



**American  
Forest & Paper  
Association**

September 7, 2018

Bob Sadzinski, Manager,  
Power Plant Research Program  
Department of Natural Resources  
580 Taylor Avenue, B-3  
Annapolis, Maryland 21401

**RE: AF&PA Comments on Final Draft 2017 Inventory of Renewable Energy Generators**

Dear Mr. Sadzinski:

The American Forest & Paper Association (AF&PA) appreciates the opportunity to comment on the draft Inventory Report (Report). We also will take the opportunity to discuss a few of the issues raised during the August 29, 2018 work group meeting.

The American Forest & Paper Association (AF&PA) serves to advance a sustainable U.S. pulp, paper, packaging, tissue and wood products manufacturing industry through fact-based public policy and marketplace advocacy. AF&PA member companies make products essential for everyday life from renewable and recyclable resources and are committed to continuous improvement through the industry's sustainability initiative — [Better Practices, Better Planet 2020](#). The forest products industry accounts for approximately four percent of the total U.S. manufacturing GDP, manufactures over \$200 billion in products annually and employs approximately 950,000 men and women. The industry meets a payroll of approximately \$50 billion annually and is among the top 10 manufacturing sector employers in 45 states.

**I. Removing Black Liquor from the MD Renewable Portfolio Standard (RPS) Would Raise Renewable Energy Credit (REC) Prices and Electricity Costs for Consumers**

Our comments on the draft Report focus on the discussion of potential impacts of removing Black Liquor as a qualifying RPS resource; this was the focus of one of the

SWOT analyses as well. Discussing current RPS requirements, the Report “finds that there would be a projected generation deficit (16,283 GWh) occurring in 2026”... and that [n]on-carve-out Tier 1 generation (inclusive of “excess solar” after the solver carve-outs are met) will need to grow at approximately 6.8 percent annually to meet state (inclusive of Maryland) RPS requirement in PJM out to 2030 if all PJM states, including Maryland, rely only on renewable resources within PJM.” Report, p. ES-3. If the RPS were increased to 50%, the Report projects significant deficits to 2030, peaking at 26,052 GWh in 2026, and then moderating by 2030. Report, Table VIII-3.

We recognize that work group stakeholders have questioned these conclusions. Some posited that the current RPS requirements can be met with existing and projected supply. They also stated that if the Maryland RPS were raised to 50%, the market would be in balance or in an oversupply situation through the years 2030, based on optimistic projections of net capacity factors, and continued growth in supply. We have not undertaken our own analysis of these projections but note that they were conducted assuming all current qualifying sources would continue to contribute RECs to the market. More importantly, they are predicated on the market providing price signals (i.e., increased REC prices, which will result in increased electricity prices to consumers) to drive the increase in supply to meet the increased RPS demand.

The Report then considers the impact of removing black liquor from the existing RPS (i.e., with a 25% requirement). As the report stated, “[t]he elimination of black liquor as a resource eligible to meet the Maryland Tier 1 RPS requirement will result in a decrease of supply of RECs to meet the overall RPS requirements in PJM, and consequently result in increases in the price of RECs relative to what they would otherwise be.” The increased REC prices are a result of a projected increasing REC deficits that peak at almost 20,000 GWh in 2016, and then are almost eliminated by 2030. Report, IX-3, Table IX-1. The Report suggests that the elimination of the deficit will occur because the increased price of RECs will induce generation within PJM or from outside of PJM to enter PJM and help alleviate the supply deficit. The SWOT analysis also briefly made these points.

This, however, seems inconsistent with the discussion on the previous page of the Report. There it discussed that other PJM states have limitations on the use of black liquor for RPS compliance, and if Maryland eliminated black liquor from the RPS, “the impact would be to increase the gap between PJM generation and PJM RPS requirements by the amount of black liquor being used by Maryland as a Tier 1 resource. Alternatively stated, the degree to which Maryland relies on black liquor to meet it (sic) Tier 1 RPS requirement is the degree to which the PJM states with RPS policies will need to, in aggregate, increase Tier 1 supplies or increase imports from

Tier 1 sources into PJM to meet their collective requirements.” Even assuming those PJM states could increase their Tier I supplies or imports into PJM, this again is predicated on increased REC prices and increased electricity costs for consumers.

