

**Center for Biological Diversity • Chesapeake Climate Action Network  
Clean Air Task Force • Clearwater Biodiversity Project • Dogwood Alliance  
Earth Day Network • Environment America  
Environmental Working Group • Friends of the Clearwater  
Friends of the Earth • Greenpeace • Natural Resources Defense Council  
Partnership for Policy Integrity • Sierra Club**

October 31, 2013

Re: End Federal Tax Subsidies for Dirty Biomass Energy

Dear Senator:

For many years, federal and state policies have promoted biomass energy—in particular, burning trees and other woody materials from the nation’s forests in power plants—as a “clean” and “renewable” source of energy. These policies, ranging from regulatory exemptions to tax credits and subsidies, have facilitated a boom in bioenergy development in many parts of the country.

Over that same period, however, numerous scientific studies have shown that low-efficiency wood-fired power plants are neither “clean” nor “carbon neutral” within a timeframe relevant to addressing climate change. Accordingly, we ask that you either remove biomass from the Production Tax Credit or at least restrict it to the most efficient forms with the lowest net carbon dioxide (CO<sub>2</sub>) emissions. At the smoke stack, biomass-fueled power plants emit far more CO<sub>2</sub> per megawatt-hour of electricity generated than fossil fueled plants,<sup>1</sup> and current science shows that burning biomass for energy can increase atmospheric CO<sub>2</sub> concentrations for many decades, even if it displaces fossil fuels.

Whether fossil or biogenic in origin, once CO<sub>2</sub> is in the atmosphere, it contributes to climate disruption equally. To reflect this reality, federal policy must no longer give generous incentives to this entire industry categorically. Instead, lawmakers and regulators must meet the challenge of credibly accounting for biomass CO<sub>2</sub> emissions in both regulatory and incentive programs.

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<sup>1</sup> Typical CO<sub>2</sub> emission rates for facilities:

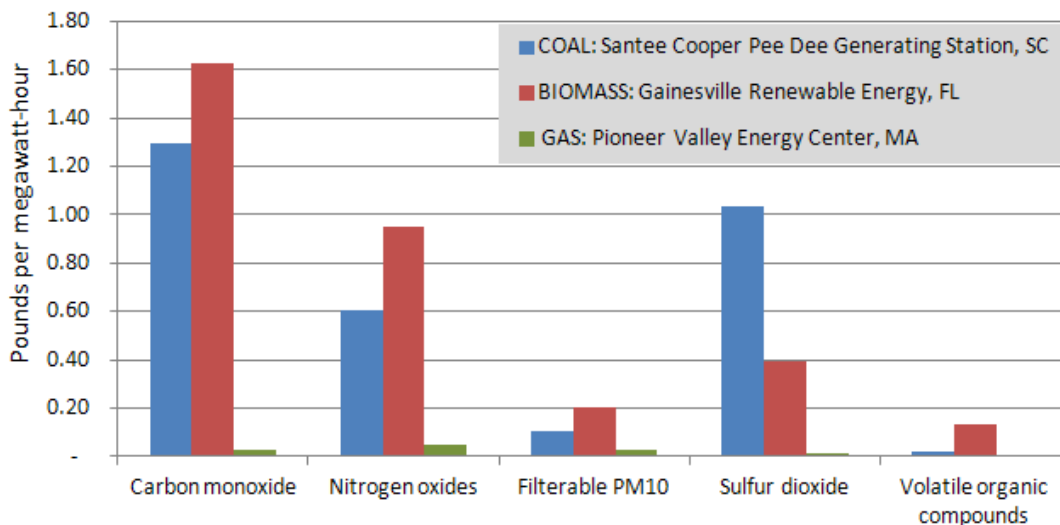
Gas combined cycle	883 lb CO <sub>2</sub> /MWh
Gas steam turbine	1,218 lb CO <sub>2</sub> /MWh
Coal steam turbine	2,086 lb/CO <sub>2</sub> /MWh
Biomass steam turbine	3,029 lb CO <sub>2</sub> /MWh

Sources: EIA, Electric Power Annual, 2009: Carbon Dioxide Uncontrolled Emission Factors. Efficiency values used to calculate emissions from fossil fuel facilities calculated using EIA heat rate data. (<http://www.eia.gov/cneaf/electricity/epa/epat5p4.html>); biopower efficiency value is 24%, a standard industry value.

