

**Recommendations for the Treatment of Biomass under
Virginia’s EPA Clean Power Plan Implementation Plan**

**Submitted by WestRock Company
April 2016**

Virginia DEQ Should Include a List of Pre-approved Biomass in its State Implementation Plan.

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: o pulping, paper, and converting process residuals (e.g., knots, shives, nonrecoverable 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 o 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);
- 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).

Although burning forest products manufacturing residuals releases CO₂ into the atmosphere from the oxidation of the biomass, it avoids GHG emission that would occur anyway if these residuals were not used for energy recovery. It also displaces the use of fossil fuels.

EPA affirmation and scientific support (based on comparative life cycle based greenhouse gas assessments) for the carbon neutrality of biomass residuals is outlined and cited in American Forest and Paper Association / American Wood Council January 21, 2016 comments to EPA on the Clean Power Plan¹

¹ Previously submitted to the VA CPP stakeholder process: Reference 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)

The concept of an **alternative markets test** to assess GHG leakage for manufacturing residuals raises highly complex issues, and it is not clear how it could be practically and accurately implemented. In fact, neither EPA nor EPA's Scientific Advisory Board has offered an explicit methodology to assess potential leakage, citing its complexities. WestRock believes 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.

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.
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), VA DEQ 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. **It is not appropriate to assess forest growth and harvest cycles at the State level.**

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 groupings² 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, WY
- Pacific Coast NW: CA, OR, WA, ID, MT

Net growth for timberlands should be assessed based on long temporal horizons. 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 and to capture 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.

² 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

A 100-year time horizon should be used for assessing the net benefits of using biomass as well as the net biogenic CO2 emissions. To use a temporal scale other than 100- years would assess the atmospheric impacts of biogenic CO2 in a way that is inconsistent with how the impacts of fossil-fuel derived GHGs are assessed in the CPP and per Intergovernmental Panel on Climate Change (IPCC) guidance.

VA DEQ 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. 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.

Virginia DEQ Should Allow Sources to Seek Approval for Other Types of Biomass to Add to the Preapproved 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 CO2 levels in the atmosphere in its petition, VA DEQ should add that biomass feedstock to the list after appropriate public notice-and-comment.

Qualified Biomass Feedstocks on the Pre-approved List Should Be Measured as Carbon Neutral and Have Limited EM&V Requirements. We support EPA’s recommendation that the monitoring and reporting requirements for biogenic CO2 emissions in the EPA Reporting Rule (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 CO2 emissions from eligible sources and affected EGUs.

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. 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.

Sustainable Forest Management or Certification Programs should not be used as the basis for carbon neutrality. 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 CO2 in the atmosphere. While these certification standards may indicate that certified biomass originates from well-managed forests, VA DEQ should assess biomass feedstocks using carbon-based standards and assessment tools, not sustainable forestry certification systems.