



Via Electronic Mail

August 12, 2022

Ian Finlayson, Deputy Director, Energy Efficiency Division
Massachusetts Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

**Re: NECEC and Vote Solar Joint Comments on the Stretch Energy Code and
Specialized Stretch Code Draft Regulation**

Dear Deputy Director Finlayson,

The Northeast Clean Energy Council ("NECEC") and Vote Solar appreciate the opportunity to provide comments on the proposed Stretch Energy Code and Specialized Stretch Code. Massachusetts has been a national leader in energy efficiency and clean energy, yet significant action is still needed for the state to reach its commitment of net zero emissions by 2050. The proposed Stretch Energy Code and Specialized Stretch Code take steps in the right direction. However, more should be done in this code cycle to ensure that Massachusetts is on a path to reaching its climate and clean energy goals.

NECEC leads the just, equitable, and rapid transition to a clean energy future and a diverse climate economy. NECEC is the only organization in the Northeast that covers all of the clean energy market segments, representing the business perspectives of investors and clean energy companies across every stage of development. NECEC members span the broad spectrum of the clean energy industry, including clean transportation, energy efficiency, wind, solar, energy storage, microgrids, fuel cells, and advanced and "smart" technologies.

Vote Solar is a non-profit organization that fights for a 100% clean energy transition that puts the interests, health and well-being of people at its center. Vote Solar is focused not only on transitioning to a clean energy economy, but making sure we do so in a way that includes and benefits everyone. By writing our buildings code with an equity and justice approach, we can make our society fairer and begin to make up for the injustices and inequities of the past.

The Massachusetts 2050 Decarbonization Roadmap Study, Building Sector Report highlights that new construction between 2020 and 2050 will make up 19% of the state's building stock in

2050.¹ This means that standards set for new buildings today will play an important role in decarbonizing for decades to come. Thus, the proposed Stretch Energy Code and Specialized Stretch Code must be one that considers decarbonized future electricity and building heating and hot-water systems and its effect on the state's contribution to climate change.

NECEC and Vote Solar are proposing the following changes be incorporated into the Stretch Energy Code and Specialized Stretch Code:

The Specialized Stretch Code should require all residential new construction to be built all-electric.

In order for the Commonwealth to meet the climate goals it has set forth, high levels of electrification will be necessary. The 2050 Decarbonization Roadmap mentions that newly constructed all-electric buildings will help the state avoid the lock-in of fossil fuel combustion that will require more expensive retrofits in the future.

The Rocky Mountain Institute's analysis of all-electric new construction shows that all-electric single-family homes in Boston are more affordable to construct.² In addition to having a lower upfront cost, all-electric homes are better for public health. Gas stoves, in particular, can create indoor air pollution levels that exceed outdoor air quality standards.³ Furthermore, gas stoves leak harmful pollutants into homes even when the stove is inactive.⁴

Requiring all new residential buildings in the Specialized Stretch Code be all-electric will help Massachusetts reach its decarbonization goals. Moreover, it will help protect public health in the Commonwealth, especially those individuals with underlying health conditions.

Local and state policies will work in coordination with a net zero stretch code to ensure that low-income ratepayers are not burdened with rising fossil fuel prices during the clean energy transition. By expanding workforce training and incentivizing heat pump retrofits (which are up to 50% more efficient) for low- and moderate-income ratepayers, these ratepayers will not be burdened with expensive utility bills but will rather be first in line to benefit from the transition. Energy-burdened households, with their unaffordable utility bills and disproportionately high rates of emissions-related health conditions, such as asthma, stand to benefit the most from

¹ Building Sector Report, Massachusetts 2050 Decarbonization Roadmap Study, available at <https://www.mass.gov/doc/building-sector-technical-report/download>

² RMI, 2020 The New Economics of Electrifying Buildings Report: An Analysis of Seven Cities, available at: <https://rmi.org/insight/the-new-economics-of-electrifying-buildings?submitted=1983dhtw8>

³ RMI, 2020 Gas Stoves: Health and Air Quality Impacts and Solutions, available at: <https://rmi.org/insight/gas-stoves-pollution-health/>

⁴ Eric D. Lebel, Colin J. Finnegan, Zutao Ouyang, and Robert B. Jackson, "Methane and NOx Emissions from Natural Gas Stoves, Cooktops, and Ovens in Residential Homes" January 2022, available at: <https://pubs.acs.org/doi/pdf/10.1021/acs.est.1c04707>

energy-efficient affordable housing and declining emissions. An all-electric requirement is a necessary measure to equitably meet our climate goals.

Rooftop solar should be a compliance option available for all new residential buildings.

