrast to the requirements for new construction. We recommend that the Specialized Code define requirements for residential and commercial renovations that are closely aligned with the standards required of new construction.
- *Need for Prompt Implementation of Residential and Multifamily Efficiency Standards.* The Specialized Code proposes a delayed implementation of Passive House precertification for multifamily buildings of six stories or more. It is important that larger multifamily buildings are held to the same standards and pace for high performance as smaller buildings. The award-winning Finch Cambridge building in North Cambridge provides an excellent example of such standards being feasible today, being a six-story, Passive House-certified, 100% affordable multifamily building. Finally, the Stretch Code proposes delaying implementation of residential standards until July 2024; we believe these standards should be implemented no later than January 1, 2024.

- *Support for High Performance Standards in New Homes.* We appreciate DOER's commitment to maintaining the stringent Stretch Code HERS scores for residential construction that were shared in the straw proposal. We support the Specialized Code's more stringent HERS 0 or PHIUS Zero requirements for mixed-fuel homes over 4,000 square feet. Since PHIUS Zero prohibits the use of fossil fuels, DOER should ensure that this prohibition is maintained for homes that utilize the PHIUS Zero pathway.
- *Recommendation to Phase In Renewables Requirements.* We support DOER's requirements for solar in mixed-fuel buildings under the Specialized Code. However, we would also suggest that DOER phase in a solar requirement for a broader range of buildings – not only in the Specialized Code, but in the Stretch Code as well.
- *Need for Expanded EV Charging Infrastructure.* We applaud DOER's work to support EV charging, as providing adequate charging will be critical to achieving our shared goals for the decarbonization of the transportation sector. However, the requirement that only 20% of multifamily and business parking be wired for EVSE, and 10% for other uses, will not be sufficient to support the Commonwealth's plan to phase out gasoline car sales by 2035. In Cambridge, we are planning to require that new buildings larger than 25,000 ft² outfit 25% of spaces with EVSE and make all spots EV-ready. It is, after all, most cost-effective to make spaces EV-ready at the time of construction. At a minimum, DOER should ensure that the Stretch and Specialized Codes do not limit municipalities from continuing to implement local standards; we also encourage DOER to require more upfront EVSE installation in large buildings and, in particular, expanded pre-wiring for EV readiness.
- *Defining net zero as fossil-fuel free and zero onsite emissions.* We believe that the definition of a net zero building should mean that a building emits no greenhouse gas emissions from onsite combustion and will have zero total GHG emissions once grid electricity is fully renewable. The draft Specialized Code's definition of net zero buildings, however, clearly allows for fossil fuels to be used, so long as the building is prewired for electrification and has solar. A definition that allows new fossil fuel-based buildings to count as net zero is incompatible with the Commonwealth's 2050 Decarbonization Roadmap and obfuscates the trajectory that our buildings need to be on.

The City of Cambridge appreciates DOER's dedicated efforts to develop strong Stretch and Specialized Stretch Codes. We continue to seek a path forward that will enable municipalities to ensure efficient, all-electric buildings wherever possible, and we encourage DOER to promulgate a code that supports rapid building decarbonization in line with our climate goals. We look forward to work with you on this important matter. If you have any comments or questions regarding this letter, please feel free to contact me or Seth Federspiel, Climate Program Manager. Seth can be reached by email at sfederspiel@cambridgema.gov or by telephone at 617-349-4600.

Sincerely,



Owen O'Riordan
Interim City Manager