Increased REC prices would have a negative impact on the Verso Luke mill as well as other consumers. As discussed during the work group meeting, the mill competes in a challenging international market, and overall sales in the U.S. of the products it manufactures have been decreasing. Large companies continually evaluate individual mills against other mills owned by the company, and any negative impacts to the Luke mill’s competitiveness due to a loss of REC revenue could have negative consequences for the mill. Moreover, increases in REC prices will increase the mill’s electricity costs, and the revenue from the sale of its RECs is needed to help offset the impact of those costs. Other manufacturers also would face increased electricity costs, harming their competitiveness, as well.

## **II. Renewable Biomass Energy is Carbon Neutral Energy That Displaces Fossil Fuel and Reduces Greenhouse Gas (GHG) Emissions**

Energy produced in forest products mills from woody manufacturing residuals is widely recognized as carbon neutral fuel around the world, and rightly so. Trees absorb CO<sub>2</sub> to grow, and these wood residuals would have decayed and released CO<sub>2</sub> to the atmosphere even if they had not been used to produce energy and displace fossil fuels. This “carbon cycle” has long been recognized in renewable energy and GHG reduction policy. A depiction of the carbon cycle is shown in the attached infographic.

In particular, forest products manufacturing residuals arise from the harvesting and processing of biomass for the purpose of manufacturing products to meet societal needs, and of necessity, the vast majority of this very large continuously produced volume of residuals would have to be disposed of – through landfilling, incinerating, wastewater treatment and discharge, or biodegrading in place – if they were not used as an energy source. Because biodegradation of woody forest products manufacturing residuals can release methane, and methane has a much greater impact on global warming than CO<sub>2</sub>,<sup>1</sup> disposal of these residuals (i.e., not using them for fuel) in those cases can in fact result in significantly higher addition of GHGs to the atmosphere, in terms of global warming potential, than from their combustion for energy. In addition,

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<sup>1</sup> Viewed over a 100-year time frame, EPA believes that methane has 25 times greater impact on global warming per ton emitted than CO<sub>2</sub>. See Table A-1 to 40 C.F.R. part 98 subpart A. Over a 20-year timeframe, the greater impact of methane emissions on the potential for global warming is even higher: According to Table 8.7 of the IPCC’s *Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, the 20-year global warming potential of methane is 86 times that of CO<sub>2</sub>.

EPA has recognized in other contexts that burning biomass to generate thermal energy and/or electricity means that fossil fuel will not be burned to meet that same energy demand, thus reducing the build-up of anthropogenic CO<sub>2</sub> in the global atmosphere.

### EPA's Consideration of the Carbon Neutrality of Biomass

On November 19, 2014 after 4 years of careful study, EPA released its *Framework for Assessing Biogenic CO<sub>2</sub> Emissions from Stationary Sources* (Accounting Framework) and an accompanying policy memorandum to EPA's Regional Air Division Directors. The report makes it clear that bioenergy from forest-derived industrial by-products have minimal or no net atmospheric contribution of CO<sub>2</sub> emissions or even reduce such impacts when compared to their alternative fate. EPA also conducted an analysis specifically focused on black liquor, the primary component of the industry's biomass renewable energy, that supports an even stronger conclusion that the use of black liquor for energy is carbon neutral or even beyond carbon neutral. In other words, using biomass residuals for energy is even better in terms of the GHG impact on the atmosphere than simply "neutral." Similarly, in the policy memorandum EPA stated that information "considered in preparing the second draft of the Framework, including the [Science Advisory Board] peer review and stakeholder input, supports the finding that use of waste-derived feedstocks and certain forest-derived feedstocks are likely to have minimal or no net atmospheric contributions of biogenic CO<sub>2</sub> emissions, or even reduce such impacts, when compared with an alternative fate of disposal." (emphasis added). The EPA Science Advisory Board recently released a revised version of the Framework; it did not address these findings, presumably because it did not have concerns with them.