Massachusetts will need considerably more rooftop solar than it currently has to reach its climate and clean energy goals. Although the 2050 Decarbonization Roadmap models different pathways for the state to achieve its goals, seven of the eight pathways assume that Massachusetts will have 7 gigawatts (GW) of behind-the-meter solar by 2050. The eighth pathway presumes that the state will reach 17 GW of behind-the-meter solar by 2050. According to ISO-NE, Massachusetts currently has about 1.5 GW of behind-the-meter solar.⁵

Requiring solar on new residential construction provides substantial benefits to consumers. The installation of rooftop solar during construction can be more cost effective than having the system installed after the home is built. Furthermore, given that Massachusetts has some of the highest electric rates in the country, having rooftop solar as a standard feature on new homes will help consumers reduce their electricity bills - making an all-electric home more affordable. This is especially important for the high percentage of Massachusetts household with high energy burdens, for whom these savings can be a lifeline. Additionally, rooftop solar can help power new all-electric buildings under the Specialized Stretch Code, with affordable and clean electricity while reducing demand on the grid. This will also ensure that all-electric homes will be net-zero emissions well before the 2050 target date. Given the current electricity source mix in New England, powering these homes with solar from the start will avoid a significant amount of emissions from natural gas, coal, and oil over the solar's 25+ year life.

Rooftop solar has a crucial role in New England, where it has historically been difficult to site and construct large-scale renewable energy projects. However, a substantial amount of utility-scale solar and offshore wind will also be necessary to reach Massachusetts's decarbonization goals. Collectively, we advise that the state use all of the tools it has to meet those goals. Two examples are the requirement of solar on new residential construction and ensuring the installation of at least 7 GW of behind-the-meter solar. We must make the path to decarbonization less complicated and consumer-friendly by deploying behind-the-meter solar.

Additionally, requiring solar on new construction will help enable more behind the meter storage and could increase participation in the Clean Peak Standard, improve customer resilience during extreme weather, and provide additional grid value.

⁵ ISO-NE, Final 2021 PV Forecast: Distributed Generation Forecast Working Group PowerPoint, available at: https://www.iso-ne.com/static-assets/documents/2021/03/final_2021_pv_forecast.pdf

The commercial code should clarify that community-based renewable energy generation means the state's SMART program, and the same optionality should be extended to residential participation.

To ensure greater clarity regarding permitted community renewable energy generation options facilitating net zero energy consumption in Zero Energy Buildings, we recommend that the definition for “Zero Energy Building” under Section CC102.1 of the Commercial Stretch code explicitly clarify that “community-based renewable energy” is that provided through the “SMART” program, or a corresponding successor program. This vital clarification will help ensure that developers subscribe buildings to the Commonwealth’s community solar program and will avoid confusion regarding eligible energy offerings.

Furthermore, residential buildings should have the compliance option of participation in the SMART program, Massachusetts’ presiding community-based renewable energy program, when rooftop solar is not feasible due to a lack of solar access area from shading. This is valuable for buildings for which on-site solar is not feasible, especially for low- and moderate-income customers and housing to allow them to share in the benefits of solar. Thus, we recommend modifications to Section RC101.3 of the residential code to permit this.

There are several straightforward, efficient solutions by which local building officials can readily regulate and verify such participation with little to no administrative burden. Notably, eligible customers should have the option of either providing an attestation that they participate in the SMART program or to provide a copy of their SMART subscription agreement. As such, certification methods should include the following options:

- A. Attestation form certifying that the building sites renewable energy from a SMART project – this may be done on an official template provided by DOER; or
- B. Copy of the applicable account holder’s subscription agreement or disclosure form governing the building account’s subscription to a SMART project.

Customer subscription agreements or disclosure forms are both legally binding documents illustrating a given customer’s verified subscription to a SMART project in their utility territory. Administrative review of either document poses a solution likely easier than the administratively burdensome process required to regularly verify the physical presence of on-site systems.

The solar compliance credit in the Base Code, the Stretch Energy Code and the Specialized Stretch Energy Code should remain at five-points in the HERS rating for residential buildings.

Where solar is not required, we recommend DOER clarify and optimize the threshold of “substantial improvements.” The current definition creates a loophole which allows renovation projects to use the assessed value, instead of square footage for determining compliance with the updated stretch code. The use of assessed value will unfairly burden small homes while

also missing 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.

If rooftop solar is not a requirement in either code, it should continue to receive a five-point credit in the HERS rating. It is our understanding that maintaining a five-point HERS rating credit is helpful to the adoption of rooftop solar. Given that Massachusetts needs more rooftop solar deployment, it is critical that we can incentivize rooftop solar to be added during new construction.

NECEC and Vote Solar appreciate the opportunity to provide feedback on the proposed code changes. Thank you for considering these comments as the Commonwealth diligently works to continue decarbonizing the building sector. Please contact us if you have any questions.

Sincerely,

A handwritten signature in black ink that reads "G Ohadoma". The "G" is stylized and large, followed by "Ohadoma" in a cursive script.

Greg Ohadoma
NECEC Policy Associate

A handwritten signature in black ink that reads "Lindsay Griffin". The signature is fluid and cursive, with the first name being more prominent.

Lindsay Griffin
Vote Solar Regulatory Director, Northeast