Subject line: Docket ID No. EPA-HQ-OAR-2011-0083

NWF comments on EPA Proposed Rule to Defer Regulation of Biogenic Emissions

Submitted via email to: GHGbiogenic@epa.gov

May 5, 2011

Dear Administrator Jackson:

On behalf of National Wildlife Federation, we are writing to offer comments on the Docket ID No. EPA-HQ-OAR-2011-083 concerning the deferral of regulations for greenhouse gas emissions (GHG) from biomass. The National Wildlife Federation strongly supports EPA's authority to enforce Clean Air Act standards to reduce pollution that harms human health and the environment. The Clean Air Act is a proven and effective tool that has saved tens of thousands of American lives each year by reducing harmful pollutants that cause or contribute to asthma, heart disease and many other potentially lethal respiratory ailments. Just like coal and other fossil fuels, when biomass from trees and other biogenic sources is burned it releases carbon dioxide and other pollutants with an immediate impact on air quality. However, unlike fossil fuel sources the combustion of biogenic carbon is simply a transfer from one carbon pool (terrestrial) to another (atmosphere.) Depending on different harvesting scenarios and biomass technologies, additions to the atmosphere from biogenic combustion can be made up or "paid back" in a matter of decades or over very long time scales that exacerbate their global warming impact.

While we empathize with the complexities of regulating the many different potential types of biomass combustion-- both feedstock and technology types—we are very concerned by the policy and legal implications of this proposed deferral rule. This not only sets a bad precedent for Clean Air Act compliance, but it also fails to acknowledge the important differences in biomass energy applications that may or may not achieve net GHG reductions. To proceed with this deferral means that there will be no federal limits on biomass burning in the foreseeable future. Such an exemption could well create perverse incentives such as a significant level of fuel switching at existing coal facilities that lead to only marginal gains in air quality where more significant reductions are needed. It also puts states in the difficult position of developing their own methodologies that could lead to an uneven patchwork of regulatory approaches.

Therefore, while we are discouraged by the scope and proposed duration of this rule, we encourage EPA to focus on the following key issues in the near term:

- The EPA should identify likely major types and combinations of biomass feedstocks and combustion technologies that will likely create net greenhouse gas emissions. This will define the circumstances under which carbon neutrality can be achieved and circumstances where it runs a high risk of creating new net GHG emissions. In general based on our own work and experience, we believe that "high risk" translates into biomass systems that typically have little

control over or knowledge of their feedstock sources, those which rely on low efficiency combustion technologies, those that rely on whole tree harvest in areas where re-growth takes significant time, and those that come from feedstocks grown on land where land use change has resulted in significant emissions. In general "low risk" in our view means secure feedstocks from verified sustainable sources with a carbon payback period in the range of 20 years, that are combined with highly efficient combustion systems, or where the use of such feedstocks avoids almost certain new GHG emissions (e.g. landfill wood waste).

- Having gone through a characterization step, we encourage EPA to then focus first on developing regulations for feedstocks and technologies that are "high risk", and which have inherent and substantial challenges to achieving "carbon neutrality" within a reasonable timeframe. This should be accomplished as soon as possible, and certainly sooner than three years. A key policy consideration is what a reasonable timeframe should be since the timing of emissions and sequestration is at the heart of this debate. Most climate models for terrestrial sequestration look at a benchmark of +/- 100 years in terms of atmospheric decay of biogenic emissions and replacement from re-growth. However, for both practical and environmental reasons we need models that operate on a shorter timeframe, where climate benefits are realized sooner and where carbon replacement from sequestration can be verified. It is reasonable to worry about whether adequate sequestration from re-growth will occur for periods of even 20 years due to the uncertainties around land use change and the various stressors on the health of forest resources. Therefore, more emphasis must be placed on the front end sustainability of sources and the role of dedicated feedstocks. Then, EPA could move forward rules for the lower risk sources that pose less of a chance of producing significant emissions in the short term.

- The EPA should examine assumptions about forest sustainability since they are integral to achieving net GHG reductions at " the stack" compliance level. The ability of biomass energy to achieve carbon neutrality will strongly rely on feedstock sources and how they respond to two widely held (but potentially misleading) assumptions: 1) that new carbon sequestration from "replacement" forest growth will necessarily always occur and not be double counted against other emission sources, and, 2) that the avoidance of assumed emissions from wood residue decay is valid across different types of feedstocks. In the interim guidance to states, EPA has acknowledged the importance of this rationale, "… *Within the context of the PSD program, a potential justification that biogenic CO2 emissions can be accounted for differently than non-biogenic CO2 emissions at the facility* ***relies on the argument*** *that sequestration occurs*"[1] (emphasis added). Recent studies in areas of the country with a high interest in biomass development, namely the northeast and southeast, point to significant likely constraints on the availability of biomass feedstocks at the landscape level. [2] This and other research indicates that substantial increases in biomass demand will lead to much higher intensity of harvests that

[1] ***Guidance for Determining Best Available Control Technology For Reducing Carbon Dioxide Emissions from Bioenergy Production,*** USA EPA, March 2011, (p. 20).

