



**American  
Forest & Paper  
Association**



**AMERICAN WOOD COUNCIL**

January 21, 2016

Federal eRulemaking Portal  
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**Attn: Docket ID No. EPA-HQ-OAR-2015-0199**

**Re: Federal Plan Requirements for Greenhouse Gas Emission From Electric Utility Generating Units Constructed on or Before January 8, 2014; Model Trading Rules; Amendments to Framework Regulations, Proposed Rule, FRL-9930-67-OAR, 80 Fed. Reg. 64,966 (October 23, 2015)**

Dear Sir or Madam:

The American Forest & Paper Association (AF&PA) and the American Wood Council (AWC) appreciate the opportunity to provide written comments to the U.S. Environmental Protection Agency (EPA) regarding the above-referenced proposed *Federal Plan Requirements for Greenhouse Gas Emissions From Electric Generating Units Constructed on or Before January 8, 2014, Model Trading Rules; Amendments to Framework Regulations; Proposed Rule* (the Proposal). AF&PA and AWC also are joining the comments filed today by the National Association of Manufacturers (NAM) and several other associations raising important concerns of the broader manufacturing community (NAM Comments), as well as comments of the National Association of State Energy Officials (NASEO) Industrial Energy Innovation Working Group (NASEO Group). We support those comments in their entirety. Finally, AF&PA and AWC are incorporating by reference several portions of the comment filed today by the Alliance for Industrial Efficiency (see Section VIII of our comments below).

AF&PA and AWC and other Energy Intensive/Trade Exposed sectors (EITEs) contracted with NERA Economic Consulting to perform a number of analyses and make recommendations on the Proposal. That report (NERA Report) supports our comments today and also is attached and incorporated by reference.

These comments discuss issues that are particularly important to AF&PA and AWC members because of their concern over the negative competitiveness impacts of the Proposal, the unique use of biomass for energy, and their extensive use of Combined Heat and Power (CHP) technology. We already have addressed many of these issues in our previous comments on EPA's proposals to regulate greenhouse gas (GHG)

emissions from new and modified and reconstructed Electric Generating Units (EGUs) and existing EGUs. Those comments also are incorporated herein by reference.<sup>1</sup>

EPA must ensure that federal plans and model rules are consistent with the requirements of the Clean Air Act (CAA). Like the Clean Power Plan (CPP) itself, AF&PA and AWC believe that EPA in imposing the federal plan or the States in adopting the model rules will exceed their authority under the CAA by imposing emission reduction obligations beyond the regulated source category. Any such obligations on companies beyond the regulated source are unlawful. See Section III for further discussion. To the extent the courts uphold the legality of any aspect of the CPP, we have a strong interest in any proposals to implement the CPP, including EPA's proposed federal plan and model trading rules.

EPA should take a flexible and open-minded approach that ensures that any impacts on the electricity generators and companies dependent on affordable and reliable electricity are minimized. In particular, it is critical that EPA incorporate all of the flexibility options included in the final CPP into any federal plan. By excluding certain emission reduction options from mass-based and rate-based plans as well as other flexibility tools such as a reliability safety valve, the proposed federal plan and model trading rules are unduly restrictive and will ultimately frustrate the CPP's emission reduction goals. For the same reason, EPA must adjust its treatment of CHP units to more fully recognize their emission reduction benefits.

Also, EPA must refrain from prejudging components of a federal plan and should instead defer final decisions until a federal plan is necessary. This would enable EPA to first gather as much information as possible before making a state-specific decision and result in a better outcome. In the interim, EPA should issue guidance to the States to clarify that it will approve and endorse state plans that include broader flexibility options that go beyond what is included in the narrowly construed proposed federal plan and model rules.

## **I. Introduction to AF&PA and AWC**

AF&PA serves to advance a sustainable U.S. pulp, paper, packaging, 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 4 percent of the total U.S.

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<sup>1</sup> AF&PA and AWC, Comments on Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units, Docket Id. EPA-HQ-OAR-2013-0495-9733 (May 9, 2014); AF&PA and AWC, Comments on Carbon Pollution Standards for Modified and Reconstructed Stationary Sources: Electric Utility Generating Units, Docket Id. EPA-HQ-OAR-2013-0603-0247 (Oct. 16, 2014); AF&PA and AWC, Comments on Carbon Pollution Standards for Existing Stationary Sources: Electric Utility Generation Units, Proposed Rule, Docket Id. EPA-HQ-OAR-2013-0602-23012 (Dec. 1, 2014).

manufacturing GDP, manufactures approximately \$210 billion in products annually, and employs nearly 900,000 men and women. The industry meets a payroll of approximately \$50 billion annually and is among the top 10 manufacturing sector employers in 47 states.

AWC is the voice of North American traditional and engineered wood products, representing over 75 percent of the industry. From a renewable resource that absorbs and sequesters carbon, the wood products industry makes products that are essential to everyday life and employs more than 360,000 men and women in family-wage jobs. AWC's engineers, technologists, scientists, and building code experts develop state-of-the-art engineering data, technology, and standards on structural wood products for use by design professionals, building officials, and wood products manufacturers to assure the safe and efficient design and use of wood structural components. AWC also provides technical, legal, and economic information on wood design, green building, and manufacturing environmental regulations advocating for balanced government policies that sustain the wood products industry.

#### **A. Use of CHP and/or Renewable Energy Have Improved Our Members' Energy Efficiency and Reduced GHG Emissions.**

The forest products industry produces and uses renewable energy for manufacturing operations and is a significant contributor to our country's existing base of renewable energy. In fact, paper and wood products facilities account for 62 percent of the renewable biomass energy produced by the total U.S. manufacturing sector.<sup>2</sup> On average, approximately 66 percent of the energy used at AF&PA member pulp and paper mills, and over 75 percent of the energy from our wood products facilities are generated from carbon-neutral biomass.

The industry also strives to use all types of energy as efficiently as possible. The industry is a leader in the use of CHP technology, which is extremely efficient because it uses the same fuel to produce both thermal energy used in the manufacturing process and electricity, some used on-site and some sold to the grid. In 2012, pulp, paper, packaging, and wood products mills produced 30 percent of the CHP electricity generated by manufacturing facilities. In fact, over 96 percent of electricity produced by our members' pulp and paper mills was CHP-generated.

The use of CHP provides energy efficiencies in the range of 50 to 80 percent at forest products mills, far beyond non-CHP electrical stations such as utilities, which are only about 33 percent energy efficient. Unlike the CHP commonly used by utilities and other manufacturers, most of the CHP processes used in the pulp and paper and wood products industry are highly integrated into the manufacturing process. The biomass residuals from the manufacturing process – e.g., bark, spent pulping liquor, sawdust, shavings, and paper residuals that cannot be used for products – are used as the primary fuel to power the mills and to provide electricity for the grid.

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<sup>2</sup> The U.S. manufacturing sectors that use renewable biomass energy includes the paper and wood products industry, as well as the chemicals and bio-refineries manufacturing industries.

Our commitments to renewable biomass energy and energy efficiency, including our extensive use of CHP, have led to a dramatic decrease in the sector's use of fossil fuel and GHG emissions. Energy purchased by member pulp and paper mills -- most of which is fossil fuel-based -- has decreased 25.4 percent since 1990, 14.6 percent since 2000, and almost 9 percent since 2005 (making significant progress toward achieving AF&PA's *Better Practices, Better Planet 2020* goal of at least a 10 percent reduction in purchased energy). This has helped reduce GHG emissions intensity by over 23 percent since 2000. Beyond what the industry has already achieved, we have committed to reducing GHG emissions by at least 15 percent by 2020, from a 2005 baseline. Since 2005, AF&PA members' GHG emissions have been reduced by 14.5 percent — nearly reaching their 2020 goal of 15 percent five years early.

Moreover, the forest products industry is the largest producer and user of bioenergy of any industrial sector and has long-standing operations in the U.S. The creation and use of biomass energy in forest products mills is integral and incidental to the manufacture of products such as pulp, paper, packaging and wood products. Pulp mills, integrated pulp and paper mills, and wood products mills convert biomass residuals to energy while manufacturing biobased products that are useful to society. There are substantial GHG reduction benefits from using manufacturing residuals for biomass energy in the forest products industry. According to a study by the National Council for Air and Stream Improvement (NCASI), the use of biomass residuals each year avoids the emission of approximately 181 million metric tons of CO<sub>2</sub>e.<sup>3</sup> (This is equivalent to removing about 35 million cars from the road.)

AWC member companies met almost 75 percent of their energy needs from renewable, carbon neutral biomass energy in 2012. The GHG reduction benefits of using biomass manufacturing residuals for energy by the wood products industry are equivalent to about 24 million tons of carbon dioxide. This is equivalent to removing the emissions of approximately 4.6 million cars from the road each year. The current inventory of wood structures in the U.S. is estimated to store 1.5 billion metric tons of carbon, which is equivalent to 5.4 billion tons of CO<sub>2</sub>. Using wood as a substitute product in construction could save 14 to 31 percent of global CO<sub>2</sub> emissions and 12 percent to 19 percent of global fossil fuel consumption.

## **B. AF&PA and AWC Members Operate in Global Markets and Energy is a Significant Cost That Impacts Competitiveness.**

AF&PA and AWC member facilities are fundamentally different than the affected EGUs regulated under the Proposal. AF&PA and AWC members manufacture a wide variety of value-added forest products, such as paper, packaging, wood products, wood-based

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<sup>3</sup> See NCASI, *Greenhouse Gas And Fossil Fuel Reduction Benefits of Using Biomass Manufacturing Residuals for Energy Production in Forest Products Facilities*, Technical Bulletin No. 1016 (Rev. Aug. 2014), available at <http://www.ncasi.org/Downloads/Download.ashx?id=9603> (attached); Gaudreault, C. and Miner, R., *Temporal Aspects in Evaluating the Greenhouse Gas Mitigation Benefits of Using Residues from Forest Products Manufacturing Facilities for Energy Production*. *J. of Industrial Ecology* 19(6):994-1007 (2015), at 1,004.

chemicals, and other innovative wood-based products. Because they operate in a highly competitive global market and face fierce international competition, they cannot automatically pass on higher raw material and energy costs to their customers and still remain competitive. Further, many AF&PA and AWC members' facilities are located in rural areas, and provide high-paying jobs for those communities. Those jobs are a critical driver of the overall economic health of those oftentimes vulnerable communities.

