

## Finlayson, Ian (ENE)

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**From:** jimgarrett@posteo.net  
**Sent:** Saturday, 6 August 2022 12:10 PM  
**To:** STRETCHCODE (ENE)  
**Cc:** miranda@massclimateaction.net  
**Subject:** BUILDING CODE COMMENTS

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Dear sirs and madams of DOER,

I write to provide my comments on DOER's proposed building codes, particularly the stretch code.

First, regarding these codes, I support the efforts and council of the Massachusetts Climate Action Network and the state chapter of the Sierra Club. I ask you to support their recommendations.

Second, let us acknowledge that we are in an unfolding climate emergency right now, an emergency that directly bears on the codes DOER is authoring. We are beginning to see what many have told us: global heating is not just a matter of a modest shift in temperature and rising oceans, but also a matter of food security, great economic burden (to mitigate and replace catastrophic property damage), and global insecurity due to global migrations that will make the Syrian exodus into Europe (which set back European democracy) look like a cakewalk. Your own children's physical safety is at stake. Moderate steps forward would have been grand ten or twenty years ago, but DOER and Massachusetts did not do this, and now we face a crisis. Codes drafted so far are far more aggressive than those in the past, yet they are insufficient to meet the state's needs. It is critical for our health and security that we reduce greenhouse gas emissions by half in less than eight years, and entirely within 28 years. This is not only my personal opinion, but I believe it's the law of the Commonwealth. 28 years is a short time in the life of a built structure; the codes that DOER authors today are critical for the lives and health of citizens, more so now than ever.

It is imperative that no structure built today should utilize fossil fuels. Such a structure will simply need to be retrofitted, at great cost, before 2050, well before the end of its useful life.

I understand that gas combustion on-site is critical for certain processes in manufacturing and laboratory work. Restaurants, I argue, can do fine with induction stoves. (Is this deeply invasive to restaurant's processes? Absolutely. But we are in an emergency.) Industrial and laboratory processes in new or deep retrofit structures can make do with propane stored on site in the short term; later, as technology and infrastructure evolves, these can be replaced with hydrogen or electrical methods. But we should not allow new connections to the natural gas grid.

I appreciate that, all things being equal, building codes should accommodate existing processes as far as safety allows; but we are in an emergency.

I understand that there are concerns that cutting-edge technologies for efficiency and renewable energy will add to cost. I would counter as follows:

- Housing costs are high not because of building materials, but rather because of limited availability and the desire of many people to be in the same place. This is a social issue that is beyond the scope of building codes.

- Advanced materials and technology will add a small percentage to building cost, given the cost of land and labor that will be met regardless.
- The modest increase in building cost will more than pay for itself with almost zero operating costs. If this calls for financing innovations, we will address this in areas other than building codes. Again, we must deal with an emergency.
- Fossil fuel costs are uncertain and more likely to increase than to decrease (see more below).
- Increased efficiency supports increased comfort, in addition to decreased operating cost. I once visited a passive-house-standard home in December; I couldn't tell by touch which walls were exterior.
- In contrast, any use of fossil fuels will need to be retrofitted later.

Regarding building costs, DOER must include in life-cycle cost estimates the fact that fossil-fuel systems must be retrofitted before 2050, according to a schedule (we cannot wait until 2049 to retrofit everything). Also, such estimates must include considerable uncertainty, and likely increases, in fossil fuel costs between now and 2050, for the following reasons:

- The cost of fossil fuels depends on foreign affairs, and includes actors (OPEC+) who actively collude to maintain high prices.
- Wind and solar, in contrast, generate electricity for free after installation cost. Therefore the cost is known at the time of launch.
- What happens to the few remaining users when fossil fuel use winds down? The decreasing number of consumers must foot the full cost of fixed infrastructure. This will cause a spiral of increasing costs to a decreasing number of customers.

Therefore it would be irresponsible of DOER to assume fossil fuel costs remaining constant at today's levels, or lower. DOER could be inviting Massachusetts consumers to take on significant unplanned costs.

Thank you for your consideration. Your own children are depending on you!

Sincerely,

Dr. James A. Garrett  
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