November 23, 2021

Delivered electronically
DEEP.EnergyBureau@ct.gov
Connecticut Department of Energy & Environmental Protection
10 Franklin Square
New Britain, CT 06051

Re: Electricity-sector greenhouse gas emissions written comments

To Whom It May Concern:

We appreciate the opportunity to provide input on the Connecticut Department of Energy & Environmental Protection (DEEP) proposal Public Act 08-98, regarding accounting for greenhouse gas emissions from consumption of electricity in the state. The Biomass Power Association is the nation's leading organization working to expand and advance the use of clean, renewable biomass power. The Association represents 80 biomass power plants in 20 states across the U.S.

Biomass power in the United States relies on organic waste materials for fuel. The materials used by the biomass power facility in Connecticut, and by facilities across the country, are leftovers from forest harvesting for other purposes like lumber. In the vast majority of cases, the materials used by U.S. biomass power facilities cannot be used for higher value purposes; their alternate fates may include decomposing and emitting methane on the forest floor, or in some areas of the country they may contribute to catastrophic wildfires. Biomass is an essential part of the forest products supply chain, and is an essential partner for landowners who need to optimize their revenue over many decades to preserve their land.

From a different perspective, biomass fulfills an important role in any energy grid. Biomass is one of the few baseload renewable energy sources, meaning it provides power 24/7 and is a critical complement to intermittent sources like wind and solar. When biomass plants are idled, particularly in the Northeast, it is most common for non-renewable natural gas to provide the baseload power replacement that is needed for the grid to function properly.

In all cases, biomass power is using for fuel materials that are *already* part of the carbon cycle; they are inherently different than fossil fuels which introduce *new* carbon into the atmosphere. The carbon accounting proposal put forth on October 26, 2021 by DEEP's Michael Malmrose suggests that biomass should be measured on a net basis. Aside from consistency and alignment with the international norm, this would be in keeping with the science on the use of wood wastes and residues as fuel. It is a practical proposal that would enable biomass to continue to participate in Connecticut's power market. We support this proposal and urge DEEP to enact it.

I. Counting biomass on a net/lifecycle basis will preserve this important part of New England's renewable energy portfolio, and is in keeping with international standards.

The Department has consistently requested that stakeholders address policies and mechanisms that would be needed to retain existing clean energy resources to ensure that the state remains on track to meet Connecticut's 2050 Global Warming Solutions Act, which requires the state to reduce its total greenhouse gas emissions to at least 10 percent below 1990 levels by 2020, and to at least 80 percent below 2001 levels by 2050.

The United States Environmental Protection Agency (EPA) under the administration of President Obama encouraged states to consider the value of biomass as a climate mitigation strategy and as a compliance strategy with respect to Clean Air Act Section 111(d). EPA finalized its Clean Power Plan on August 3, 2015, and the Plan concluded that the use of "qualified biomass" for producing power can be considered a compliance strategy for states to meet statewide emission goals. EPA found that waste-derived and forest-derived industrial byproducts "are likely to have minimal or no net atmospheric contributions of CO_2 emissions." [1] Further, the EPA found that feedstock from sustainably managed forests may also qualify as a climate mitigation strategy and concludes that this type of sustainable forest management system allows biomass to be used to control statewide CO_2 emissions from fossil sources.[2]

Connecticut can ill afford to lose part of its renewable energy mix by counting biomass emissions on a gross basis. Currently, biomass, hydropower and other renewables account for approximately 20% of New England's energy mix according to ISO New England[3], while natural gas accounts for more than 50% of Connecticut's power generation. Use of natural gas for annual power generation has increased from 18% in 2000 to more than 50% in 2021. Never has a single fuel dominated our electric generation mix so completely. Constraints on the ability to deliver sufficient gas supply to the region are a cause for critical concern regarding reliability.[4] Denying RPS eligibility for biomass power plants at the same time these challenges are bedeviling the region is unwise. Biomass power facilities keep secure fuel inventories on site and are dispatchable for use in times of high demand and/or constrained gas supply. Further, biomass power is a much less carbon intensive source of power than natural gas; a study commissioned by the Biomass Power Association commissioned last year found that a New Hampshire biomass power facility emitted 115% less carbon than a similar-sized combined cycle natural gas facility.[5] Preservation of biomass power enhances grid diversity and maintains an asset that is important for the grid and the state.

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[1] Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 1161, (Aug. 3, 2015) (to be codified at 40 C.F.R. pt. 60), *available at* http://www2.epa.gov/cleanpowerplan/clean-power-plan-existing-power-plants.

