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Arthur Jemison
Chief of Planning and Director of the Boston Planning and Development Agency
One City Hall Square
Boston, MA 02201

March 5th, 2024

RE: A Better City’s Preliminary Recommendations for Zero Net Carbon Zoning

Chief Jemison:

On behalf of A Better City’s nearly 130 member businesses and institutions, thank you for your efforts to ensure that the City of Boston is on track to meet its climate goal of net zero emissions by 2050. We are grateful to be a part of the Zero Net Carbon (ZNC) zoning process and are eager to partner with you and your team as this next round of building decarbonization policies within the city is drafted.

As you begin drafting the ZNC Zoning regulations, due in March 2024, we urge you to consider the following recommendations: a suggested timeline for a ZNC building to meet net zero emissions; a single embodied carbon standard methodology; an evaluation rather than a requirement for on-site solar in all-electric buildings; and the review process not requiring LEED certification.

A Better City’s staff and members would be happy to meet with you and your team to discuss any of these recommendations and to learn how we can best support this effort in the coming weeks and months.

Thank you for your consideration, for your leadership, and for your commitment to Boston’s climate goals. Please reach out to Yve Torrie (ytorrie@abettercity.org) with any comments or questions.

Thank you,

Y. L. Torrie

Yve Torrie
Director of Climate, Energy & Resilience
A Better City

Cc: Aimee Chambers, Director of Planning
Travis Anderson, Senior Infrastructure and Energy Planner
Allison Brizius, Commissioner, Environment Department
Hannah Payne, Director of Carbon Neutrality

1) A Suggested Timeline for a ZNC Building to Meet Net Zero Emissions

ZNC buildings will need to meet the recently adopted Opt-In Specialized Stretch Energy Code (Specialized Code) for Boston, in which case we expect these buildings to be well within BERDO compliance thresholds. All ZNC buildings, however, will be required to meet BERDO obligations, which means paying Alternative Compliance Payments for any operational fossil fuel use or choosing Power Purchase Agreements/Renewable Energy Credits/Community Choice Aggregation, etc., for electrical use. As the Specialized Code only allows a small amount of fossil fuels, the Alternative Compliance Payments for BERDO compliance will be small. However, all ZNC buildings will be super energy efficient (and many will be all-electric), but they will still be required to comply with BERDO obligations for electric use. This, in effect, means that the City is financially penalizing projects once they are complete and start operations, day 1, for the electric grid not being green. A Better City therefore recommends that ZNC buildings have a different timeline to achieve zero net carbon emissions than at initial operation. Instead, ZNC buildings should be on a 2035 timeline for zero net carbon emissions (as opposed to at completion/initial operation for BERDO buildings), which is tied to electrical grid parity with natural gas as it relates to greenhouse gas (GHG) emissions. Per BERDO's approved policies from December 2023, [Appendix A](#) (page 20) "Projected Grid Emissions Factors," estimates electric grid parity with [natural gas GHG emissions](#) (page 7) in 2035. If grid parity is not reached in 2035, then the actual year of grid parity should be used as the date by which ZNC buildings are required to be zero net carbon emissions.

A Better City recommends that ZNC buildings be on a net zero carbon emissions by 2035 timeline so that ZNC buildings are not penalized for a dirty grid. If grid parity takes longer than the projected goal of 2035, then the date by which ZNC buildings are obligated to reach zero net carbon emissions should change accordingly.

2) A Single Embodied Carbon Standard Methodology

Embodied carbon, or carbon emissions associated with the construction, manufacturing, and/or delivery of materials to a site, is not included in BERDO, which only accounts for a building's operational carbon. In 2022 ZNC conversations, A Better City members were very clear that embodied carbon best practices are not yet proven in concept, and that markets were under-developed to support the inclusion of embodied carbon in large buildings. We understand that BPDA is currently undertaking an analysis to develop an embodied carbon baseline and are requesting recommendations for tools to measure embodied carbon. Some members have found that current tools like LEED and Living Building Challenge treat embodied carbon differently, while other members have been exploring tools such as [Tally](#) and [LCAOne Click](#), which they have found to do a good job at measuring embodied carbon. Others have been tracking embodied carbon in recent new buildings and have found it to be a very complex task that may require different rules for different typologies. Another has requested the BPDA not reinvent the embodied carbon reporting process and use currently established best practices to collect data, such as LEED Whole Building Life Cycle Assessment credit or similar approaches. Members would appreciate the opportunity to provide feedback once a baseline and tool recommendations are further along.

