June 19, 2014

Sent via First Class Mail and E-mail

Mr. Joe Goffman
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Dear Mr. Goffmam:

We, the undersigned scientists, believe regulations governing how stationary sources account for biogenic carbon emissions must be based on sound science and ensure adequate protections for forests and the climate. We applaud the EPA for setting a high standard in making policy on this important issue by seeking expert scientific input from the Science Advisory Board (SAB). We now urge the agency to follow through on that process and embrace the central scientific principles underscored by the SAB as you finalize these accounting rules. Doing otherwise at this juncture will fail the test of rigorous, science-based policymaking and could result in regulations that distort the marketplace towards greater use of unsustainable sources of biomass, with significant risks to our climate, forests and the valuable ecosystem services they provide and we rely on.

In 2011, EPA initiated a science-driven process to develop a methodology for properly quantifying biogenic carbon emissions from stationary sources under the Clean Air Act. As part of this process, the agency rightly solicited scientific input by submitting a draft "Accounting Framework for Biogenic CO_2 Emissions from Stationary Sources" to the SAB for review by an assembled Biogenic Carbon Emissions Panel. As EPA now finalizes its biogenic carbon accounting rules, it must follow through on that process and adopt the science panel's key recommendations: 1) moving beyond the flawed assumption that bioenergy is inherently carbon neutral; 2) rejecting the regional accounting method originally proposed in the draft Accounting Framework; and 3) ensuring a scientifically sound methodology for determining the carbon emissions impact to the atmosphere from burning long-recovery woody biomass feedstocks—most notably, whole trees.

First, the carbon dioxide (CO_2) emitted by biomass-fired stationary sources has often been ignored in regulatory contexts, usually on the assumption that biomass regrowth would quickly reabsorb the CO_2 emitted by the facilities. As the EPA has itself determined, that assumption is misguided. The SAB issued a clear rejection of an a priori assumption of carbon neutrality as it applies to bioenergy. This includes repeated reference in the panel's report to the considerable heterogeneity in biomass feedstock types, sources, and bioenergy production methods and thus net biogenic carbon emissions impacts, and insistence on the need to define carbon outcomes based on "what the atmosphere sees" (see endnote).[i]

The SAB's findings are both informed by and echo recent advances in science and accounting for CO_2 emissions from different woody biomass types, which have clarified that burning trees to produce electricity increases carbon emissions and contributes to other air pollution problems.[ii] While there is some variability in results due to differences in climate and forest type, as well as biomass plant conversion efficiency and the carbon density of displaced fossil fuels, studies conducted in different regions of the U.S. have found that burning whole trees in conventional, standalone power plants increases carbon emissions relative to fossil fuels for 35 to 100 years or more. These studies are part of a

growing body of science on the lifecycle impacts of biomass that points to the need to distinguish amongst types of biomass.[iii]

Second, U.S. forests currently serve as a net carbon sink, offsetting a significant amount of U.S. carbon emissions. This is often cited as justification for claims about carbon benefits associated with burning wood pellets made from U.S. forests. However, taking credit for forest growth and carbon sequestration that would be happening anyway would represent a major carbon accounting error since diminishing a carbon sink is the same as increasing carbon emissions from the perspective of the atmosphere. Consequently, a power plant that burns trees cannot be given credit for forest growth and carbon sequestration that would be happening anyway. Only when bioenergy results in additional carbon being sequestered above and beyond the anticipated baseline (the "business as usual" trajectory) can there be a justification for concluding that such energy use results in little or no increase in carbon emissions.

The SAB issued a strong critique of EPA's proposal in its Draft Framework to set baselines based upon land-based carbon stocks at the regional level. The panel concluded that this approach is scientifically unjustified and fails to capture the causal connection between woody biomass harvesting and atmospheric impacts.[1] Further, the SAB concluded that such an approach is likely to create perverse incentives for investors and land-owners and result in unintended consequences—and, conversely, discourage the use of biomass that compares favorably to fossil fuels in terms of GHG emissions.[2]

Finally, for long recovery woody biomass feedstocks such as roundwood, the SAB underscored the need to model a "business as usual" scenario projected into the future ("anticipated future" baseline) as the sole means by which to give credit for only additional carbon sequestration.[3] As the SAB's final report states, "although any 'business as usual' projection would be uncertain, it is the only means by which to gauge the incremental impact of woody biomass harvesting."[iv] In other words, it is the lone way to ensure that only carbon reductions above and beyond what would have happened anyway are credited against smokestack emissions under EPA's biogenic carbon accounting framework.

