

Finlayson, Ian (ENE)

From: Bob Higgins-Steele <rehigginssteele@gmail.com>
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To: STRETCHCODE (ENE)
Subject: BUILDING CODE COMMENTS

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All Bold text below by commenter

Cost-effectiveness and encouraging buy-in by the building community is important. However, the science and modeling needed to achieve Net Zero Greenhouse gas emissions by 2050 is paramount. The building community survived and has thrived under the original Green Communities Stretch Code and its updates.

The draft Specialized opt in-code (Stretchier code) does not differ significantly from the draft Stretch Code. It needs improvement .

Comments on the Draft Code:

ADDITIONS:

The Draft Code exempts additions under 1000 sf, or an increase of 100% of the square footage of conditioned space to an existing building. These exemptions conform to the base code (HERS 52)

The average HERS rating for new construction in MA in 2020 is HERS 51 less than the 2021 base code. (DOER Straw Proposal) This allows **incentivizes** building less efficient, higher emitting additions

Two Base Code 1000 sf additions = one 2,000 sf small single-family home

1. **Commission the Stretch Energy Technical Advisory Committee (SE-TAC) model the emissions impact of small additions state-wide.**
2. **All additions of any size in Communities that opt-in to the specialized code should conform the new construction stretch code requirements**
3. **Should exemptions remain, implement a mechanism to limit serial additions, i.e. a homeowner builds a base code compliant addition then builds another addition later.**

The Summary of Stretch code study Energy Efficiency Analysis (February 2022) specified HERS 42 for both Gas and Electric buildings.

4. **Return to HERS 42 for both Gas and Electric Buildings for the opt-in specialized code**

. ALTERATIONS AND SUBSTANTIAL RENOVATIONS

5. **Remove the exemptions for Level 1 and level 2 alterations.**
6. **Add triggers at end-of-service-life of building components, e.g., roof replacement, side wall replacement, window replacement HVAC, DHW regardless of size.**
7. **Add prescriptive requirements to avoid thermal bridging. For example, require minimum R-5 continuous insulation at renovated walls (interior or exterior) and R-10 roofs.**
8. Weather seal renovated envelope components using materials, techniques and processes that would achieve ACH 2.0 @ 50 Pascals in an entire building. (This can't be verified.)

"The adoption of a net-zero on-site new construction code, however, would reduce 2050 emissions from residential and commercial new construction by 54% if implemented in 2030 and by 87% reduction if implemented in 2023, highlighting the benefit of early action in avoiding the lock-in of fossil fuel technologies." MA 2050 Decarbonization Roadmap

9. **Replace the effective date language in the draft. Implement a 6 month concurrency period. The code becomes effective at the end of the concurrency period**

10. **Zero** Energy Buildings

Will HERS 42 combined with potential on site renewables enable DOER building typologies to become ZNE. E.g. will the roof area of a 2000 sf home, small residential in DOER models, generate enough power to zero out any emissions?

Furnish modeling for large and small residential as well as small commercial buildings (municipal) before finalizing the code.