The paper and wood products manufacturing sector spent over \$7 billion on net purchased electricity and natural gas in 2013. As large consumers and ratepayers, AF&PA and AWC members will face base rate and fuel electricity cost increases as utilities seek cost recovery of their fixed and variable compliance costs for numerous environmental requirements, including: 1) CAA programs (e.g Mercury and Air Toxics Standards (MATS) and ozone National Ambient Air Quality Standards (NAAQS)); 2) Clean Water Act Section 316(b) cooling water intake structures regulations; and 3) revised Resource Conservation and Recovery Act regulations pertaining to coal combustion residuals. These compliance costs passed along from utilities are in addition to the cumulative burden of regulations under the CAA, such as Boiler Maximum Achievable Control Technology standards and ozone and particulate matter NAAQS, along with several major pending regulations that could directly cost the forest products industry more than \$10 billion over the next eight years.

## **II. The Final Clean Power Plan Would Significantly Raise Electricity Prices and Federal Plan Implementation Could Further Raise Costs.**

In addition to the compliance costs utilities will pass on to our members discussed above, the final CPP would further increase energy costs, harming our competitiveness in global markets. According to a previous NERA report,<sup>4</sup> average annual U.S. retail electricity rate increases range from 11 percent per year to 14 percent per year (relative to the baseline) from 2022 through 2033 under the CPP. This report also demonstrates that states with significant forest products industry presence will face major cost increases for electricity. For example, some of the states in the southeast region modeled in the NERA report include Florida, Georgia, North Carolina, South Carolina, Alabama, and Mississippi, all states with significant industry presence, and that region faces average annual U.S. retail electricity rate increases from 2022 to 2033 similar to the national increases.<sup>5</sup>

According to the NERA Report, the choices made in federal plan implementation could further raise energy prices and create energy cost tradeoffs in a particular state. Under numerous scenarios examined (which include rate- and mass-based approaches and differing trading and allocations to Electricity Distribution Companies (EDCs)) in most cases a rate-based approach led to lower delivered electricity prices than a mass-based

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<sup>4</sup> NERA Economic Consulting, 2015. Energy and Consumer Impacts of EPA's Clean Power Plan, report prepared for American Coalition for Clean Coal Electricity, November 7.

<sup>5</sup> NERA modeling run in support of NERA Economic Consulting, 2015.

approach. However, that relative advantage is offset by the disadvantage of higher natural gas prices under a rate-based implementation.

EPA should carefully consider the impacts to the economy (including on overall economic growth, jobs, and trade in manufactured goods) as it seeks to implement GHG reductions from EGUs. This is particularly important for EITE<sup>6</sup> sectors such as the forest products industry. As discussed below, we are suggesting ways to ameliorate the negative economic effects on EITE sectors of the final CPP and any final federal plan by allowing non-affected entities to voluntarily participate in both rate- and mass-based trading markets. EPA should ensure that the regulatory structure for the trading of credits and allowances allows for and promotes voluntary industrial energy efficiency, including CHP, as an avenue for GHG reduction, while at the same time maintaining the provisions that correctly exempted most of our members' CHP from regulation as affected EGUs.

Further, the cumulative impact to affected EGUs and the CPP's effect on the forest products industry discussed above should be considered when developing GHG reduction regulations and policies that affect our industry and other EITE sectors. Failure to consider the impact of current and future GHG reduction regulations and policies on EITE manufacturing sectors, such as the forest products industry, could result in the export of manufacturing and jobs to foreign suppliers not subject to restrictive GHG mitigation requirements.

As mentioned above, our industry has strived to reduce voluntarily its GHG emissions and to use all types of energy as efficiently as possible. If our facilities participate voluntarily as eligible energy efficiency and renewable energy resources to help states achieve their GHG reductions goals, EPA and states must recognize in subsequent regulations those GHG emission reduction efforts. Electricity consumers engaging in these activities in association with the Section 111(d) rules for EGUs that result in verified GHG emission reductions should be exempted from, or given credit towards, compliance with any subsequent future Section 111 standards of performance for GHGs or other GHG regulations and policies. Failure to provide this exemption or credit could result in a source being subject to regulation under GHG standards of performance for multiple source categories. To be clear, we are not inviting EPA to set additional Section 111(d) standards for other sectors or sources, especially EITE sectors that are already reducing GHG emissions. In fact, affected EGUs are unique as EPA acknowledges and may be the only source category appropriate for this type of a national program, assuming it is found lawful.

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<sup>6</sup> Under the Waxman-Markey legislative proposal, qualifying sectors that meet an average energy or GHG intensity of 5% and a trade intensity of 15%, or a very high (20%) GHG intensity were considered EITEs.

Finally, the increased direct and indirect costs to U.S. paper and wood products manufacturers discussed above, and continued uncertainty around the treatment of their biogenic emissions (see Section VII, below) will further adversely affect their global competitiveness, jobs, and other economic and social benefits they provide for their communities. Competitor nations in Europe and elsewhere fully recognize bioenergy as carbon neutral in their GHG reduction policies, leaving U.S. manufacturers at a competitive disadvantage. EPA's analysis also did not consider the "leakage" that could occur if increased energy-related costs force the closure of mills in the U.S., shifting production and emissions to other countries with less stringent requirements.

### **III. EPA Cannot Mandate Beyond-the-Source Compliance Options.**

As mentioned above, the forest products industry has committed voluntarily to reducing GHG emissions from their operations. Our voluntary commitments to renewable biomass energy and energy efficiency, including our extensive use of CHP, have led to a dramatic decrease in the sector's use of fossil fuel and GHG emissions. However, AF&PA and AWC reiterate that EPA has exceeded its legal authority under the Clean Air Act by imposing CO<sub>2</sub> emission targets that are based on beyond-the-source emissions reductions that cannot be achieved by the fossil fuel-fired EGUs that are the subject of regulation under the CAA and the CPP. Nothing in these comments is intended to waive any legal argument that we and other petitioners have made or may make in litigation regarding the legality of the CPP and hereby incorporate by reference all arguments made in our and their comments on the proposed CPP and in our and their briefs in litigation over the CPP. In particular, EPA has exceeded its authority by looking beyond the emissions controls that can be implemented at the source and instead evaluated the entire electricity system as a whole when determining the potential for emissions reductions from existing sources. This is inconsistent with both the plain meaning of the CAA and with existing case law interpreting Section 111. See NAM Comments for additional comments on the legality of the CPP.

Prior to the resolution of the legal challenge, EPA should maximize flexibility options in developing a federal plan and in the model trading rules to ensure that states and affected EGUs can meet EPA's emissions reduction goals in the least cost manner.

### **IV. The Final Federal Plan and Model Rules for Both Rate- and Mass-Based Approaches Should Be Based on a Principle of Least-Cost Compliance for the Ratepayer.**

#### **A. Consideration of "Least Cost" Should Transparently Consider All the Direct and Indirect Costs Imposed by the Adoption of a Federal Plan and Application of the Model Rules.**

If the CPP survives legal challenge, EPA should consider the least cost approach when imposing a federal plan and finalizing the model trading rules. The term "least cost"

compliance should be broadly defined to include both the short- and long-term costs of electric power and natural gas to customers (including costs to maintain reliability and to build necessary infrastructure) as well as the broad impact of compliance-related decisions on the state's economy including job- and income-related impacts. Costs that should be minimized include the displacement of existing industries and the jobs they provide (such as those provided by EITE sectors), as well as GHG leakage caused by the relocation of domestic EITE sectors' production to other countries that may use less energy-efficient processes with resultant higher GHG emissions. It is important to note that the utility costs incurred for compliance will be paid by all consumers, including EITE sectors.

As noted in the previous NERA report, states with significant forest products industry presence will face major electricity cost increases under the CPP. These increased costs (both direct and indirect) will adversely affect U.S. manufacturers of paper and wood products' global competitiveness thereby affecting jobs, and the other economic and societal benefits these facilities provide to the rural communities where they are located. EPA needs to focus on least cost compliance mechanisms to minimize cost increases with the implementation of the federal plan and model trading rules. As also noted in the NERA Report, cost impacts can vary significantly from state to state potentially setting up situations of creating "winners and losers" amongst the states. As costs for manufacturers increase, leakage of jobs, leakage of capital investment, and leakage of GHG emissions will occur as manufacturers look to relocate to other states or international jurisdictions with lower manufacturing costs. Therefore, the final federal plan and the model rules should establish a mechanism to assess employment and other economic impacts on potentially affected industries that will pay the increased bills for power and natural gas before final plans are adopted. See Section VI.B, below for further discussion on mitigating impacts on EITE sectors.

The states also should select specific electricity generating resources including energy efficiency as an option based on a principle of least-cost compliance when adopting the model rules. States should develop their compliance plans and choose specific resources only after undertaking a detailed analysis of current baseline energy demand, future projected demand, and the least-cost methods for achieving their reduction targets. This should include a careful consideration of displacing existing businesses and the jobs and value they provide to the state's economy.

**B. The Federal Plan and Model Rules Should Include as Many Potential Resources as Possible, Including all the Available Resources in the CPP.**

As discussed more fully in the NAM and NASEO Group comments, EPA should adopt broadly inclusive implementation plans that incorporate all CO<sub>2</sub> reducing technologies and sources of energy that can cost-effectively contribute to achievement of the CPP's emission reduction goals. The Proposal fails to meet this requirement because it limits the types of CO<sub>2</sub> reducing technologies and energy sources that are eligible for

Emission Rate Credits (“ERCs”) under a rate-based plan and set-aside allowances under a mass-based plan.

While various parts of the CPP rule and its associated materials (rule preamble and technical support documents) favorably note energy efficiency as an often most cost-effective and beneficial emission mitigation approach, there remains uncertainty and confusion among some state officials and other stakeholders as to the standing and “creditability” of energy efficiency. This is prompted in part by EPA’s exclusion of end-use energy efficiency as a “building block” for the Best System of Emission Reduction (BSER) determination, despite the building blocks being irrelevant to compliance approaches (i.e., states may use all, some, or none of the building blocks in any proportion to achieve compliance). Specifically, under the proposed federal plan rate-based approach, EPA excluded energy efficiency as an eligible resource for ERCs.<sup>7</sup> Not only would energy efficiency be excluded as an eligible emission reduction approach in states under the federal plan, but some states looking to the federal plan as a model may then exclude energy efficiency from their state compliance plans. This may not be the intent but could very well be the effect of omitting energy efficiency from the federal plan, and could result in states forsaking least-cost, beneficial energy efficiency opportunities based on the impression that EPA may have less confidence in energy efficiency as a viable compliance resource for states and affected EGUs.