[2] ***Forest Biomass and Bioenergy: Opportunities and Constraints in the Northeastern United States*** at www.caryinstitute.org/report_biomass_2011.pdf, or, Abt, R.C, et al. 2010**.** ***The Near-Term Market and Greenhouse Gas Implications of Forest Biomass Utilization in the Southeastern United States***. Duke University, Durham, NC.

in turn will strain the sustainability of forest resources. [3] Similarly, an assumption of emissions from forest decay in the absence of biomass removals is also misplaced since a significant percentage of "waste wood" or "wood residues" is absorbed as soil carbon (not to mention its importance in nutrient cycling and wildlife habitat). In fire dependent forest systems, much of the wood residue component can be bound up for hundreds of years in the form of biochar.

- EPA interim guidance to states. Per the discussion above, we agree with EPA's finding in the proposed rule that "…*a permitting authority* ***might determine that certain types*** *of biomass by themselves are BACT for GHG emissions considering the environmental, energy and economic benefits of using the fuel*…" (Fed Register, p. 15264) but that does not mean that any type of biomass should a priori be exempt. Similarly we agree with the need for states to implement a deliberative BACT process that, "…*calls for all available control technologies for a given pollutant to be identified and ranked in descending order of control effectiveness.*"[4] However, both of these determinations are a tall order for many states and we are concerned that EPA's supplemental guidance to states provides an inadequate basis for states to proceed at this time. In fact we are worried that this guidance will create confusion and deter states from considering these issues, a problem which EPA appears to understand even while it promotes facility specific BACT determinations by states in the interim. For example, the guidance notes that, "… *a case-by-case analysis of the net atmospheric impact of biomass fuels would likely be prohibitively time-consuming and complex for facilities and permitting authorities*….", and, "…*attempting to determine the net carbon cycle impact of particular facilities combusting particular types of biomass feedstocks would require extensive analysis and would therefore entail extensive workload requirements*."[5] In addition to this technical burden shifting to states, we are especially concerned by language in the guidance that suggests a separate kind of economic balancing test can be applied to regulating GHG emissions from bioenergy because of favorable renewable energy policies. While we understand that permitting may occur in the context of such policies, many of which NWF support, the broad nature of this guidance creates a slippery slope for energy developers and regulatory agencies to side-step appropriate CAA review.[6]

- The role of Life Cycle Analysis (LCA). The five step BACT analysis can be applied to consider CO2 emissions and to promote optimum control technologies. EPA has appropriately acknowledged that different feedstocks and technologies have a different carbon footprint and EPA has relied on life cycle analysis for a range of other fuel types, especially biofuels in the transportation

[3] According to the U.S. Energy Information Administration ***2011 Annual Energy Outlook***, biomass generation is on the brink of rapid and sustained growth. EIA forecasts that generation from biomass more than triples from 2009 to 2035, when it accounts for 39 percent of total non-hydroelectric renewable electricity generation. http://www.eia.gov/

[4] ***Guidance for Determining Best Available Control Technology For Reducing Carbon Dioxide Emissions from Bioenergy Production,*** USA EPA, March 2011, p. 11

[5] Ibid. p. 23

[6] Ibid, "…*Likewise, where the record shows that requiring a particular control option as BACT would counteract, or work at cross purposes from, policies that are intended to promote renewable energy and biomass, this may form part of the justification for eliminating an option from further consideration at Step 4 of the BACT analysis*." p. 25

sector. [7] We believe that a similar type analysis can and should be applied for various forms of biomass, and that the use of baseline LCA's (e.g. revisited and updated every five years) for major fuel and technology choices could drive the use of biomass that provides actual carbon benefits rather than hoped-for or assumed carbon benefits. NWF hopes to contribute to the understanding of LCA emission profiles for different combinations of biomass feedstocks based on research that we have commissioned that is currently underway and focused on the U.S. southeast region. We hope to have preliminary results by this summer and will certainly share them with EPA at the earliest opportunity.

In conclusion, when done right, the use of biomass to create energy can help to move us away from fossil fuels and have a beneficial carbon impact. But there is ample potential to get it wrong and a three year deferral without the sort of interventions and early action that NWF has suggested above could lock in assumptions and technology choices that prove to be unsupportable and ultimately contribute more GHG emissions and overall air pollution. Biomass can be harvested and utilized in ways that reduce pollution and protect forest habitats, but only with sustainability safeguards and proper accounting for carbon emissions. NWF would like to see the EPA move forward on sorting out a proper role for biomass that is ultimately Clean Air Act compliant and which serves to reduce and avoid new greenhouse gas emissions.

Sincerely,

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[7] "***PSD and Title V Permitting Guidance for Greenhouse Gases***." Prepared by EPA staff. November 2010. http://www.epa.gov/nsr/ghgdocs/epa-hq-oar-2010-0841-0001.pdf