EPA's final Clean Power Plan rule issued October 2015 also recognizes the carbon reduction benefits of biomass energy. For example, EPA stated that the agency "generally acknowledges the CO<sub>2</sub> and climate policy benefits of waste-derived biogenic feedstocks and certain forest- and agriculture-derived industrial byproduct feedstocks." The description of these feedstocks aptly describes the biomass manufacturing residuals used to generate RECs. Further, the proposed federal plan specifically mentioned black liquor as an example of a "pre-qualified" biomass.

Finally, in April of this year, EPA issued a policy statement on the carbon neutrality of forest biomass energy. The document provided that "[T]his statement of policy is intended to: 1) provide clear recognition of the benefits of using forest biomass for energy production at stationary sources; and 2) signal the Agency's intent to treat the biogenic CO<sub>2</sub> emissions associated with the use of forest biomass for energy by stationary sources as carbon neutral in future regulatory actions and in various

programmatic contexts, in accordance with the Executive Orders and Congressional direction...” The referenced congressional direction is discussed below.

### Congressional Support for Biomass Energy

The Energy Policy Modernization Act of 2015 (the Act) included an amendment passed under unanimous consent that cites the “key role that forests in the United States can play in addressing the energy needs of the United States.” It also requires the Secretaries of the U.S. Departments of Agriculture and Energy and the Administrator of the Environmental Protection Agency to establish policies that “reflect the carbon-neutrality of forest bioenergy and recognize biomass as a renewable energy source, provided the use of forest biomass for energy production does not cause conversion of forests to non-forest use.” While the Act passed the full Senate, it was not enacted into law. Nonetheless, the requirement that the agencies adopt policies that reflect the carbon-neutrality of biomass also was included in appropriations bills applicable to EPA for the last few years and would be carried over into the next fiscal year in pending bills.

The forest products manufacturing residuals that are used to generate RECs arise from the harvesting and processing of biomass for the purpose of manufacturing products and the vast majority of these residuals would have to be disposed of anyway. Therefore, it is clear that generating RECs using these residuals for energy are not converting forests to non-forest use.

### Published Research Demonstrates the GHG Reduction Benefits of Using Black Liquor as Fuel

A leading recent study by the National Council for Air and Stream Improvement<sup>2</sup> has found substantial greenhouse gas reduction benefits in using biomass manufacturing residuals for energy in the forest products industry. Accounting for fossil fuel displacement and avoided emissions associated with disposal, the study finds that the use of these biomass residuals each year avoids the emission of approximately 181 million metric tons of CO<sub>2</sub>e. (This is equivalent to removing about 35 million cars from the road.) This is exactly the kind of energy use that should be promoted in the RPS.

### Other Recognition of the Carbon Reduction Benefits of Biomass

Finally, as indicated in attachment, which lists the many sources supporting the recognition of biomass residuals such as black liquor as carbon neutral, even beyond

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<sup>2</sup> Life Cycle Greenhouse Gases and Non-Renewable Energy Benefits of Kraft Black Liquor Recovery, Biomass and Bioenergy, Volume 46, Nov. 2012, Pages 683–692. <http://www.sciencedirect.com/science/article/pii/S0961953412002693>.

EPA, leading academics and environmental organizations considering biogenic carbon accounting recognize the GHG reduction benefits of biomass residues, such as black liquor. In particular, the article from the leading scientists who triggered the carbon neutrality debate, including Dr. Tim Searchinger from Princeton and Dr. Steven Hamburg, the Chief Scientist of the Environmental Defense Fund, states that “biomass should receive credit to the extent it results . . . from the use of residues or biowastes.” Further, Dr. Searchinger reiterated this view and specifically classified “black liquor from paper making” as an “advisable source of biomass for energy use.”