As indicated in the NERA Report, removing energy efficiency from the federal rate-based plan significantly increases natural gas prices. Indeed, every one of the mass-based scenarios analyzed (which include energy efficiency) has lower natural gas prices than every one of the rate-based options. Further, varying the allocations or trading options in the scenarios has minimal impact on natural gas prices. For example, in 2031, the rate-based scenarios (with either national or intra-state trading) projected Henry Hub prices are approximately \$6.75 (\$2015/MMBtu), while all the mass-based scenarios (with differing trading and allocation approaches) are all approximately \$6.00 (\$2015/MMBtu). This is because with end-use energy efficiency available and adopted by states (as assumed in the mass-based scenarios), there is less need for fuel switching to natural gas and thus less pressure on wholesale and delivered natural gas prices. In contrast, if end-use energy efficiency is not adopted as in the proposed rate-based federal plan, there is a much larger shift towards natural gas-fired generation, increasing demand for natural gas and putting upward pressure on wholesale and delivered natural gas prices throughout the country.

In addition to making clear that energy efficiency broadly is included under the rate- and mass-based federal plans and model rules, EPA also should make clear that a broad category of industrial energy efficiency, including CHP, waste heat to power, and non-utility industrial efficiency programs, are available to states as voluntary compliance options by including them in the final federal plan and in both the rate- and mass-based final model trading rules. Moreover, many CHP units operate “Behind the Meter” and self-supply power to their host facilities without selling excess power to the grid.

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<sup>7</sup> 80 Fed. Reg. at 64,990-91.

Similarly, industrial facilities take steps that reduce their purchased power requirements for their facilities such as undertaking voluntary energy efficiency measures pursuant to non-utility energy efficiency programs. In both cases, the facility meets the requirement of Section 62.16434(b)(2) that the resource is “connected to, and delivers energy to or *saves electricity*, on the electric grid in the contiguous United States.” (emphasis added). This is because the self-generated electricity and energy efficiency obviates the need to purchase additional power from the grid. Regardless of whether a facility is party to a “buy all – sell all” arrangement with its utility provider or if the facility sells self-generated electricity to one party while buying back the facility’s power requirements from another party, the facility’s self-generation is, on net, reducing the amount of power purchased and therefore “*saves electricity*” on the grid.

Along with a broad category of energy efficiency, EPA should include biomass as an eligible renewable energy resource in the federal plan and both model trading rules. Including all these options would provide as many compliance options as possible to affected EGUs and states, providing them greater opportunities to adopt least-cost options. (See additional discussion in Section VI on rate- and mass-based plans and Sections VII and VIII on biomass energy and CHP, both of which are important components of our members’ energy profiles.)

### **C. There Should be a Level Playing Field Between Energy Efficiency and Renewable Energy.**

As discussed in the NASEO Group comments, the federal plan and model trading rules should provide a level playing field in EPA’s (and states’) treatment and consideration of energy efficiency projects and renewable energy in the federal plan and model rules as well as under the Clean Energy Incentive Program (CEIP) to ensure least cost options are chosen. We recognize that some renewable power generation options are easier to measure directly (e.g., metering solar, hydroelectric, and wind power generation) than other renewable energy generation technologies and end-use efficiency. However, there are established EM&V methodologies that permit adequate quantification of energy savings projects or alternative generation. These should help address concerns with energy efficiency projects that at first blush might seem to present an additional challenge for including energy efficiency in a federal plan or model trading rules, even though energy efficiency projects may be the least cost option and, therefore, should be included in those plans.

### **V. EPA Should Finalize Both Rate- and Mass-Based Federal Plans.**

EPA indicates that once it finalizes a federal plan by applying it in one state, it will use the approach in that state (i.e., either a rate or mass-based approach) in all future states in which it adopts a federal plan. EPA is under no obligation to make final decisions with respect to the federal plans until after a state fails to meet a state plan submission deadline or submits an unacceptable plan. Thus, there is no reason for EPA to reduce its own regulatory flexibility by locking itself into a certain regulatory approach before the need for a federal plan arises in another state, and the agency certainly can apply

different approaches in subsequent states. Accordingly, EPA should finalize both rate- and mass-based final federal plans so both are available for use in any future state in which a federal plan is imposed. Further, the agency should tailor any federal plan it adopts to the particular circumstances of the state in order to achieve the least cost compliance for all ratepayers, including AF&PA and AWC members, in that state. While, as the agency has noted, that may provide additional challenges if EPA adopts a federal plan in more than one state, it is incumbent upon the agency to manage those challenges to achieve least cost compliance.

The importance of maintaining the flexibility to adopt either a rate- or mass-based federal plan is highlighted in the NERA Report, which demonstrates that with limited exceptions, a rate-based implementation of the federal plan results in lower delivered electricity rates at the state level compared to a mass-based implementation of the federal plan considering intra- and interstate trading scenarios. However, this relative advantage of a rate-based implementation may be offset by the disadvantage of higher natural gas prices under a rate-based implementation in many states because EPA does not allow for energy efficiency as a compliance measure in the rate-based federal plan. Thus, in states that rely on larger percentages of natural gas to supply their energy needs, it may be that, overall, mass-based federal implementation is the better way to achieve least cost compliance. The NERA Report illustrates that cost impacts on states depend on the fuel mix within the state and emphasize the need for greater flexibility in implementing the federal plan. EPA, therefore, needs to have the flexibility to adopt whichever approach leads to least cost compliance and should ensure it has that flexibility by promulgating both federal plans.

In addition, EPA should develop and adopt a trading mechanism that allows ERCs and allowances to be used in either mass- or rate-based trading programs. In the Proposal, EPA seeks to finalize a federal plan that “enhances the consistency of the federal trading program [and] achieve economies of scale through a single broad trading program.”<sup>8</sup> Providing mechanisms to convert ERCs to allowances and allowances to ERCs will allow for a broader and robust trading system with the least cost among states where the federal plan is imposed or where states adopt the model trading rules.

## **VI. EPA Should Include Design Features In Rate- and Mass-Based Federal Plans and Model Rules that Promote Flexibility and Least-Cost Compliance.**

As discussed above, EPA should finalize both rate- and mass-based federal plans with conversion mechanisms for ERCs and allowances, so that the most appropriate and least cost choice can be applied to a state where a federal plan is imposed or model rules are adopted. Below we discuss several issues that EPA should consider as it finalizes the federal plan and model rules under both rate- and mass-based approaches.

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<sup>8</sup> 80 Fed. Reg. at 64,970.

## **A. Rate-Based Approach**

### **1. EPA Should Include All Available Resources in the Federal Plan and Model Rules**

In order to facilitate a least-cost compliance approach, EPA should include all resources available under the CPP in both the federal plan and model rules. EPA, however, significantly limited the resources that can generate ERCs in the federal rate-based plan, as compared to the model rule and CPP. The proposed federal rate-based plan allows ERCs for certain eligible resources (on-shore utility-scale wind, utility-scale solar photovoltaics, concentrated solar power, geothermal power, new nuclear units and capacity uprates at existing nuclear units, and utility-scale hydropower) as long as the resource provides generation data from a revenue quality meter. The proposed model rule expands this list of eligible resources to include post-January 1, 2013 installed qualified biomass, waste-to-energy (biogenic portion), non-affected CHP, and demand-side energy efficiency and demand-side management measures that can be quantified on the basis of ex-post savings. EPA should include in the federal plan all the eligible resources that are included in the rate-based model rule.

### **2. EPA Should Adopt “Subcategorized” Emission Rates Under the Rate-Based Approach**

EPA proposes to use “subcategorized” emission rates; that is, separate CO<sub>2</sub> emission performance rates for affected EGUs in two subcategories: “natural gas-fired stationary combustion turbines (i.e., natural gas combined cycle units, or NGCC units) and fossil fuel-fired EGUs (i.e., utility boilers and integrated gasification combined cycle (IGCC))”.<sup>9</sup> EPA says this provides greater flexibility and more fungible ERCs<sup>10</sup> than a single rate-based approach, which is the weighted average of the two subcategory targets based on the percentage of each type of facility in the state’s mix in the 2012 baseline year. This approach also will be more transparent given that some of the newer NGCC units can also produce gas-shifting ERCs. We support the subcategorized approach for the reasons EPA provided.

### **3. Banking, Borrowing, and Trading ERCs**

EPA proposes to allow banking, but not borrowing of ERCs, but does not provide any basis for excluding borrowing. We support including both banking and borrowing, as they will provide more flexibility and allow EGUs to more cost effectively comply.

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<sup>9</sup> 80 Fed. Reg. at 64,990.

<sup>10</sup> “The EPA is using the subcategorized rates in the rate-based trading approach because it allows ERCs to be fungible across jurisdictional borders and provides an incentive structure, as compared to other rate-based approaches, that facilitates implementation of measures identified as part of the BSER. Using subcategorized rates allows for: (1) Consistently applied emission rates for power plants of different types; and (2) free trading of fungible ERCs among all affected EGUs subject to the federal plan and within the federal trading program.” 80 Fed. Reg. at 64,990.

In addition, as discussed above in Section V, EPA should develop and adopt a trading mechanism that allows ERCs to be used in mass-based trading programs. Providing conversion mechanisms for ERCs to be used in mass-based programs will allow for a broader and robust trading system among states where the federal plan is imposed or where states adopt the model trading rules.

## **B. Mass-Based Approach**

The agency's mass-based approach has several primary components on which AF&PA and AWC are commenting: set-asides to renewable energy, allowances for certain categories of facilities, and several other issues.

