



April 12, 2019

Commissioner Judith Judson
Massachusetts Department of Energy Resources
100 Cambridge Street, Suite 1020
Boston, MA 02114

Dear Commissioner Judson:

Thank you for the opportunity to submit comments in response to DOER's Straw Proposal on the Clean Peak Energy Standard (CPS). We are also attaching the comments we submitted in response to DOER's CPS Stakeholder Questions in February, which were not included in the CPS Stakeholder Answers posted on DOER's website.¹

In our previous comments, PFPI recommended that biomass power plants should not be eligible for inclusion in the CPS based on their fuel source and emissions. We regret that DOER did not acknowledge this input, as we now see that on Slide 29 of the CPS Straw Proposal Presentation, DOER proposes that:

Procurement should focus on facility types that may not have other sources of long-term financing available to them (e.g. most energy storage facilities, **small non-solar renewable facilities such as AD or biomass**, etc.)

This recommendation appears to be only thinly supported in the stakeholder comments. A review of the 41 stakeholder comments posted found biomass was only mentioned in three sets of comments, one providing strong arguments for *non*-inclusion of biomass:

- Michael Macrae, Energy Analytics Manager of Harvard Engineering & Utilities, cited the carbon and air pollution impacts associated with wood-fired power plants and recommended that "Bioenergy requires careful carbon accounting to determine net emission impacts and should not be included as eligible generation for the Clean Peak Standard unless it provides a significant net emissions reduction benefit."
- The National Biodiesel Board wrote that "Biodiesel production is currently the most efficient way to convert sustainable biomass into low carbon diesel replacement fuel," noting the potential of "second generation" feedstocks such as algae.

¹ Unfortunately, PFPI submitted these comments on February 8, several days after the date DOER requested feedback. We did see, however, that nine sets of comments submitted after February 5 were included in the record, including two submitted on February 8.

- Green Harbor Energy noted “Given the level of operational flexibility required to effectively participate, the category of eligible resources will need to be broad and include such resources as biomass and CHP.”

PFPI wants to establish this for the record because DOER is currently working with the wood products industry to promote biomass combustion in its renewable thermal programs,² and DOER has proposed significantly broadening the eligibility standards for inclusion of biomass in the Renewable Portfolio Standard. Based on what appears to be very thin external stakeholder input, DOER now proposes to prioritize procurement of clean peak certificates (CPC) for small biomass power plants.

If the observation of Green Harbor Energy is correct that the operational flexibility required to effectively participate in this program will need to include such resources as biomass, then in our opinion, this indicates a fundamental flaw in the CPS program that must be corrected before investments are made that will harm public health and the environment and increase greenhouse gas emissions.

DOER itself should be aware of the emission impacts of bioenergy. The 2010 Manomet study, which DOER commissioned to assess the carbon impacts of forest biomass energy, found that net emissions from wood-burning power plants exceed carbon emissions from fossil fuel-fired power plants for decades to more than a century.³ Only after those timeframes does biomass begin to show a carbon “benefit” relative to fossil fuels.

Since the Manomet study was published, the science has become increasingly clear that the timeline for climate action is exceedingly short. The IPCC 1.5 report showed that to limit catastrophic climate change, we must not only dramatically decrease CO₂ emissions over the next ten years but also achieve “negative” CO₂ emissions by increasing carbon sinks, primarily forests.⁴ Massachusetts policy on bioenergy is ostensibly based on the findings of the Manomet study, but unfortunately, DOER’s recent spate of policies to encourage more woody biomass combustion is undermining the foundations of science and further preferentially favoring this technology at the expense of technologies that actually help to reduce emissions, such as solar.

² See for instance <https://www.mass.gov/news/baker-polito-administration-announces-28-million-in-matching-funding-for-renewable-heating>, 2/11/19 news release announcing DOER awarded nearly \$2.7 million in APS Renewable Heating Infrastructure grants to support wood chipping facilities, distribution and sales.

³ Walker, T., P. Cardellicchio, J. S. Gunn, D. S. Saah and J. M. Hagan (2013). “Carbon Accounting for Woody Biomass from Massachusetts (USA) Managed Forests: A Framework for Determining the Temporal Impacts of Wood Biomass Energy on Atmospheric Greenhouse Gas Levels.” *Journal of Sustainable Forestry* 32(1-2): 130-158. See Table 7 “Years for Biomass Energy Emissions to Reach Equal Flux with Fossil Fuel Energy Emissions.”