[2] *Id.*

[3] ISO New England's Resource Mix webpage: https://www.iso-ne.com/about/key-stats/resource-mix

[4] See van Welie, Gordon, ISO-NE President and CEP, presentation to Electric Power Supply Association "ISO New England Identifies Growing Fuel-Security Risk as the Power System Undergoes Rapid Transformation"

[5] See Khanna and Dwivedi, Carbon Intensity of Harvesting Residue-Based Electricity: Case Study of Eversource Energy. http://usabiomass.org/docs/Final%20BPA%20Khanna%20Dwivedi%20Biomass%20Carbon%20Study%20May%202017.pdf

Finally, as Mr. Malmrose pointed out in his PowerPoint presentation about carbon accounting on October 26, virtually every governing body in the world measures biomass emissions on a net basis.

II. Counting biomass on a lifecycle basis will help support forestry in rural New England.

The North East State Foresters Association (NEFA) issues regular reports on the forest health and the forest-based economy in the New England states and New York State, and those reports make clear that biomass energy is critical to support forest health, rural forest-related jobs, and the larger forest products sector. These reports also have shown that forests in the Northeast are growing faster than they are being harvested.

It is instructive to contemplate the most recent reports from Maine and New Hampshire. When considering the biomass power generators participating in the Connecticut Renewable Portfolio Standard, many of them are located in Maine and New Hampshire – and are eligible due to their investment in state-of-the-art technology to meet Connecticut's stringent air quality requirements.

The reports cite that biomass is a locally sourced fuel that "benefits the local economy through jobs in harvesting and processing, use of wood, and local wealth retention. Switching to biomass from fossil fuels often brings emissions reductions, depending upon the application and the fuel being replaced or offset. Biomass fuel is made from low-grade wood that is generally not suited for higher value markets. In providing a market for low-grade wood, it provides landowners and land managers options and opportunities for practicing forestry. In many applications, biomass is cost competitive, and can provide consumers with an opportunity to save money, use a renewable fuel, and support the local economy."

According to NEFA's most recent report on forestry in Connecticut, the gross sales for all forestry-related economic activity totaled more than $3 billion in 2013. While only a small portion of the total went to biomass power, the existence of biomass power helps support landowners and encourages them to preserve their land rather than selling it for development.[6]

The markets for biomass fuel in New England support forest health, helping to ensure sustainability, productive habitat management, and biological diversity. According to one forester's report, "the absence of markets for low-grade wood will simply diminish management options, which will ultimately diminish biodiversity." This forester cited the insidious effects of "high grading," in which the best trees are cut and the low-grade material is left behind. "This will lead to a diminution of stand diversity, habitat, timber quality and genetic robustness….a loss of sustainability by any definition."[7]

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[6] The Economic Importance of Connecticut's Forest-Based Economy, 2015
https://www.nefainfo.org/uploads/2/7/4/5/27453461/connecticuts_forest_based_economy_4.2.15.pdf

[7] Bradford Wyman, Licensed Professional Forester, *Markets for Low-Grade Wood and Forest Management (January2002)* Available at http://inrsllc.com/download/wood_firedelectricityinNH.pdf

The interconnectedness of New England's power grid underscores the importance of every state recognizing the carbon benefits of biomass. Maine and New Hampshire are the two most heavily forested states in the nation, according to a 2012 report, and low-value forest product markets provide a revenue stream for landowners and logging companies, allowing them to be financially viable to serve higher-value markets and to resist development pressure. "The removal of low-grade stems has a number of long-term forestry benefits in a managed stand, including the development of certain wildlife habitat types, improved forest productivity, and the potential for improved long-term forest economics that helps shield forestland from development pressure." [8]

As noted by the Society of American Foresters, "Foresters in Massachusetts have long lamented the lack of stable markets for low-grade forest products, and…[this situation] furthers an economic environment which encourages maximizing current profit at the expense of long-term forest health and productivity. At the same time the [regulations discouraging biomass markets] sacrifice the forests' ability to provide society all those things upon which we depend including a rich mix of forest products, an esthetically pleasing forested environment, a full matrix of habitat features, and provision of clean drinking water."[9]

Thank you for the opportunity to express these views. Please don't hesitate to contact me with any questions at carrie@usabiomass.org or 202-494-2493.

Sincerely,

Carrie Annand
Executive Director

[8] Eric Kingsley, *Importance of Biomass Markets to Forestry* (Feb. 2012) available at http://www.usendowment.org/images/Importance_of_Biomass_Energy_Markets_to_Forestry_6.2012.pdf

[9] Michael Lester, John Clarke, William VanDoren and Chris Pryor; *Society of American Foresters comments on Massachusetts 225 CMR 14.00*. October 21, 2010.