### **1. Allowance Set-Asides for Renewable Energy to Address Leakage to New Sources**

EPA proposes three set-asides for both the mass-based federal plan and the model rule to address leakage, one of which is a set-aside for renewable energy. Specifically, EPA proposes that 5 percent of allowances will be reserved from the allocation for each state for renewable energy projects that meet the requirements for rate-based ERCs under the federal plan and model rule (i.e., on-shore wind, solar, geothermal power, and hydropower that have come on line after January 1, 2013). As discussed in Sections VII below, we believe that biomass should be included as an eligible resource under the federal plan and model trading rules, and we do not support the post-2012 date cutoff for renewable energy projects, including biomass energy, as well as other requirements for biomass to be included in the final CPP.<sup>11</sup> Indeed, AF&PA and AWC have filed a petition for review challenging many of those requirements.<sup>12</sup>

### **2. Mechanisms to Evaluate and Address Impacts to EITE Sectors**

As discussed above, AF&PA and AWC members operate in global markets, and must remain as competitive as possible to compete successfully in those markets. Energy also is a significant manufacturing cost and unlike affected EGUs, our members to a large extent cannot pass those costs on to our customers. Affected EGUs, especially those that are part of vertically integrated public utilities in regulated states, can pass through compliance costs to their customers. Implementation of the CPP's emission reduction goals threatens to have a significant impact on EITE sectors that face stiff overseas competition if energy prices rise, service reliability lessens, and other cumulative burden impacts increase. Federal and model plans that place an undue burden on such industries through increased energy prices or other direct or indirect effects could thwart global GHG emission reduction goals by shifting production and emissions to overseas competitors. As a result, such plans would not produce a net

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<sup>11</sup> This argument will be raised as part of our petition for review in the D.C. Circuit. *American Forest & Paper Association and American Wood Council v. EPA*, No. 15-1485 (D.C. Cir. 2015).

<sup>12</sup> *American Forest & Paper Association and American Wood Council v. EPA*, No. 15-1485 (D.C. Cir. 2015).

global reduction in emissions due to international leakage of emissions on an international level. Thus, EPA should develop safeguards to ensure that any adverse effects on EITE sectors are mitigated by maximizing options and flexibility to ensure that the least cost solutions are available and that the impacts to EITE manufacturers are addressed.

EPA should make it clear that the Agency (when imposing the federal plan) and the states (when adopting the model rules) have the flexibility to mitigate impacts to EITE sectors. EPA and states should evaluate the types and extent of direct and indirect impacts on EITE sectors in that state. EPA and states then should determine what type of mechanism can be implemented to reduce impacts to EITE sectors. For example, EPA and states should have the flexibility to consider alternatives to EPA's proposal to distribute allowances to [affected](#) EGUs based on historical emissions (e.g., allocate to EITE sectors, or to EDCs, or a combination thereof).

### 3. Allowances for Industrial Energy Efficiency, Including CHP

To remain economically sustainable, socially responsible, and sensitive to the U.S. GHG mitigation objectives, industrial facilities already have and continue to prioritize investment in energy efficiency in their manufacturing operations. They also have set energy efficiency as a high priority for capital investment. For example, AF&PA has set a goal to improve purchased energy efficiency by 10 percent by 2020 as compared to a 2005 baseline, and it had improved by 8.8 percent by 2012. These improvements translate to decreased purchases of power from utilities with affected EGUs, and therefore help those utilities meet their compliance obligations. Accordingly, the mass-based federal plan and model rule should include allowances for a broad category of new voluntary industrial energy efficiency projects, including CHP and non-utility led voluntary projects that result in reduced power purchases from the grid.

To fully credit these resources under a mass-based approach, EPA has at least four options: it could auction allowances and direct some of the proceeds toward this purpose (with the remaining revenue going to either load serving entities or to affected EGUs); directly allocate allowances to new, incremental use of these resources; create a special set-aside for these resources; and/or expand the proposed set aside for leakage to include these resources. We recommend that the Agency choose one or more of these options to fully credit voluntary industrial energy efficiency projects.

Direct allocation has several advantages compared to set-asides or obtaining allocations of auction revenues. It treats eligible projects the same as affected units for purposes of receiving allocations and does not require periodic project-based applications to secure allowances. A set-aside is comprised of a reserved pool of allowances established at the beginning of a compliance period. Owners of eligible resources or projects must then apply for allowances typically on an annual basis, subject to a limit on the size of the set-aside. To institute a set-aside, EPA must determine up-front the size of the set-aside pool and will likely be unable to award set-aside allowances to all eligible activities. A direct allocation does not require the same

up-front determination. As a consequence, it is administratively simpler for both state agencies and for potential allowance recipients.

Please see additional comments related to CHP in Section VIII.

#### 4. Banking, Borrowing, and Trading Allowances

Similar to the proposed rate-based approach, EPA proposes to allow banking, but not borrowing of allowances, but does not provide any basis for excluding borrowing. As stated above, we support including both banking and borrowing, as they will provide more flexibility and allow EGUs to more cost effectively comply.

In addition, as discussed above in Section V, EPA should develop and adopt a trading mechanism that allows allowances to be used in rate-based trading programs. Providing conversion mechanisms for allowances to be used in rate-based programs will allow for a broader and robust trading system among states where the federal plan is imposed or where states adopt the model trading rules.

#### 5. State-Determined Allowance Distribution

EPA proposes to allow a state to replace the EPA-determined allowance distribution provisions with a state-developed allowance distribution provision. EPA believes that this would provide states with greater flexibility and allow them to consider distributions that work better for a state and allow a state to consider allowance distribution approaches EPA may not have included in the Proposal.<sup>13</sup>

We support this proposal for the reasons EPA has provided. States likely will be in a better position than EPA to know which allowance distribution provisions would work the best. For example, a state likely would be more familiar with the EITE sectors located within its borders and may want to provide allowances or other mitigating measures to those industries, an option not available under the EPA proposed federal and model rules.

### **VII. Biomass Energy Should Be an Eligible Measure in the Federal Plan and Rate- and Mass-based Model Plans.**

EPA is seeking comment on the inclusion of other emission reduction measures such as use of biomass energy to be eligible for ERC issuance under the rate-based federal plan. EPA should not limit biomass energy as an eligible measure to the rate-based Federal Plan. Biomass energy should be included as an eligible measure in both mass- and rate-based federal plans and model trading rules.

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<sup>13</sup> 80 Fed. Reg. at 65,027.

### **A. Biomass Energy Should Be Included in the Final Federal Plan as an Eligible Emission Reduction Measure.**

In the proposed rate- and mass-based federal plans, EPA is only considering wind, solar, geothermal power, hydropower, and new nuclear units and capacity uprates as eligible measures because they (1) were a part of the renewable energy generation potential quantified for the BSER; (2) are able to be deployed on an economic basis during the compliance period; and (3) provide the “simplest and most timely path” for EM&V implementation of the federal plan because they use existing metering infrastructure to quantify generation. 80 Fed. Reg. at 64,994.

It would be arbitrary and capricious for EPA to exclude biomass energy as an eligible measure under the federal plan based on these justifications. In *Motor Vehicle Manufacturers Ass’n v. State Farm Mutual Automobile Insurance Co.*, 463 U.S. 29 (1983), the Supreme Court held that an agency must satisfy two basic requirements to avoid violating the arbitrary and capricious standard. Initially, the agency must engage in “reasoned decision making.” *Id.* at 52. Then, “the agency must . . . articulate a satisfactory explanation for its action.” *Id.* EPA has failed to justify excluding biomass and limiting emission reduction resources to only wind, solar, geothermal power, hydropower, and new nuclear units and capacity uprates.

First, EPA has acknowledged that other emission reduction measures that were not included in the BSER determination would be available to states to meet emission reductions goals under the CPP. EPA states that the “availability of these measures [such as biomass energy and CHP] further assures that the appropriate level of emission reductions can be achieved.”<sup>14</sup>

Similarly, the federal plan should allow for a broad range of eligible measures for compliance to minimize cost and energy impacts for the state where a federal plan is imposed. When implementing a federal plan, EPA “stands in the shoes of the defaulting State, and all of the rights and duties that would otherwise fall to the State accrue instead to EPA” to develop a Clean Air Act plan. *Central Az. Water Conservation Dist. v. EPA*, 990 F.2d 1531, at 1541 (9th Cir. 1993) (citation omitted). In assuming the state’s role in implementing the federal plan, EPA must establish a standard of performance that includes consideration of the costs of achieving emission reductions and energy requirements of the state where the federal plan is implemented. 42 U.S.C. §§ 7411(d)(2); 7411(a)(1). EPA is limiting its implementation options and potentially creating negative cost and energy impacts by excluding biomass energy, CHP, energy efficiency, and other cost-effective measures from the federal plan.

Second, EPA has not evaluated whether biomass energy can be deployed on an economic basis when implementing a federal plan. The preamble to the Proposal references the discussion in the CPP (Section V.E.6) in determining that wind, solar,

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<sup>14</sup> EPA, Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units; Final Rule, 80 Fed. Reg. 64,662, 64,735 (Oct. 23, 2015).

geothermal power, and hydropower resources can be economically deployed during the compliance period.<sup>15</sup> For the BSEER analysis in the CPP, EPA used historical deployment patterns for wind, solar, geothermal power, and hydropower sources and modeled economic potential for those sources to demonstrate the successful levels of renewable energy that have been incorporated into the power system.<sup>16</sup> EPA should conduct a similar analysis to determine whether biomass energy can be economically deployed before deciding whether to eliminate it from consideration as an eligible least-cost resource for the federal plan.

Lastly, EPA claims that there is no “simple” or “timely” EM&V process to quantify biomass energy. However, in the preamble, EPA set forth a clear and simple EM&V path for renewable energy such as biomass. “[Q]uantification of RE generation can leverage the infrastructure and documentation associated with the establishment of renewable energy certificates (RECs) and registration of such certificates in REC registries. These registries typically include well established safeguards, documentation requirements, and procedures for registry operations intended to support the demonstration of compliance with state RPS policies.”<sup>17</sup> As explained below in Section VII.E, there are other options to fulfill EM&V requirements for biomass energy when implementing the federal plan. These contradictory statements should be reconciled in favor of including biomass energy given the outlined EM&V procedures adopted in state RPS programs.

The list of eligible measures in the federal plan should include biomass energy, CHP, and any other measures that meet the requirements for eligible resources in the CPP.

### **B. Biomass Energy Should Be an Eligible Emission Reduction Measure in Both the Rate- and Mass-based Final Model Trading Rules.**

It is arbitrary and capricious to include biomass energy as an eligible measure in the rate-based model trading rule but to exclude it in the model mass-based trading rule. The proposed rate-based model trading rules list “qualified” biomass as an eligible resource category for a state adopting the rate-based model rule (but not when applied as a federal plan).<sup>18</sup> In contrast, the mass-based model rule limits eligible resources to “onshore utility scale wind, solar, geothermal power, or utility scale hydropower” and excludes biomass or other resource categories allowed in the rate-based model rules.<sup>19</sup> See Table 1 below for difference in proposed rule language:

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<sup>15</sup> 80 Fed. Reg. at 64,994.