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[1] *"The use of unspecified "regions" as fuelsheds in combination with a reference year baseline is a central weakness of the Framework with respect to forest-derived feedstocks…[This approach] decouples the BAF from a particular facility's biogenic emissions and the sequestration (offset) associated with its particular feedstock. Emissions from a stationary facility would be included or excluded from greenhouse gas regulation depending on a host of factors in the region far beyond the facility's control…As a result, the Framework fails to capture the causal connection between forest biomass growth and harvesting and atmospheric impacts and thus may incorrectly assess net CO2 emissions of a facility's use of a biogenic feedstock (SAB 9-28-12, pgs. 2, 5-6)."*

[2] *"The proposed Framework is likely to create perverse incentives for investors and land-owners and result in unintended consequences …The designation of regions … that comes from the reference year approach will create economic rents and therefore financial stakes in the determination of regions and management of forests in those regions (SAB 9-28-12, pg.36)."*

[3] [For forest-derived woody biomass]… *the Framework would need to model a "business as usual" scenario along some time scale and compare that carbon trajectory with a scenario of increased demand for biomass…An anticipated baseline requires selecting a time period and determining what would have happened anyway without the harvesting and comparing that impact with the carbon trajectory associated with harvesting of biomass for bioenergy. Although any "business as usual" projection would be uncertain, it is the only means by which to gauge the incremental impact of woody biomass harvesting (SAB 9-28-12, pg.5)."*

We share the SAB's very serious reservations about the accounting methodology that the EPA proposed in its Draft Framework. Instead of allowing polluting facilities to 'free ride' on existing forest growth in their regions, we urge EPA to follow the science by putting in place a system that links emitter behavior directly to what's happening on the landscape and rigorously assesses the incremental carbon emissions impacts of bioenergy production. We believe this is the only way to create the necessary market incentives to encourage bioenergy facilities to source low-carbon biomass resources, efficiently burn or otherwise convert them to electricity, and to use the electricity and heat in the applications that most effectively reduce net GHG emissions.

Thank you for your consideration of this request, and please do not hesitate to contact us if you would like more information and/or to discuss these issues further.

Sincerely,

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[i] *SAB Review of EPA's Accounting Framework for Biogenic CO2 Emissions from Stationary Sources (September 2011), September 28, 2012; pg. 27.*

[ii] *Thomas Walker et al., Biomass Sustainability and Carbon Policy Study, Manomet Center for Conservation Sciences, June 2010; Joshua Clark et al., Impacts of Thinning on Carbon Stores in the PNW: A Plot Level Analysis, Oregon State University, May, 2011; Stephen R. Mitchell et al., Carbon Debt and Carbon Sequestration Parity in Forest Bioenergy Production, Duke University and Oregon State University, May 2012; Hudiburg, T., B.E. Law, C. Wirth, S. Luyssaert. 2011. Regional CO_2 implications of forest bioenergy production. Nature Climate Change 1:419-423. DOI: 10.1038/NCLIMATE1264; Hudiburg, T.W., S. Luyssaert, P.E. Thornton, B.E. Law. 2013. Interactive effects of environmental change and management strategies on regional forest carbon emissions. Environmental Science & Technology 47(22):13132-40. Doi: 10.1021/es402903u.*

[iii] *See endnote ii above and: Biomass Supply and Carbon Accounting for Southeastern Forests, February 2012 at http://www.biomasscenter.org/images/stories/SE_Carbon_Study_FINAL_2-6-12.pdf ;Buchholz, Thomas et. al.; A global meta-analysis of forest bioenergy greenhouse gas emissions accounting studies (1991-2013), presented at The Transatlantic Trade in Wood for Energy: A Dialogue on Sustainability Standards and Greenhouse Gas Emissions, Savannah, Georgia; October 23-24.*

[iv] *SAB Review of EPA's Accounting Framework for Biogenic CO2 Emissions from Stationary Sources (September 2011), September 28, 2012; pg. 5.*