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Hearing on Proposed Ordinance Relating to
Mandatory Building Energy-Efficiency Labeling and Auditing
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Thank you for the opportunity to provide comments on the Mayor's proposed ordinance on energy reporting and disclosure. My views on this come from my 30 years of experience as an environmental economist devoted to the design and implementation of environmentally effective and economically sensible environmental policies, and from some research I recently conducted with colleagues at the Analysis Group in Boston.

In terms of my experience, I would like to highlight a few relevant facts. I have been a professor at the Harvard Kennedy School for 25 years, where I direct the university-wide Harvard Environmental Economics Program and the Harvard Project on Climate Agreements. My research, teaching, and outreach are all focused on economic dimensions of environmental, natural resource, and energy policies, and a common theme has been the design of the best policy instruments for each specific environmental or energy problem.

Outside of Harvard, I was appointed by EPA Administrator Carol Browner in the Clinton administration and re-appointed by EPA Administrator Christie Whitman in the Bush administration to serve as Chairman of the EPA Environmental Economics Advisory Committee. With respect to climate change policy, I served as a Lead Author of the Second and Third Assessment Reports and a Coordinating Lead Author of the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. For more than 25 years, I have worked with the White House, with members of Congress – on both sides of the aisle – and with environmental advocacy groups, including the Environmental Defense Fund and others, to design better environmental and energy policies.

Turning to the specific research I have conducted on building labeling policies, I will begin by noting that this work is directly relevant to developing a sound assessment of mandatory building labeling, and includes our survey and synthesis of previous research on existing voluntary and mandatory labeling programs, both in the United States and in Europe. For me, this research has raised multiple concerns regarding both the mandatory labeling and the mandatory audit provisions of the proposed ordinance, as I will explain.

First, let me emphasize, however, that the goal of reducing the risk of global climate change through reduced emissions of carbon dioxide (CO_2) and other greenhouse gases is a laudable goal, in my view. And, importantly, increased energy efficiency can – in some cases – be a significant contributor to such emissions reductions. So, I am not here to question what I believe to be the underlying objective of the proposed ordinance.

I am here because I am concerned about the City of Boston putting in place a policy that – from what I have seen and studied – may not be effective, may be very costly, and may therefore ultimately prove to be counter-productive, making Bostonians worse off, rather than better off. Let me explain.

The first element of the proposal is building labeling or benchmarking. This is intended to create and communicate information about a building's energy efficiency. There are some serious issues to consider.

First, existing markets already have many mechanisms that voluntarily collect and communicate information about building energy performance, including utility bills; property inspections by potential buyers, renters, or home inspectors; voluntary energy labeling; and building audits, potentially subsidized through energy utility programs. Empirical studies indicate that these existing mechanisms communicate information on energy performance that affects real estate market transactions. So, the first thing to note is that, when the City indicates that the intent of the proposed initiative is to make sure that the real estate market is fully informed about energy performance, any new required labeling would, at best, provide incremental information on energy performance beyond these existing market mechanisms.

Second, the information mandated by the proposed ordinance is a building's EPA Energy Star "score," which has some key limitations, particularly when used as a regulatory tool. First, it only provides information on building performance relative to other buildings nationally. Further, knowing your score on a relative scale from 1 to 100 provides very little if any information that's really relevant to financial decisions, such as the costs of adopting new energy technologies, payback in energy savings, and hence the means of cost-effectively reducing energy use. Second, the Energy Star score depends on both the underlying efficiency of the building and the current occupants' energy use habits. Consequently, it provides an unreliable and potentially biased metric for future occupants and owners regarding a building's inherent energy efficiency. Third, Energy Star's underlying statistical model accounts for only a third of variation in energy use, thus failing to account for two-thirds. Fourth, the "score" imperfectly accounts for the many factors that make each building's energy use unique. For example, building age and location (such as corner lot) help explain variation in energy use, but they're not included in calculations of the score with the Energy Star Portfolio Manager. So, the score is subject to great uncertainty, and is not reliable for the purposes of the ordinance, in my view. For all of these reasons – and others – building energy labeling is simply not a natural extension of energy labels for consumer products. It is, in my view, misleading to claim otherwise.

A third major issue with the building labeling proposal is that policy makers hope – but do not know – that mandating the creation and disclosure of additional information will lead to new investment in energy efficiency. But, whether buildings labeling programs in fact reduce energy use is an empirical question. We examined this, and here is what we found.

First, we discovered that there has been no real evidence that any energy labeling mandate has been an effective tool for lowering energy use or that such a mandate will help building owners identify opportunities to profitably lower their energy use. I have heard references to an EPA study that some people claim shows the effectiveness of building labeling programs. I have

reviewed the EPA studies. They demonstrate nothing about the likely effectiveness of a mandatory building labeling program. In brief, the EPA studies look at participants in the voluntary Energy Star Portfolio program, and thus focus on those who already are most pre-disposed to be interested in energy efficiency. This is called "self-selection bias." One of the studies then goes on to focus even more narrowly on those buildings that received the Energy Star certification (the top 25% compared with national baseline). And then the study finds – of course – that the Energy Star certified buildings perform better than a national average of all buildings. This is fine, but clearly it proves nothing: just the self-selection bias, and the top-25% prize. The causality is not from labeling to performance, but from performance to certification.

Second, from our review, the only study we are aware of that directly examined effects on energy use found that mandatory building labels in Denmark achieved no measureable reductions in energy use. Third, regulators and the energy industry have already spent decades designing programs that are intended to directly encourage greater energy efficiency, such as utility-funded subsidies. There's simply no evidence that requiring building owners to report inevitably unreliable information will improve on the performance of those existing policies and programs.

The fourth and final major issue with the building labeling proposal I want to highlight is also very important. Massachusetts and the other New England and some Middle Atlantic states are now taking on more stringent CO_2 commitments for the region's electricity emissions through the Regional Greenhouse Gas Initiative (RGGI). In the presence of that important policy initiative, city-level programs will not reduce emissions, but simply move them around. I cannot take time to explain why that is the case, but if you would like to ask me about it, I will be very happy to provide a full explanation.

Let me turn instead to the second element in the proposed ordinance – mandatory audits – which also raises potentially great concerns. First, the mandatory energy audit requirements, in effect, question building owners' ability to properly manage their own properties – to identify cost-effective and profitable actions. It is virtually unheard of for government policies in this country to tell businesses what's in their own self-interest. Second, the costs of audits are potentially very great for larger commercial properties. For example, audit costs amount to about $35,000 for a 50,000 square foot building, based on data from the California Energy Commission. Third and finally, under the proposal, many audits would likely be required for owners who have little interest in the results of the audits and/or have no intent to make investments in energy efficiency, no matter what the audit says. That is a costly economic waste for no gain for the economy or for the environment.

So, in conclusion, there is little evidence that the proposed program will result in meaningful changes in energy use, let alone energy savings that will offset the program's economic costs. Perhaps some believe that even if the proposed program will have negative net benefits, as I have argued, it will be of symbolic value – appearing to do something about the problem. But, I worry about policies that have only symbolic value, because they can fool us into thinking we are doing something significant, when we are not, and thereby divert our attention away from truly sensible and effective actions.