<sup>16</sup> CPP, 80 Fed. Reg. at 64,807.

<sup>17</sup> 80 Fed. Reg. at 65,003.

<sup>18</sup> 40 C.F.R. § 62.16435(a)(4), 80 Fed. Reg. at 65,093 – 094.

<sup>19</sup> 40 C.F.R. § 62.16245(a)(2), 80 Fed. Reg. at 65,068.

**Table 1: Proposed Model Rule Language for Eligible Resources**

<b>Model Rate-Based Rule</b>	<b>Model Mass-Based Rule</b>
<p><b>§ 62.16435 What eligible resources qualify for generation of ERCs in addition to affected EGUs?</b></p> <p>(a) ERCs may only be issued to an eligible resource that meet each of the requirements in paragraphs (a)(1) through (4) of this section. All categories of resources other than on-shore utility scale wind, utility scale solar photovoltaics, concentrated solar power, geothermal power, nuclear energy, or utility scale hydropower, and all provisions of this subpart relating to such resources, are not available or applicable in States where this subpart has been promulgated as a federal plan pursuant to section 111(d)(2) of the Act.</p> <p>...</p> <p>(4) The resource falls into one of the following categories of resources:</p> <ul style="list-style-type: none"> <li>(i) Renewable electric generating technologies using one of the following renewable energy resources: wind, solar, geothermal, hydro, wave, tidal;</li> <li>(ii) Qualified biomass;</li> <li>(iii) Waste-to-energy (biogenic portion);</li> <li>(iv) Nuclear energy;</li> <li>(v) A non-affected combined heat and power unit, including waste heat power; or</li> <li>(vi) A demand-side EE or demand-side management measure that saves electricity and is calculated on the basis of quantified ex poste savings, not “projected” or “claimed” savings.</li> </ul>	<p><b>§ 62.16245 How are set-aside allowances allocated?</b></p> <p>(a)(1) <i>Renewable energy set-aside.</i> The Administrator will establish a renewable energy set-aside as set forth in § 62.16235(c), and allocate CO<sub>2</sub> allowances from the set-aside for each year of a compliance period as outlined in this section.</p> <p>(2) <i>Eligible renewable energy capacity.</i> To be eligible to receive renewable energy set-aside allowances, an eligible resource must meet each of the requirements in paragraphs (a)(2)(i) through (v) of this section. Any resource that does not meet the requirements of paragraphs (a)(2)(i) through (v) of this section cannot receive set-aside allowances.</p> <p>(i) The resource must be a renewable energy resource that falls into one of the following categories of resources: onshore utility scale wind, solar, geothermal power, or utility scale hydropower.</p>

EPA fails to justify why biomass energy is an eligible resource under the model rate-based rule but not in the model mass-based rule. EPA’s exclusion of biomass energy in the model mass-based rules seems contrary to the preamble language that states that “We are proposing, as part of the **mass-based** federal plan and **model rule**, that a project is eligible to receive set-aside allowances if it is RE that meets the eligibility requirements for rate-based ERC issuance as specified in section IV.C of this preamble

and section VIII.K of the final EGs.”<sup>20</sup> EPA does not provide any further explanation of this arbitrary and segregated treatment. Since biomass energy is an eligible resource under the rate-based model rule, EPA should include it in the mass-based model rule.

Moreover, as discussed in Section IV.B, as with many CHP units, many biomass-based renewable energy sources operate “Behind the Meter” and self-supply power without selling excess power to the grid. Some also may have “buy-sell” arrangements with their electricity provider. In both cases, as with CHP, the facility meets the requirement of Section 62.16434(b)(2) that the resource is “connected to, and delivers energy to or saves *electricity*, on the electric grid in the contiguous United States” (emphasis added). This is because the self-generated electricity reduces the amount of power that needs to be purchased on net from the grid.

### **C. EPA Should Include a List of Pre-approved Biomass Fuels in the Federal Plan and Both Model Trading Rules.**

Assuming EPA’s final federal plan includes biomass energy as an eligible compliance measure, AF&PA and AWC support the approach in the proposed Federal Plan to specify a list of pre-approved qualified biomass fuels. The list should include the following biomass fuels:

1. Forest-derived industrial byproducts (known also as forest products manufacturing residuals). These by-products/residuals should be defined as forest-derived biomass from pulp and paper mills, wood products manufacturing facilities, and downstream manufacturing facilities including, but not limited to:
  - spent pulping liquors (e.g., black liquor, red liquor, liquor solids) and pulping by-products and substances (e.g., rectified methanol, black liquor soap, red oil, lignin);
  - woody manufacturing residuals, such as:
    - pulping, paper, and converting process residuals (e.g., knots, shives, non-recoverable trim and broke);
    - bark;
    - wood product process residuals (e.g., residual sawmill chips, sawdust, shavings, sander dust, resinated wood residuals, veneer residuals, slabs, cutoffs, knots, woody residuals from air emission control systems), manufactured wood residuals (e.g., furniture, crate and pallet plant residuals);
    - off-specification materials; reinjection char (partially burnt biomass); paper machine cleaner, screening and other rejects; and
    - similar manufacturing residuals;
  - paper recycling residuals (e.g., materials removed from recovered paper and paperboard during the recycling process, such as non-recyclable fiber or old corrugated containers rejects);

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<sup>20</sup> 80 Fed. Reg. at 65,023 (emphasis added).

- wastewater and process water treatment plant residuals; and
- “Grandfathered” biomass energy from residuals. Post-2012 eligible sources have already been providing biomass energy from residual byproducts to affected EGUs (see Section VII.C.b, below for further explanation)

Although burning forest products manufacturing residuals releases CO<sub>2</sub> into the atmosphere from the oxidation of the biomass, it both avoids GHG emission that would occur anyway if these residuals were not used for energy recovery. It also displaces the use of fossil fuels.

A critical fact is that 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>21</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, 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.

A study by the NCASI<sup>22</sup> finds substantial GHG reduction benefits from using manufacturing residuals for biomass manufacturing residuals for energy in the forest products industry.<sup>23</sup> See attachment. The study examined the life cycle GHG and fossil fuel reduction benefits of using biomass residuals for energy production in the U.S. forest products industry. Wood processing activities at pulp, paper and wood products mills continuously produce a significant volume of biomass residuals, and they are the primary source of energy to run these mills. On average, about two-thirds of the energy powering forest products mills is derived from biomass. Accounting for fossil fuel displacement and avoided emissions associated with disposal, the use of biomass residuals each year avoids the emission of approximately 181 million metric tons of

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<sup>21</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>.

<sup>22</sup> The National Council for Air and Stream Improvement (NCASI) is an independent, non-profit research institute that focuses on environmental and sustainability topics relevant to forest management and the manufacture of forest products.

<sup>23</sup> See NCASI, *Greenhouse Gas And Fossil Fuel Reduction Benefits of Using Biomass Manufacturing Residuals for Energy Production in Forest Products Facilities*, Technical Bulletin No. 1016 (Rev. Aug. 2014), available at <http://www.ncasi.org/Downloads/Download.ashx?id=9603> (attached).

CO<sub>2</sub>e.<sup>24</sup> (This is equivalent to removing about 35 million cars from the road.) Based on this analysis, energy produced from manufacturing residuals has been demonstrated to control increases in CO<sub>2</sub> levels in the atmosphere.

In addition, the benefits of using biomass residuals for energy are rapidly realized. The GHG reduction benefits are realized in 1.2 years or less.<sup>25</sup> Even if the benefits of displacing fossil fuels are ignored, the use of manufacturing residuals for energy produces lower cumulative GHG emissions in 0 to 19.5 years, depending on the type of residual, with a weighted average break-even time of 7.6 years. When considering the historical and ongoing production and use of biomass energy over many decades, the U.S. forest products industry already is producing net GHG benefits by using biomass as its major energy source. For all of these reasons, forest products manufacturing residuals should be listed as a pre-approved biomass feedstock in the federal plan and model rules.

EPA has recognized that certain types of biomass feedstocks and post-life products are unlikely to contribute to atmospheric carbon. In a November 19, 2014 memorandum and in the revised draft *Framework for Assessing Biogenic CO<sub>2</sub> Emissions from Stationary Sources* (“Revised Framework”), EPA states that certain forest-derived industrial byproducts such as black liquor, and waste-derived feedstocks such as municipal solid waste (e.g. urban wood waste, yard trimmings) and wastewater, have minimal or **no** net atmospheric concentrations of biogenic CO<sub>2</sub> emissions.<sup>26</sup> Further, EPA determined in a Prevention of Significant Deterioration (PSD) final permit that use of certain “feedstocks [mill residuals, untreated wood debris from urban areas, agricultural crops and residues, forest residues, and non-merchantable forest biomass] are unlikely to result in a significant increase in atmospheric CO<sub>2</sub> loading. . . . EPA believes that these revisions to Permit Condition X.G. will limit the facility to the types of biomass fuels that are generally considered to have lower net atmospheric contributions when combusted.”<sup>27</sup>

For spent pulping liquor (e.g. black liquor), EPA conducted a careful consideration of black liquor in an addendum to Appendix D of the Revised Framework,<sup>28</sup> and concluded that the use of black liquor for energy at pulp and paper mills is carbon neutral. EPA

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<sup>24</sup> Gaudreault, C. and Miner, R., *Temporal Aspects in Evaluating the Greenhouse Gas Mitigation Benefits of Using Residues from Forest Products Manufacturing Facilities for Energy Production*. *J. of Industrial Ecology* 19(6):994-1007 (2015), at 1,004.

<sup>25</sup> Gaudreault, C. and Miner, R., *Temporal Aspects in Evaluating the Greenhouse Gas Mitigation Benefits of Using Residues from Forest Products Manufacturing Facilities for Energy Production*. *J. of Industrial Ecology* 19(6):994-1007 (2015), at 1,002.

<sup>26</sup> Memorandum from Janet McCabe, EPA Acting Assistant Administrator, to Air Division Directors, Regions 1-10 (Nov. 19, 2014) at 2 (emphasis added) (“McCabe Memo”); EPA, *Framework for Assessing Biogenic CO<sub>2</sub> Emissions from Stationary Sources*, Draft (2014) (emphasis added) (“Revised Framework”).

