



April 18, 2019

Governor Charlie Baker
Massachusetts State House
Office of the Governor
24 Beacon St Room 280
Boston, MA 02133

Governor Baker:

We are writing in reference to the letter you recently received from the Partnership for Policy Integrity (PFPI), which referenced their bill (H. 853) to remove modern wood heating technologies from qualifying under the Alternative Portfolio Standard. We believe there are significant inaccuracies in the letter about wood's suitability to meet the state's climate change goals. We fully support your work addressing climate change, and we believe modern wood heat can be an important component in reaching those goals.

Wood is a local, affordable, renewable resource that has been termed "the people's fuel." We're reaching capacity for natural gas in Massachusetts, and short of investing in widely-opposed new infrastructure such as pipelines and compressor stations, we need to look for alternatives for heat. Wood can sustainably heat homes and businesses in Massachusetts - displacing fossil fuels, offering a climate benefit, and improving forest health and resilience.

PFPI attacks wood heat on two grounds - particulate emissions and carbon emissions. Using particulate emissions to attack the APS inclusion of modern wood heating systems makes little sense. The EPA study referenced in PFPI's letter estimated emissions from *all* wood-burning appliances, including old wood stoves, outdoor wood boilers, and even fireplaces. The APS has rigorous particulate emissions standards that only the cleanest-burning and most modern wood heating systems can meet. Compared to older wood-burning systems, these new indoor systems emit 99% less particulate matter. In fact, modern wood heating systems have lower particulate emissions than some older oil-fueled boilers still in widespread use in Massachusetts.

Adding an emissions control device such as an electrostatic precipitator (which some installers do by default right now) to a modern wood heating system results in particulate emissions being almost entirely eliminated. A scientific air-sampling study comparing particulate emissions of modern wood heating systems to conventional fossil fuel systems, funded by DOER and MassCEC and conducted by UMass Amherst, is nearing completion, and we expect it will show little to no difference in particulate emissions between the two types of systems.

Older wood stoves, outdoor wood boilers, and fireplaces emit the most particulate matter from burning wood. By providing incentives to encourage people to switch to cleaner modern wood heating systems such as those permitted in the APS, Massachusetts is *reducing* wood smoke pollution. Only by conflating modern wood heat systems with older, more polluting systems can PFPI claim modern wood heat systems are a danger instead of the benefit they actually represent.

The Massachusetts Clean Energy Center offers installation rebates for modern wood pellet or chip boilers, and includes a “bounty” on outdoor wood boilers to remove them from use. MassCEC also offers a wood stove changeout program that encourages people to replace old wood stoves with newer, more efficient EPA-certified models that reduce particulate emissions by as much as 90%. These incentives are making a real difference – wood smoke pollution has actually been *declining* for years and continues its downward plunge as more people move to cleaner, more modern wood heat systems. In short, if particulate emissions from wood smoke are the focus, H. 853 is exactly the wrong approach – it would encourage people to stay with older outdoor wood boilers and other old systems that emit much *larger* amounts of particulates.

The other attack on modern wood heat systems revolves around carbon emissions. Wood heat opponents charge that our careful and heavily-regulated forest management practices are depleting the carbon sink of our forests. In fact, carbon storage in Massachusetts forests is *increasing*, and has been for years. The most recent federal inventory shows Massachusetts forests are growing nearly five times more wood than is being harvested. Our forests contain some of the densest concentrations of stored carbon in New England, and the carbon stored in them will continue to grow.

Improving markets for forest residues from thinnings helps make forest management more economically feasible. This management can improve water quality, promote wildlife habitat diversity to help species in decline, increase forest resilience by enhancing tree age and species diversity, and encourage the growth of healthier, more valuable trees that can be used in building materials, which themselves have a significant climate benefit.

The carbon benefits of building with wood are clear. The production of concrete and steel are responsible for nearly 15% of all global carbon emissions. Wood products are less carbon-intensive to produce, and a piece of wood is also 50% stored carbon by dry weight. By using wood in building products, furniture, or flooring, the carbon sequestered by the tree in that wood continues to be stored for the life of the wood product – or even longer, if reused or recycled.

By encouraging the growth of larger, more valuable trees that we can use in building materials to sequester their carbon, and using the residues for wood heat to displace fossil fuels, forest management can have a significant positive impact on climate change.

Massachusetts based its incentivizing of wood heat on the Manomet study (which has since been amplified by similar peer-reviewed studies published in scientific journals). In their letter, PFPI concedes that science shows there is a carbon benefit to wood heat compared to fossil fuels, with an initial carbon debt that is eliminated in less than a decade and then a carbon *dividend* going forward for wood heat sourced from residues.

The growing scientific consensus around the benefits of modern wood heat is why Massachusetts and other New England states provide incentives to homeowners, businesses, institutions, and municipalities to switch. It's why Dartmouth College, in a sustainability effort partially led by their environmental science professors, is investing \$200 million to switch its entire campus over to modern wood heat, joining Anna Maria, Mt. Wachusett, Bennington, Middlebury, Colby, and many other New England colleges, as well as large institutions like Cooley-Dickinson Hospital. It's why major statewide environmental organizations such as The Nature Conservancy and land trust groups **supported** the inclusion of modern wood heat in the Alternative Portfolio Standard, and why many of them choose to heat their own facilities with wood.

We applaud your administration's determination to make decisions based on the best science. We believe that modern wood heat should continue to be part of the Alternative Portfolio Standard, and that displacing fossil fuels with wood heat can make a positive contribution to the Commonwealth's climate change goals.

Sincerely,

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cc: Secretary Matthew Beaton, Executive Office of Energy and Environmental Affairs
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