Members are also unclear whether the City's intent with embodied carbon is data collection or if embodied carbon data will be used for setting compliance baselines that will need to be met within ZNC embodied carbon regulations.

A Better City requests clarity and transparency on the intent of embodied carbon within ZNC Zoning, whether it will be used for data collection, for setting baselines that will need to be met within a ZNC zoning regulation, both, or something else?

A Better City also requests a copy of the analysis performed that will inform an embodied carbon baseline as there are several questions we would like answered before providing additional input, and request further discussion once the analysis is completed:

- ***Will ZNC zoning regulations limit potential demolition? We understand that there is a focus on not demolishing existing buildings due to embodied carbon. Although this makes sense in many scenarios, we need to be careful that it does not preclude demolition when buildings cannot be adapted if the bones are bad (i.e. low floor-to-floor heights, very inefficient cores, overly small column spacing, low foundation capacity if adding height/mass, etc.). We are therefore concerned with blanket rules that do not take these kinds of considerations into account.***
- ***Will ZNC zoning regulations limit the types of materials that buildings can use? Regarding limiting high embodied carbon materials (i.e. aluminum) we need to understand the repercussions and whether alternatives are available.***
- ***Will ZNC regulations require “green steel” (often associated with a 15% cost premium)?***

Finally, A Better City recommends considering an ASHRAE embodied carbon standard currently under development, that is estimated to be completed in summer 2024. This could be used with exceptions or adjustments customized to Boston and its building typologies and may reduce the reliance on different rating systems. A Better City members also request additional discussion and clarity on tools for measuring embodied carbon, once recommendations have been proposed.

3) An Evaluation Rather than a Requirement for On-Site Solar in All-Electric Buildings

The Specialized Stretch Energy Code was adopted by Boston and came into effect in January 2024. This code already has requirements for electrification pre-wiring and installing solar when possible, and a passive house certification requirement for all multifamily housing over 12,000SF. At a recent meeting with BPDA we heard that, in addition to an embodied carbon requirement, the ZNC zoning may require on-site renewables. However, under the Specialized Code, the Zero Energy and Mixed Fuel Pathways already require on-site solar. In the All-Electric Pathway, we think buildings can evaluate on-site solar but that it should not be required. We have heard from members that there can be building and/or Eversource issues that can prevent a solar system from being implemented. In Boston, on-site solar usually means PV roof panels rather than ground level open space, which can't be used in most cases. PV panel products exist in glass for facades, but it is mostly not feasible today (i.e. 90-degree vertical, limited sun exposure, and expensive installation costs). Roof space generally doesn't have enough space for a quantity of solar panels that result in energy potential or value with current efficiencies and costs. Mechanical space, elevator and stair overheads, and window washing clearances all reduce available space, as does equipment relocation for resiliency/adaption. Roof decks are also depended on for the success of leasing contracts.

A Better City recommends that on-site solar in all-electric buildings be evaluated, but not required.

4) The Review Process Not Requiring LEED Certification

We heard in a recent meeting that the BPDA is questioning whether LEED certification is redundant in the review process, whether other certifications are better, or whether the Specialized Stretch Code is enough. We have heard from members that they do not think a LEED framework for review is necessary if the project is already meeting the Specialized Code, as LEED is going to have items that aren't relevant to carbon or energy, and it seems out of place for ZNC zoning. We therefore agree with members and BPDA that LEED certification is redundant and would only add confusion to the design process because LEED updates and Stretch Codes won't always update concurrently, and the review process could be slowed down if LEED is required. We do not think other certifications should be included either.

A Better City recommends that LEED certification is not required as part of ZNC Zoning.