<sup>27</sup> EPA Region 9, Responses to Public Comments on the Proposed Prevention of Significant Deterioration Permit Major Modification for Sierra Pacific Industries - Anderson Division (Apr. 2014), at 10-12, available at <http://www.epa.gov/region09/air/permit/pdf/spi-anderson/spi-anderson-final-permit-public-comment-response-2014-04-25.pdf>.

<sup>28</sup> Revised Framework, at App. D-21 – D-32.

states that “an estimated BAF [biogenic assessment factor] of 0 can be considered for black liquor,” and under two theoretical alternative fates, EPA actually calculates a negative BAF for black liquor, which indicates that using black liquor for energy could be better than carbon neutral.<sup>29</sup>

Based on the weight of this scientific evidence and data, EPA can conclude that the use of forest-derived industrial byproducts/residuals for energy has been demonstrated to control increases in CO<sub>2</sub> levels in the atmosphere and should be placed on a pre-approved list as qualified biomass feedstocks qualified according to the CPP rule.

**a. An alternative markets test for forest products manufacturing residuals raises significant and complex issues and concerns.**

In the proposed Federal Plan, EPA seeks comment on the option of specifying a list of “pre-approved biomass fuels” such as certain industrial byproducts feedstocks (e.g. “black liquor or other forestry or agricultural industrial by-products with no alternative markets”). In the Revised Framework, EPA raised the issue of “market leakage” where “[d]eviating by-products that do have current market uses to additional energy production instead of their traditional use could have potential impacts on those traditional markets.”<sup>30</sup> EPA suggests in the Framework that an assessment of biogenic CO<sub>2</sub> emissions from forest-derived industrial processing products and byproducts should assess whether or not these materials have current alternative market uses to bioenergy.<sup>31</sup>

The concept of an alternative markets test for manufacturing residuals resulting from the manufacture of value-added forest products raises highly complex issues, and it is not clear how it could be practically and accurately implemented. EPA has not provided any guidance on how to make this demonstration.<sup>32</sup> Despite EPA’s attempt to mitigate the potential biomass market distortions created by the CPP, AF&PA and AWC believe that whether there are alternative markets for forest products manufacturing residuals is an issue that is best left to the market (not the government) to determine, given the

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<sup>29</sup> See, e.g., Revised Framework, at App. D, D-21 – D-32 (“The information in this appendix, including example calculations of alternative fate-related biogenic emissions, supports that a 0 or *negative [biogenic] assessment factor* for black liquor may be reasonable.”) (emphasis added); *id.*, at D-31 (calculating negative biogenic assessment factors for black liquor and stating that “avoided emissions associated with disposal of black liquor as compared with the current management practice (burning for energy and chemical recovery in a recovery furnace) resulted in hypothetical example BAFs ranging from different negative values to 0, depending on the treatment method.”). The three alternative fate scenarios considered by EPA include: (1) incineration without energy recovery (BAF = 0); (2) disposal in an aerobic wastewater treatment system (BAF = -0.09); and (3) disposal in an anaerobic wastewater treatment system (BAF = -1.2). *Id.* at D-29 – D-31.

<sup>30</sup> Revised Framework, App. D, at D-8.

<sup>31</sup> Revised Framework, App. D, at D-7 and D-8.

<sup>32</sup> See Revised Framework, at 19 (“The framework includes an equation term for leakage; however, the illustrative calculations presented in the appendices do not explicitly quantify leakage or provide a method to do so.”); see also *id.*, at App. E, at E-10 (“ . . . the development and implementation of a land use analysis that adequately reflects leakage is a very complex endeavor . . .”).

complexities and dynamic nature of biomass markets. For example, except under sales contract, biomass manufacturing residuals and byproducts may swing from market to market depending on supply and demand which include external sales for product use or bioenergy markets to on-site bioenergy use. Fungibility of the manufacturing residuals markets results in frequent price fluctuations. Fiber market prices can change daily based on numerous factors. The mix of factors that makes an alternative market viable one day may not be viable on the next day. An alternative markets analysis process will not be able to preserve the nimbleness required to optimize buying and selling of manufacturing residuals. These practical real-world situations make binding alternative market analyses impractical from a business perspective.

Further it would be a costly, complex, resource-intensive process that could result in unintended consequences such as revealing confidential business information, and do little to address market leakage, which is the concern driving inclusion of the requirement. To determine whether there is an alternative market for a biomass manufacturing residual or byproduct, a renewable generator would likely need to demonstrate that viable markets for the residuals used do not exist. A viable market could mean the generating facility could benefit more by providing the residuals to a third party for use in manufacturing products than providing them to a power plant. How much benefit constitutes an alternative market will vary widely by entity. This may require extensive market and economic analyses and the disclosure of pricing information to EPA or affected EGUs wishing to purchase these manufacturing residuals for energy use, resulting in the loss of the pricing privacy normally associated with commercial transactions. In addition, the forest product manufacturer that is generating the residuals would have to expend significant time and resources to conduct an alternative markets analysis every time the supply or demand changes. Furthermore, once leakage is established, an LCA assessment would need to be conducted to determine whether it contributes materially to atmospheric CO<sub>2</sub> levels, adding further complexity and expense to this approach.

***b. EPA must provide for public notice-and-comment before any type of alternative markets/leakage test is required.***

If EPA requires an alternative markets analysis for manufacturing residuals/byproducts to be deemed qualified, EPA should first determine if market leakage is likely to occur. EPA should identify when factors exist that empirically relate to the probability of leakage and only require analysis at that point in time. For instance, distance from the alternate use is a key factor as the cost of transport will influence the economic viability of either the primary use or its alternate use. Significant distance between primary and secondary users makes market leakage highly unlikely.

As highlighted above, it is not practical for alternative markets determinations to be conducted in real time on a transaction by transaction basis. These determinations, once established, should remain valid for a set period of time and/or until a significant change in residual flows and markets occur.

Given the huge potential variability in what constitutes an alternative market, and the absence of a proposed methodology in this rule and other EPA guidance documents, it is imperative that EPA provide for public notice-and-comment before any type of alternative markets/market leakage test is required.

In addition, if post-2012 eligible sources have already been providing biomass energy from residual byproducts to affected EGUs, it is likely that the practice was driven by market forces or other considerations not directly related to the CPP. It would, therefore, be misguided to assume leakage as the result of the CPP. These facilities should be “grandfathered” and their biomass energy should be included on the list of qualified biomass without requiring an alternative markets test.

Finally, self-generated residuals combusted on site should always be carbon neutral. An entity should not be subject to an alternative markets test and forced to sell residuals it generates into other markets when the owner chooses to combust these residuals on site. For example, self-generation onsite includes situations where the same entity owns the saw or chip mill that will generate the residuals and the site that will combust the residuals for self-generated on-site energy, or owns the logs that are being processed at the saw or chip mill.

2. Waste-derived feedstocks, such as landfill gas and post-life wood products (e.g., used crates, pallets, construction and demolition wood, biomass materials listed under 40 C.F.R. Part 241, etc.).

EPA has recognized that waste-derived feedstocks that include landfill gas and post-life products are unlikely to contribute to atmospheric carbon. Similar to forest products manufacturing residuals, while burning of waste-derived feedstocks release CO<sub>2</sub> into the atmosphere from the oxidation of the biomass, it both avoids emission of GHGs that would occur anyway if these residuals were not used for energy recovery and displaces the use of fossil fuels. In EPA’s November 19, 2014 memorandum and Revised Framework, EPA states that waste-derived feedstocks have minimal or **no** net atmospheric concentrations of biogenic CO<sub>2</sub> emissions.<sup>33</sup>

In Appendix N in the Revised Framework, EPA concludes that “the biologically based material in waste-derived feedstocks was removed from the land base for economic and production purposes outside of generating materials for the waste stream (e.g., for manufacture of consumer and industrial products, such as newspaper, food, and construction materials), [and] if waste-derived feedstocks had not been processed or used by a stationary source, the material would have been managed through an alternative strategy with an alternative emissions pathway. Whatever the waste management strategy, it would result in biogenic CO<sub>2</sub> emissions and likely some amount of CO<sub>2</sub>e GHG emissions (e.g., CH<sub>4</sub> emissions as a result of anaerobic decomposition).”<sup>34</sup> The Revised Framework calculates a zero to negative biogenic

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<sup>33</sup> McCabe Memo at 2 (emphasis added).

<sup>34</sup> Revised Framework, at N-7

assessment factor (BAF) for municipal solid waste (i.e., biogenic resources including food, paper and wood products such as wood pallets) that is burned for energy as opposed to landfilled.<sup>35</sup>

Also, EPA determined in a PSD final permit mentioned above that use of certain waste-derived woody feedstocks such as wood pallets, crates, dunnage, manufacturing and construction wood debris from urban areas are “unlikely to result in a significant increase in atmospheric CO<sub>2</sub> loading. . . . EPA believes that [these] types of biomass fuels that are generally considered to have lower net atmospheric contributions when combusted.”<sup>36</sup> Further, EPA plans to revise the PSD rules “to include an exemption from the Best Available Control technology (BACT) requirement for GHGs from waste-derived feedstocks.”<sup>37</sup>

Based on the weight of EPA’s own analysis and data, waste-derived feedstocks have been demonstrated as a method to control increases in CO<sub>2</sub> levels in the atmosphere and should be placed on a pre-approved list as qualified biomass energy feedstocks for use as a compliance option under the CPP.

### 3. Certain forest-derived biomass feedstocks from timberlands.

Other types of forest-derived biomass feedstocks such as roundwood from timberlands should be considered qualified biomass where the growth rate of timberlands is greater than or equal to harvest levels on a broad regional scale, based on data produced by the Forest Inventory and Analysis (FIA) program administered by the U.S. Forest Service. Change in above-ground wood inventories on timberlands should be used to assess the status of FIA regions.

Given the continuous cycle of biogenic emissions (through combustion or decay), regrowth and sequestration (via photosynthesis), EPA should assess whether growth exceeds harvest on a broad regional scale consistent with four FIA regions as discussed below, rather than assessing individual sources and sinks in isolation. Roger Sedjo addresses this issue in his study, “Carbon Neutrality and Bioenergy”:

*A forest system also behaves differently from a site. In the United States, for example, large landscapes are managed as forest systems. Management activities in one place are related to activities elsewhere in the system, beyond the specific site. For example, a steady flow of wood may not be possible in sufficient volumes from an individual site but can*

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<sup>35</sup> Revised Framework, at N-29 – N-37.

