



Comments of the Partnership for Policy Integrity to U.S. Environmental Protection Agency Science Advisory Board (SAB) Biogenic Carbon Emissions Panel Regarding EPA's Framework for Assessing Biogenic CO₂ Emissions from Stationary Sources (November 2014)

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On behalf of the Partnership for Policy Integrity, I am pleased to make these comments to the Science Advisory Board.

We believe that this Framework falls short for several reasons. First, this Framework treats the “reference point” approach, which was previously unequivocally dismissed by the Science Advisory Board, as if it has utility. We agree with the Science Advisory Board’s previous comments that the EPA should use only the “future anticipated baseline” or “counterfactual” approach, in which net emissions are assessed by comparing emissions from burning biomass as fuel with emissions from alternate fates for the material, such as if forests are left unharvested, or are harvested for other products.

It is concerning that the Framework contains a number of sections that reveal a persistent misunderstanding of how carbon modeling works. For instance, at page 40 in the framework, in a discussion of the effects of spatial scale on carbon balance, it states,

“consider a timber fuelshed with multiple, multi-aged stands: at any given point in time, some stands are harvested while others are growing. At the fuelshed scale, a carbon balance over the full suite of stands may be achieved in the short term if harvests account for less carbon than the increase of carbon in fuelshed feedstock biomass.”

In effect, however, for this scenario to *not* result in increased emissions of carbon to the atmosphere, trees in the areas untouched by biomass harvesting must somehow “know” to increase their rate of carbon sequestration relative to what all of the trees, including those harvested, were sequestering before. It’s almost as if the remaining trees say to the trees being removed: “dudes, we got your back” – or maybe “we got your bark.”

As the initial report from the Science Advisory Board states, EPA is not charged with regulating regional or national forest carbon stocks – instead, the agency must regulate stationary facilities, and simply assessing whether land carbon stocks are rising is inadequate to this task. However, the modeling that EPA conducted, using the Forest and Agricultural Sector Optimization Model, or “FASOM”, assesses impacts of bioenergy on regional carbon stocks, instead of at the facility scale.

The model also appears to have several assumptions “baked in” that likely lead to severe underestimation of actual emissions impacts from bioenergy. For instance, the model includes a massive regional anticipatory planting effect, essentially assuming that landowners will engage in large amounts of forest planting years ahead of emergence of a bioenergy market. It also appears to assume that all biomass burned in the future will be co-fired at coal plants, so the model subtracts out “avoided” coal emissions when calculating bioenergy emissions. Nor did the model runs in support of the Framework account for leakage, the increase in forest harvesting for non-bioenergy purposes such as

pulpwood and sawtimber that would occur on other lands because wood that was previously used for pulpwood or sawtimber is now being burned in power plants. If leakage effects had been taken into account, this would greatly increase modeled emissions.

Despite all these factors causing FASOM to underestimate actual net carbon emissions from bioenergy, it is important to note that the model still finds that deploying bioenergy significantly increases emissions over a zero-bioenergy scenario, with the greatest increases in atmospheric carbon occurring in the years when EPA is requiring states to show *decreases* in emissions under the Clean Power Plan.

As the panel considers how best to assess net biogenic emissions, you will be confronted with great complexity. But modeling need not be complex, and there are three simple rules that can help reduce the clutter.

First, remember that stack CO₂ emissions from a wood-burning power plant are about 3,000 pounds per megawatt-hour, far greater than emissions from most fossil-fueled facilities. These molecules of CO₂ warm the atmosphere and acidify the oceans just as effectively as CO₂ emitted from burning fossil fuels.

Second, for any approach that claims bioenergy emissions are offset, ask, “What does the atmosphere see?” This simple phrase is the antidote to much complexity.

Third, remember CO₂ is a regulated pollutant. Thus, for any modeling approach, ask, “Are emissions offsets demonstrable and enforceable?” If they’re not, then the approach is unlikely to be legal under the Clean Air Act.

The assistance of the advisory panel in helping EPA produce a science-based and defensible system for biogenic carbon accounting is more important by the day, not only for the United States, but for setting an example internationally. We understand how much work this is, and we thank the panel for your efforts. We have included more detailed analysis and suggestions for what a credible modeling framework should include in our written comments. Thank you for the opportunity to speak.