### **III. Renewable Biomass Energy is Clean Energy**

The forest products industry is making large investments in highly-efficient biomass energy that meets stringent state-of-the-art environmental standards. Black liquor is a useful natural byproduct of a highly efficient manufacturing process rooted in renewable biomass energy. Black liquor is composed of natural, organic components of trees (lignin and hemicelluloses) that are combusted to produce carbon neutral energy through efficient combined heat and power, as well as synthetic pulping chemicals, which are recycled in an enclosed, controlled environment. If the wood residues in black liquor were not converted to useful energy, it would still need to be incinerated as a part of the pulping process and the CO<sub>2</sub> would be released to the atmosphere anyway, and the mill would need to replace that energy with fossil fuels. Recycling the pulping chemicals provides an additional and substantial environmental and greenhouse gas benefit. Furthermore, Maryland has a large and sustainable supply of wood to support this biomass energy production.

### **IV. Biomass Energy Provides Baseload Power**

Several renewable energy sources are intermittent, and most have low capacity factors. For example, as indicated in Exeter’s PowerPoint at the workgroup meeting, solar and wind capacity factors range from 16% to 39%. We recognize that workgroup members have provided information arguing for higher capacity factors for wind and solar energy. Nonetheless, there is no argument that they are intermittent and require back up energy sources.

In contrast, biomass and black liquor provide baseload power, as mills are designed to run around the clock. Exeter assigns both an 84% capacity factor, the highest of all the qualifying resources. Geothermal has an 80% capacity factor and the remaining sources are significantly below that. This issue should be discussed more in the Report.

## V. Treating Out-of-State Black Liquor Resources Differently Than In-State Resources Raises Constitutional Questions

The work group discussed the possibility of a bifurcated approach to in- and out-of-state black liquor resources, recognizing that the MD has two tiers. Historically, Tier II REC prices have been significantly lower than Tier I prices and Tier II sunsets at the end of 2018.

There is an extensive body of law regarding the dormant Commerce Clause of the U.S. Constitution, which generally prohibits a state from favoring facilities in that state in a manner that disadvantages similar facilities out-of-state. Depending on the measure at issue, challenges will be reviewed under a “strict scrutiny” standard or a balancing test. Generally, measures that operate to discriminate against out-of-state facilities are subject to the former, tougher test.

Numerous energy policies that treat in- and out-of-state facilities differently have been challenged in court. For example, a New Hampshire law that barred hydroelectric facilities from selling power out-of-state before offering it for sale in-state was found to violate the Commerce Clause by the Supreme Court. *New Hampshire v. New England Power*, 455 U.S. 331 (1982). There also has been litigation regarding the Massachusetts RPS on the Commerce Clause issue, although the case settled before a ruling was issued. *TransCanada Power Marketing LTD v. Bowles*, CA No.4:10cv-40070-FDS (April 16, 2010).

As Tier II sunsets this year, any bifurcated approach placing out-of-state black liquor resources in Tier II in effect would prevent those resources from participating in the RPS, likely triggering a “strict scrutiny” standard of review in any litigation. We suggest there should be much more extensive legal analysis before considering any bifurcated approach for in-and out-of-state black liquor facilities.

Thank you for the opportunity to comment on the Report. If you have any questions, please contact me at (202) 463-2581 or [jerry\\_schwartz@afandpa.org](mailto:jerry_schwartz@afandpa.org).

Sincerely,

A handwritten signature in black ink, appearing to read "Jerry Schwartz". The signature is fluid and cursive, with a prominent loop at the end.

Jerry Schwartz  
Senior Director  
Energy and Environmental Policy

Attachments