<sup>36</sup> EPA Region 9, Responses to Public Comments on the Proposed Prevention of Significant Deterioration Permit Major Modification for Sierra Pacific Industries - Anderson Division (Apr. 2014), at 10-12, available at <http://www.epa.gov/region09/air/permit/pdf/spi-anderson/spi-anderson-final-permit-public-comment-response-2014-04-25.pdf>

<sup>37</sup> McCabe Memo at 3.

*be achieved from a system. The same could be true for carbon emissions, where sequestration on one site offsets emissions from another.*<sup>38</sup>

Assessing biogenic emissions on a small scale only measures a portion of the carbon cycle and will result in misleading conclusions regarding the benefits of biomass for GHG mitigation over the long-term. Because trees require a long-term investment before harvest, forests are managed for long-term productivity on a landscape scale. Each individual tree or stand is part of a larger forest management plan that includes multiple stands at different stages of development. At any given period in time, a few stands will be subject to harvest or other stand improvement projects while the vast majority will continue to grow and sequester more carbon. Thus, it makes little sense to evaluate the effects of biomass energy in a stand-by-stand manner because it fails to give a full picture of the effects taking place on other stands that are part of the same management regime. Also, procurement areas for timberlands more often than not encompass more than one state.<sup>39</sup> In addition, this regional approach provides the ability to assess emissions and sinks from natural and manmade occurrences such as forest fires and land use changes or conversions that affect multiple states.

Regions should consist of states that are related ecologically and where similar levels of forest management are taking place. For example, the following four regions in the contiguous United States result in reasonable state groupings for analysis purposes:

- North: CT, DL, IL, IN, IA, KS, MA, ME, MD, MI, MN, MO, NE, NH, NJ, NY, ND, OH, PA, RI, SD, VT, WV, WI
- South: AL, AR, FL, GA, KY, LA, NC, OK, SC, MS, TN, TX, VA
- SouthWest: AZ, CO, NV, NM, UT
- Pacific Coast NW: CA, OR, WA, ID, MT

FIA does not yet have sufficient annual inventory data for Wyoming for that state to be included in the analysis. FIA data for Alaska is generally limited to coastal areas and was not included. Montana and Idaho are somewhat different from surrounding states, but resemble Pacific Coast states with regard to industrial forest activity and ecological characteristics. See attached NCASI paper, *Grouping Montana and Idaho with Surrounding States for Biogenic Accounting* (May 2014), for detailed explanation for this regional grouping.

EPA should also assess the net growth for timberlands based on long temporal horizons. A 100-year time horizon should be used for assessing the net benefits of

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<sup>38</sup> Sedjo, Roger. *Carbon Neutrality and Bioenergy: A Zero Sum Game*. Resources for the Future (Apr. 2011).

<sup>39</sup> See Abt, Robert, Galik, Christopher, and Henderson, Jesse, *The Near-Term Market and Greenhouse Gas Implications of Forest Biomass Utilization on the Southeastern United States*, Duke University (Aug. 2010), at 7, Fig. 3 (showing that about two-thirds of coal fired power plants in the south have a 50-mile procurement radius that encompasses more than one state. In a number of cases, the procurement would be from more than two states).

using biomass as well as the net biogenic CO<sub>2</sub> emissions. The carbon footprint of burning biomass to generate energy should be calculated over a sufficiently long timeframe to allow the major transfers of GHGs to and from the atmosphere to play out. Given that the global warming (GW) impacts of fossil-fuel-derived GHGs are typically judged using 100-year GW potentials as per Intergovernmental Panel on Climate Change (IPCC) guidance,<sup>40</sup> the net warming impacts of biogenic CO<sub>2</sub> should also be assessed using a similarly long timeframe. To use a temporal scale other than 100-years would assess the atmospheric impacts of biogenic CO<sub>2</sub> in a way that is inconsistent with how the impacts of fossil-fuel derived GHGs are assessed in the CPP.<sup>41</sup>

Also, when it comes to roundwood that is sourced directly from timberlands, it is important to use a timeframe that captures the investment response – i.e., market forces that increase forest productivity and keep forestlands from being diverted to development or other low-carbon storage uses.<sup>42</sup> Because of the global warming dynamics of CO<sub>2</sub> and the timing of benefits from biomass energy systems, EPA should consider a longer temporal scale or risk implementing policies that would result in more net GHG emissions.

Further, EPA should use a reference point baseline to assess the growth of timberlands. A reference baseline approach that uses current and historical data provides a more straightforward and transparent way to assess whether there are any atmospheric impacts from the use of biomass for energy. While a reference point baseline approach may have limitations, it is much more objective than a future anticipated baseline approach. In fact, a commentary published in *Nature Climate Change*, “Uncertainty in Projecting GHG Emissions From Bioenergy,” demonstrates that reference point baselines have actually been more accurate predictors of future forest inventories than future anticipated baselines.<sup>43</sup> The article concluded that “[g]iven the challenges in predicting the future status of forest resources, anticipated future baselines might be best suited for planning and policy development, while constant reference baselines might be more appropriate for monitoring and regulatory frameworks.”<sup>44</sup> Moreover, a future anticipated baseline likely will involve greater complexity and cost to the regulatory system, which could reduce incentives to keep lands forested, particularly for smaller entities.

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<sup>40</sup> Gaudreault, C. and Miner, R., *Temporal Aspects in Evaluating the Greenhouse Gas Mitigation Benefits of Using Residues from Forest Products Manufacturing Facilities for Energy Production*. *J. of Industrial Ecology* 19(6):994-1007, at 998 (2015).

<sup>41</sup> See EPA, Regulatory Impact Analysis for the Clean Power Plan Final Rule (Oct. 2015 revision), at 2-24 n.33 (“CO<sub>2</sub> equivalent data in this section are calculated with the IPCC SAR (Second Assessment Report) GWP potential factors.”).

<sup>42</sup> EPA, *SAB Review of EPA’s Accounting Framework for Biogenic CO<sub>2</sub> Emissions from Stationary Sources* (September 2011), at 6 (Sept. 28, 2012).

<sup>43</sup> Buchholz, T., S. Prisley, G. Marland, C. Canham and N. Sampson, *Uncertainty in Projecting GHG Emissions from Bioenergy*, *Nature Climate Change*, Vol 4., at 1045-1047 (Dec. 2014).

<sup>44</sup> Buchholz, T., S. Prisley, G. Marland, C. Canham and N. Sampson, *Uncertainty in Projecting GHG Emissions from Bioenergy*, *Nature Climate Change*, Vol 4., at 1047 (Dec. 2014).

If the growth of timberlands is greater than or equal to harvest levels in the FIA regions as defined above, the use of forest-derived biomass feedstock from those timberland regions should be considered fully carbon neutral, a method to control increases in CO<sub>2</sub> levels in the atmosphere, and should be listed as pre-approved qualified biomass.

**D. Under the Federal Plan and Both Model Trading Rules, EPA Should Allow Sources to Seek Approval for Other Types of Biomass to Add to the Pre-approved List.**

Given the changing dynamics of the energy market and other policy factors, EPA should allow affected EGUs and other sources to petition EPA to add additional biomass feedstocks to the pre-approved list. If a source can demonstrate that the use of a biomass feedstock not on the pre-approved list can be used as a method to control increases in CO<sub>2</sub> levels in the atmosphere in its petition, EPA should add that biomass feedstock to the list after appropriate public notice-and-comment. States which adopt the model trading rules should be allowed to amend their state plans to update their pre-approved qualified biomass list.<sup>45</sup>

**E. Qualified Biomass Feedstocks on the Pre-approved List Should Be Measured as Carbon Neutral and Have Limited EM&V Requirements.**

EPA is seeking comment on what types of EM&V requirements should be imposed for eligible measures such as biomass energy for the federal plan and model trading rules. We support EPA's recommendation that the monitoring and reporting requirements for biogenic CO<sub>2</sub> emissions in 40 C.F.R. part 98 (40 C.F.R. §§ 98.3(c), 98.36(b)-(d), 98.43(b), and 98.46) are sufficient to monitor and report biogenic CO<sub>2</sub> emissions from eligible sources and affected EGUs.<sup>46</sup> Eligible resources and affected EGUs that use qualified biomass feedstocks from the pre-approved list should count the biogenic CO<sub>2</sub> emissions from these feedstocks as zero/carbon neutral. Therefore, under a mass-based federal plan, an affected EGU would need to hold allowances equal to its CO<sub>2</sub> emissions less the biogenic CO<sub>2</sub> emissions attributed to the co-firing of biomass. Under a rate-based plan, an affected EGU would count the biogenic CO<sub>2</sub> emissions attributed to the co-firing of biomass as zero emissions when calculating its emission rate to demonstrate compliance.

In addition, we believe that complicated verification or tracking of qualified biomass on the pre-approved list is unnecessary. Other renewable energy sources such as wind and solar do not require additional tracking or verification beyond verifying the total MWh output. Once these biomass feedstocks are listed as pre-approved, an eligible source or affected EGU should only need to specify that the biomass used is included on the pre-approved list and verify the total MWh generated from the biomass

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<sup>45</sup> This proposed petition process is in addition to and separate from a state's action to include a biomass feedstock in its development of a CPP state compliance plan.

<sup>46</sup> 80 Fed. Reg. at 65,005.

feedstock. One method that could be used to verify MWh output can be modeled after the documentation requirements for renewable energy credits under state Renewable Portfolio Standards.

#### **F. Sustainable Forest Management or Certification Programs Are Not Carbon Standards.**

EPA proposes that third-party sustainable forest management or certification programs may be used to demonstrate that biomass feedstocks from these programs help control increases of CO<sub>2</sub> in the atmosphere.<sup>47</sup> AF&PA and AWC support state and third-party sustainable forest management and certification programs as effective tools to improve the health and productivity of forests.

We recognize that key aspects of these programs and certification standards seek to maintain stable forest carbon stocks in the long term. For example, the Sustainable Forestry Initiative (SFI) requires program participants to “ensure that forest management plans include long-term harvest levels that are sustainable and consistent with appropriate growth-and-yield models” and “measures to avoid forest conversion.”<sup>48</sup> Also, a key principle of the Forest Stewardship Council (FSC) standard is that the “rate of harvest of forest products shall not exceed levels which can be permanently sustained.”<sup>49</sup> These programs help to maintain a balance between harvesting and regrowth which result in stable long-term carbon stocks in managed forests.

