

From: John Hebert
To: [DOER RPS \(ENE\)](#)
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Subject: RPS COMMENTS -- Additional Comments
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Massachusetts Department of Energy Resources
Re: Comments on the RPS Class I and RPS Class II regulations
Attn: John Wassam, RPS & APS Program Manager

Dear Mr. Wassam:

Please include the following comments in addition to those I submitted yesterday (and which are provided below for reference).
Thank you!

In its third annual Global Electricity Review released today, March 30, 2022 (<https://ember-climate.org/.../global-electricity-review.../>) and making headlines worldwide, EMBER, noted that there are “big questions” about the emissions impact of bioenergy and that “dependent on sourcing, bioenergy can be very high-carbon”.

EMBER is an independent energy think tank that uses data-driven insights to shift the world from coal to clean electricity. In its report, EMBER adds this important "Caveat on bioenergy":

"Bioenergy has typically been assumed (by the IPCC, the IEA, and many others) to be a renewable energy source, in that forest and energy crops can be regrown and replenished, unlike fossil fuels. It is included in many governmental climate targets, including EU renewable energy legislation, and so Ember includes it in “renewable” to allow easy comparison with legislated targets.

"However, the climate impact of bioenergy is highly dependent on the feedstock, how it was sourced and what would have happened had the feedstock not been burnt for energy. Current bioenergy sustainability criteria, including those of the EU, generally do not sufficiently regulate out high-risk feedstocks and therefore electricity generation from bioenergy cannot be automatically assumed to deliver similar climate benefits to other renewable sources. Given the availability of risk-free alternatives to generating electricity such as wind and solar, Ember advocates for countries to minimise or eliminate the inclusion of large-scale bioenergy in the power sector. For more information please see our reports: Understanding the Cost of the Drax BECCS Plant to UK Consumers (May 2021), The Burning Question (June 2020), and Playing with Fire (December 2019)."

Given that biofuels create BOTH methane (CH₄) AND carbon dioxide (CO₂) when burned, bioenergy that is produced from cutting, chipping and burning trees is highly suspect as a "clean" form of energy. Even its classification as "renewable" is open to ridicule, given how

long it takes to grow the forests being cut and chipped.

Add to that the beneficial effects of photosynthesis (oxygen production) and sequestration of carbon by removing CO₂ from the atmosphere, and the only logical and reasonable conclusion is that biomass, or biofuels or bioenergy -- at least in the form of, or from, living trees -- is NOT good for human health or the health of the planet.

Or, more frankly stated: USING LIVE TREES FOR BIOENERGY IS A STUPID, DIRTY, ENVIRONMENTALLY UNFRIENDLY AND INEFFICIENT WAY TO GENERATE ELECTRICITY.

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Following for reference is the testimony I gave at the Zoom meeting on Tuesday, March 29:

The Additional Argument Against Using Biomass as an Energy Source

According to the [ISO New England energy Resource Mix for 2021](#), wood provided two percent of the region's total electrical power generation. Wind provided four percent, solar and burning refuse each three percent. Even if our state and region were to double the energy generated by cutting down, processing and burning tree wood, it would supply a paltry four percent of total energy generation, and do so at a very high cost in dollars, environmental waste and greenhouse gas generation -- rather than its reduction.

In this age when more than 25 *square miles* of forest in the Amazon River basin alone are being destroyed and burned *each day*, it is the height of hypocrisy to be doing the same here in Massachusetts -- and especially in the name of energy conservation and climate change mitigation.

As anyone who follows the news can tell you, [Carbon dioxide \(CO₂\)](#) is widely recognized as an agent of global warming. Perhaps less known is this statement in the US Environmental Protection Agency (EPA)'s [Global Greenhouse Gas Emissions Data](#): “[While] Fossil fuel use is the primary source of CO₂, CO₂ can also be emitted from direct human-induced impacts on forestry and other land use, *such as through deforestation, land clearing* for agriculture, and degradation of soils. The EPA report continues, “*Likewise, land can also remove CO₂ from the atmosphere through reforestation*, improvement of soils, and other activities.”

It is also well known that [Methane \(CH₄\)](#) is one of the most potent greenhouse gases on the planet, and by definition, a major contributor to global warming. Yet, according to the EPA data, “*Agricultural activities, waste management, energy use, and biomass burning all contribute to CH₄ emissions.*”

Although natural gas is composed primarily of methane, when burned efficiently, natural gas produces primarily carbon dioxide and water vapor. Because methane contains only one carbon atom, natural gas produces *less carbon dioxide than any other fossil fuel, and fewer other pollutants as well.*

This is not to say that natural gas is an angel among demons, but it must be recognized along with hydropower and nuclear as the best -- and most scalable -- alternative to bridge the energy demands of today, with the *truly* clean and renewable energy sources we need for the

future.

It is nothing short of disturbing that a state as progressive and intelligent as Massachusetts is even debating burning biomass to produce electrical energy, when more efficient, more scalable, less-polluting alternatives are readily available!

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