⁴ IPCC, 2018: Summary for Policymakers. In: *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels.* <https://www.ipcc.ch/sr15/chapter/summary-for-policy-makers/>

Bioenergy facilities also emit large quantities of fine particulates (PM 2.5), nitrogen oxides, and other smog precursors, all air pollutants that are harmful to human health. Massachusetts residents are already exposed to high levels of particulate pollution, particularly from residential wood burning,⁵ and Massachusetts has some of the worst asthma hotspots in the nation.⁶

It is reasonable for ratepayers and the public to expect that any new power generation subsidized through the “Clean” Peak Standard would increase deployment of truly clean technologies that reduce air pollution during peak demand periods, particularly since peak demand often coincides with peak air pollution from energy consumption (in summer, for cooling; in winter, when wood-burning is already a significant source of PM). Increasing the pollutant load during peak periods of energy use when pollution levels are already at their highest will only serve to worsen air quality and harm public health. In our opinion, including biomass in a “Clean” standard really serves to trivialize the word and render it meaningless.

Massachusetts should not be providing subsidies for biomass burning under the false pretense that this will reduce greenhouse gas emissions, improve air quality, or benefit consumers. The science does not bear this out.

Sincerely,

A handwritten signature in black ink, appearing to read "Laura Haight". The signature is fluid and cursive, with the first name "Laura" written in a larger, more prominent script than the last name "Haight".

Laura Haight
U.S. Policy Director

⁵ <http://www.pfpi.net/massachusetts-tops-northeast-in-air-pollution-from-wood-burning>

⁶ Asthma and Allergy Foundation, Asthma Capitals 2018: The Most Challenging Places to Live With Asthma (2018) includes three MA cities in its list of top 20 Asthma Capitals based on estimated asthma prevalence, emergency department visits due to asthma, and asthma-related fatalities: Springfield (#1); Boston (#11) and Worcester (tied for #12).

PFPI Response to DOER Clean Peak Standard (CPS) Stakeholder Questions, submitted by email to doer.cps@mass.gov on 2/8/19

Michael Judge
Director, Renewable & Alternative Energy Division
Massachusetts Department of Energy Resources

doer.cps@mass.gov

Re: PFPI Response to DOER Clean Peak Standard (CPS) Stakeholder Questions

Dear Mr. Judge,

The Partnership for Policy Integrity (PFPI) appreciates the opportunity to provide response to the Department's Clean Peak Standard (CPS) stakeholder questions issued on January 15th.

While the stated intent of the Clean Peak Standard enacted in Massachusetts last year is to increase renewable energy and reduce high-cost peak hours, implicit in the name **Clean** Peak Standard is that the additional power stored and generated will not result in a net increase in emissions during the peak demand periods. Although the CPS legislation defines a "clean peak resource" as "a qualified RPS resource," not all RPS resources are clean.

With regard to questions 12-14 (Qualified RPS Resource), PFPI recommends that the following RPS resources should not be eligible for inclusion in the Clean Peak Standard based on their fuel source and emissions portfolios:

- waste-to-energy which is a component of conventional municipal solid waste plant technology in commercial use;
- low emission advanced biomass power conversion technologies using fuels such as wood, by-products or waste from agricultural crops, food or animals, energy crops, biogas, liquid biofuel including but not limited to biodiesel, organic refuse-derived fuel, or algae.

Both garbage incinerators and biomass power plants generate more CO₂ stack pollution than coal power plants per MWH of energy produced and emit significant quantities of conventional air pollutants and air toxics. These are exactly the types of highly polluting, carbon intensive, and expensive electricity sources that the CPS proposal was supposed to replace and should be categorically excluded from eligibility in the CPS.

The emissions profiles for the other, nonwoody biomass-derived fuels vary considerably based on the feedstock and technology used. These fuels should not be included in the CPS unless a

comprehensive accounting of their net carbon emissions and other air emissions indicates that there is a significant emissions reduction benefit.

PFPI endorses the detailed comments on the Clean Peak Standard submitted by Michael Macrae of Harvard University.

Thank you for this opportunity to submit stakeholder comment.

Sincerely,

Laura Haight