However, these sustainable forestry management and certification programs do not specifically address carbon sequestration and encompass a wide range of practices not related to the control of carbon emissions from biomass used for energy. While these certification standards may indicate that certified biomass originates from well-managed forests, EPA should assess biomass feedstocks using carbon-based standards and assessment tools.

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<sup>47</sup> 80 Fed. Reg. at 64,995.

<sup>48</sup> Sustainable Forest Initiative (SFI), *SFI 2015-2019 Forest Management Standard*, 1.6 SFI 2015-2019 Forest Management Standard Requirements (Jan. 2015), at 4, available at <http://www.sfiprogram.org/files/pdf/2015-2019-standardsandrules-section-2-pdf/>. See also, Programme for the Endorsement of Forest Certification (PEFC), *Sustainable Forest Management – Requirements*, at 8 -10 (“5.1 Criterion 1: Maintenance and appropriate enhancement of forest resources and their contribution to the global carbon cycle. 5.1.9 Forest management practices shall safeguard the quantity and quality of the forest resources in the medium and long term by balancing harvesting and growth rates . . . .”) (Nov. 2010), available at <http://www.pefc.org/standards/technical-documentation/pefc-international-standards-2010/676-sustainable-forest-management-pefc-st-10032010>.

<sup>49</sup> Forest Stewardship Council, *FSC-US Forest Management Standard (v1.0)*, Principle 5, *Benefits from the Forest*, C5.6, at 22 (approved Jul. 8, 2010), available at file:///C:/Users/LTsang/Downloads/FSC-US%20Forest%20Management%20Standard%20v1.0.pdf.

### **VIII. The Proposed Accounting Approach for Non-Affected CHP Undervalues Its Emissions Benefits and Should Be Modified.**

EPA appropriately recognized in the final CPP that non-affected new CHP units can generate and receive ERCs.<sup>50</sup> The agency also acknowledges the need to provide technical assistance to help states include CHP in their plans and the rule seeks to provide some of this initial guidance. The proposed model rule for a rate-based emission-trading program includes an accounting method for determining the ERCs from non-affected CHP units that could be a “presumptively approvable accounting approach.”<sup>51</sup> We believe that the proposed approach significantly undervalues CHP’s emission benefits.

The Alliance for Industrial Efficiency (Alliance) today is filing comments on numerous CHP issues and includes a discussion of the environmental, economic, and reliability benefits of CHP.<sup>52</sup> We support that discussion, as well as the comments’ detailed proposed modification on how to properly account for CHP’s benefits. As EPA recognizes in the final CPP, for fossil fuel-fired CHP the accounting approach must both “take into account the fact that a non-affected CHP unit is a fossil fuel-fired emission source, as well as the fact that the incremental CO<sub>2</sub> emissions related to electrical generation from a non-affected CHP unit are typically very low.”<sup>53</sup> We concur with EPA that it is appropriate to net out (i.e., account for the fossil fuel-fired emissions) the incremental emissions associated with CHP units before ascribing ERCs to the output. This approach to calculating CHP benefits is an example of the avoided emissions approach. Of course, if the CHP unit is fired by qualified biomass, then the amount of CO<sub>2</sub> emissions that should be attributed to the CHP unit should be zero.

The proposed methodology, however, is flawed because of two mistakes in the way it compares emissions from generation at non-affected CHP systems to emissions from generation at affected EGUs (and therefore, what emissions will be “avoided”):

1. It compares the CHP output to natural gas generation, rather than the generation that is most likely to be avoided due to CHP deployment; and

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<sup>50</sup> As discussed in previous AF&PA and AWC comments, while non-affected CHP units can generate ERCs, our members’ CHP units should be excluded as affected EGUs. This apparently was EPA’s intent in the final CPP, but it was unclear in the pre-publication version that this was the case due to an omission of the definition of “net sales.” EPA rectified this error in the CPP published in the Federal Register. See 40 C.F.R. § 60.5880, 80 Fed. Reg. 64,959. See also the NSPS definition, at 40 C.F.R. § 60.5580, 80 Fed. Reg. at 64,656. Any final plan or model trading rules should ensure that the “net-electric sales” definition is included or otherwise incorporated into those measures. See 40 C.F.R. § 60.5880, 80 Fed. Reg. 64,959.

<sup>51</sup> 80 Fed. Reg. at 64,902.

<sup>52</sup> Comments on Model Trading Rules: Federal Plan Requirements for Greenhouse Gas Emissions From Electric Generating Units Constructed on or Before January 8, 2014, Alliance for Industrial Efficiency (Jan. 21, 2016), at Sec. II.1.

<sup>53</sup> *Id.*

2. It compares the CHP output to future emission target rates, rather than real-time emissions rates.

We do not believe it is appropriate to base the netting of the electrical output from a biomass or natural gas CHP system on the compliance goals for stationary combustion turbines. Instead, EPA should compare the emissions from the non-affected EGUs to actual emissions data from actual affected EGUs from the previous calendar year. We propose three alternative approaches, all of which would more accurately account for the actual emission reductions from CHP and increase the value of ERCs for CHP over EPA's proposed approach:

1. The average affected EGU emission rate for the eGRID subregion in which the CHP project is located;
2. The average affected EGU emission rate for each state; or
3. A single national average affected EGU emission rate.

The Alliance comments discuss these options in detail and some of the benefits and disadvantages of each of them. Based on that discussion, we recommend that EPA defer to the states in determining which option to implement to ensure that CHP technology is appropriately credited for emissions avoided.

### **C. The Proposal's Discussion of Line Losses for CHP Should be Modified.**

We also support EPA's recognition that distributed generation such as CHP has value in reducing line losses. As the Alliance comments point out,<sup>54</sup> however, EPA's language implies that only CHP units smaller than 1 megawatt (MW) can include transmission and distribution (T&D) losses in the calculation of ERCs. We do not believe that was EPA's intent, and we support the Alliance's proposed language to clarify the point.

### **IX. The Final Federal Plan and Model Rules Should Expand the Clean Energy Incentive Program (CEIP) to Allow for all Eligible Renewable Resources.**

We oppose government mandates and incentives that distort the market. If the government does impose incentives or mandates for renewable energy, those policies must treat industry energy generation from biomass equally with newly created renewable energy generation.

We do not support the CEIP as currently drafted because it does not necessarily lead to least-cost compliance nor does it treat all renewable resources equally. Nonetheless, the CEIP is included in the final CPP and it is clear that EPA intends to implement it as part of any federal plan. As proposed, renewable energy in the CEIP only includes "metered MWh from any type of wind or solar resources" as eligible to participate in the CEIP. Although we oppose incentive programs such as the CEIP, we believe that all eligible renewable energy resources, including biomass, that are included in the final

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<sup>54</sup> Alliance Comments, Sec. II.3.

CPP should be eligible to participate in the CEIP for the final Federal Plan and both model trading rules. We do not agree that renewable energy resources other than wind and solar are incapable of accurately measuring their electrical output, as EPA proclaims in the Proposal. EPA has picked winners (and losers) by selecting only wind, solar and low-income energy efficiency as eligible resources. Moreover, contrary to the requirements for establishing the BSER, EPA has failed to conduct any cost-benefit analysis whatsoever to show that these CEIP-eligible options would be the least costly among all technologies. As discussed elsewhere in these comments, this would provide additional flexibility and help achieve least-cost compliance for all ratepayers. Accordingly, if a renewable energy project, such as a biomass-fired CHP unit, can meet criteria similar to the criteria in the final CPP and can adequately account for and verify MWh generated, those projects should be allowed to participate in the CEIP under the Federal Plan and model trading rules.

**X. The Federal Plan Should Include a Reliability Safety Valve (RSV) and Include Other Provisions to Address Reliability.**

In our comments on the proposed CPP, we highlighted the importance of a reliable supply of energy for manufacturers such as our members. Many other commenters also discussed in detail their reliability concerns with the proposed CPP and made a number of recommendations to improve reliability, including the suggestion that EPA include an RSV in the final rule.

EPA did include an RSV and took a number of other steps to address reliability concerns, including delaying the start of the initial compliance period by two years to 2022. Nonetheless, those steps have not completely addressed all reliability concerns. For example, Federal Energy Regulatory Commissioner (FERC) Tony Clark pointed out in recent congressional testimony<sup>55</sup> that it can take from 3 to 12 years to site the infrastructure, such as new transmission facilities and natural gas pipelines that will be required for CPP compliance. EPA provides the option for states to seek extensions only until September 2018 for submitting state compliance plans, and most states are expected to use that full extension. In this case, there will be only four years between the date of the submittals to the first compliance period, yet as Commissioner Clark noted, it can take many more years for the needed infrastructure to be completed.

EPA's proposed federal plan did not include an RSV. In light of the unresolved reliability concerns just stated, AF&PA and AWC support including an RSV in the final federal plan and in both model rules. We also support including in the federal plan and model mass-based rules an allowance set-aside available in emergency circumstances in which an affected EGU was compelled to provide reliability critical generation, and

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<sup>55</sup> Written Testimony of Tony Clark, Commissioner, Federal Energy Regulatory Commission, Before the Committee on Energy and Commerce, Subcommittee on Energy and Power, United States House of Representatives, Hearing on Oversight of the Federal Energy Regulatory Commission (FERC), December 1, 2015.

demonstrates that a supply of allowances needed to offset emissions was not available. We also support similar mechanisms for rate-based plans.

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Thank you for the opportunity to comment on the Proposal. If you have any questions about these comments, please contact Jerry Schwartz, AF&PA and AWC Senior Director, Energy and Environmental Policy at (202) 463-2581 or [Jerry\\_Schwartz@afandpa.org](mailto:Jerry_Schwartz@afandpa.org) or Linda Tsang, AF&PA and AWC Director, Climate and Air Quality at (202) 463-2752 or [Linda\\_Tsang@afandpa.org](mailto:Linda_Tsang@afandpa.org).

Sincerely,



Paul Noe  
Vice President, Public Policy  
American Forest & Paper Association



Robert Glowinski  
President & CEO  
American Wood Council

#### Attachments

- NERA, *Potential Electricity and Energy Price Outcomes Under EPA's Federal Plan Alternatives for the Clean Power Plan* (Jan. 2016).
- NCASI, *Greenhouse Gas And Fossil Fuel Reduction Benefits of Using Biomass Manufacturing Residuals for Energy Production in Forest Products Facilities*, Technical Bulletin No. 1016 (rev. Aug. 2014)
- NCASI, *Grouping Montana and Idaho with Surrounding States for Biogenic Accounting* (May 2014)