Intensive forest harvesting for bioenergy represents a significant new demand that both threatens forest resources and competes with the existing wood-products industry. According to industry data, operating biomass energy facilities currently consume about 48 million tons of wood per year.<sup>2</sup> Facilities currently permitted and planned will consume another 43 million tons of fuel per year by 2020. At least 78 percent of this demand will be sourced from forests,<sup>3</sup> an amount of wood equivalent to that yielded by clearcutting 421,000 acres of U.S. forests per year.<sup>4</sup> These totals do not include manufacturing of wood pellets, primarily for export to markets in Europe, which is projected to require another 44 million tons of wood annually by 2020.<sup>5</sup>

Emissions from the existing and emerging bioenergy industry are significant. Burning one ton of green wood emits almost exactly one ton of CO<sub>2</sub>, thus the tens of millions of tons of wood used as fuel represent a substantial transfer of forest carbon into the atmosphere each year. Biomass-fueled power plants also emit conventional air pollutants that harm public health, including particulate matter and nitrogen oxides, at levels comparable to fossil fuels.

**Figure 1. Allowable pollutant emission rates (in pounds per megawatt-hour of electricity generated) from three recently issued air permits.**



<sup>2</sup> Data on current wood burned by biopower industry is from 2011 Final EIA-923 Monthly Time Series File.

<sup>3</sup> Data on total wood and forest wood demand for operating, under construction, and proposed biomass energy plants from 2012 to 2016 is from Forisk Wood Bioenergy US database for July, 2013. Total includes wood demand from thermal-only facilities.

<sup>4</sup> Average standing biomass for working forests of the United States is assumed to be 79.7 tons per acre. Value is derived from county-level forest biomass data provided by the Woods Hole Research Center National Biomass and Carbon Dataset.

<sup>5</sup> Data on total wood and forest wood demand by operating, under construction, and proposed pellet plants through 2016 is from Forisk Wood Bioenergy US database for July, 2013.

As shown in Figure 1, even after application of the best available control technology (BACT), permitted emissions from a typical biomass facility are higher than those from the coal or gas-burning facilities for all pollutants except sulfur dioxide.<sup>6</sup>

Given the current exponential growth of the bioenergy industry and its environmental consequences, it is time to reexamine federal support for biomass energy. The production tax credit (PTC) for biomass alone will remove more than \$2 billion from the Treasury through 2020 if current trends continue.<sup>7</sup> The operator of a 50 MW biomass power plant is eligible for up to \$4.5 million per year in taxpayer support through the PTC, along with millions more in other state and federal renewable energy subsidies that are direct cash payments—regardless of whether the plant’s emissions worsen climate change rather than help address it. In an era of extreme fiscal constraint—and facing a climate crisis that demands immediate and effective greenhouse gas emissions reductions—we cannot afford to be spending scarce public dollars on “alternatives” that exacerbate the problem.

The undersigned organizations request that Congress either eliminate or significantly restrict the PTC for biomass energy. At minimum, before receiving any credit, biomass generators should be required to demonstrate (a) net greenhouse gas reductions by 2020, using a baseline that reflects what otherwise would have happened to the materials used as fuel over that same time period; and (b) achievement of at least 60% efficiency in converting biomass to useful energy (e.g., through combined heat and power applications). We also ask that other biomass subsidy programs, including those administered by the Departments of Energy and Agriculture, be eliminated or carefully reviewed and revised to ensure compliance with similar standards. The science is clear: the utility-scale expansion of burning wood for energy threatens our forests, our climate, and the health of our communities. Decisions about how to spend scarce public dollars should prioritize truly clean alternatives.

Sincerely,

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<sup>6</sup> South Carolina Bureau of Air Quality. December 16, 2008. PSD, NSPS (40CFR60), NESHAP (40CFR63) Construction Permit for Santee Cooper Pee Dee Generating Station (1,320 MW, coal). Florida Department of Environmental Protection. December 28, 2010. Final air construction permit for Gainesville Renewable Energy Center (100 MW, biomass). Massachusetts Department of Environmental Protection. June, 2010. Conditional permit to construct issued to Pioneer Valley Energy Center (431 MW, gas).

<sup>7</sup> Data on new wood-fired biomass power generation brought online from 2004 to 2016 from the Energy Information Administration and Forisk Consulting, with PTC obligations calculated through 2020. While not all facilities that are currently proposed will be built, we did not include PTC obligations for any facilities built after 2016, although several are proposed that would become operational after that date. Facilities are assumed to operate 80% of the time and to get the PTC for ten years.