EPA Scientific Advisory Board Biogenic Carbon Emissions Panel
c/o Dr. Angela Nugent
Designated Federal Officer (DFO)
SAB Staff Office
via email at nugent.angela@epa.gov

Re: Comments on *7-26-12 DELIBERATIVE DRAFT Report of the EPA Biogenic Carbon Emissions Panel*

August 24, 2012

Dear EPA Scientific Advisory Board Biogenic Carbon Emissions Panel:

Thank you for the opportunity to comment on the Deliberative Draft Report of the Biogenic Carbon Emissions Panel, dated July 26, 2012.

We commend the panel for continuing to emphasize key points made in previous drafts. We focus here on suggesting improvements to several new passages. We encourage the Panel to elaborate further on trade-offs related to emissions timing, to simplify the modeling suggested for roundwood accounting, and to improve the proposed certification alternative.

The current draft retains and emphasizes several positive elements included in previous drafts:

The July 26, 2012 Draft Report retains clear statements that:

- not all biogenic energy sources can be assumed "carbon neutral" (p. 5);
- net emissions must be assessed by comparing the biomass-use scenario with an anticipated baseline scenario without biomass use (p. 5);
- accounting for emissions from combusting agricultural and forest residues and organic wastes should be based on the alternative fates of those materials (p. 6-7);
- accounting for roundwood from live trees requires explicit consideration of the time-path of carbon recovery in source forests (p. 29);
- the time path of emissions and reabsorption matters and climate policy must address trade-offs between short-term and long-term reductions (pp. 8, 15-16);
- certification systems would face most of the same challenges as the use of facility-specific or default BAF factors, with less overall program consistency (p. 11).

Selected elements of the current draft would benefit from further clarification:

Time scale

The Executive summary (p. 8), and language on pp. 29-30[1], remain misleading, as the wording implies that atmospheric changes in GHG concentration with duration less than 100 years have *no* effect on the climate. The studies cited do in fact indicate that *peak warming* is relatively insensitive to the timing of emissions within a 100 year time frame, but they draw no conclusions about other climate metrics. The wording in the body of the text on p. 16 is preferable as it explicitly limits conclusions to effects on peak warming.

The report should be more explicit about important climate metrics other than peak warming. Aside from peak warming, the *rate* of warming and the *date* at which *critical thresholds* are crossed may be very sensitive to the time path of emissions. A rapid large-scale switch to biogenic sources, with their higher initial GHG emissions compared to non-fossil renewable energy sources or even fossil alternatives like natural gas, could accelerate warming and trigger more rapid ocean acidification, permafrost melting, or other critical changes that impose significant social and environmental costs. Even if subsequent biological sequestration in fact eventually “cancels out” those early effects in terms of the ultimate peak temperature, rapid near-term changes may exceed cultural and biological adaptive capacity. Given two emissions scenarios with identical peak temperatures, presumably the one that delays costly changes would be preferred.

Feedstocks

On p. 24, the SAB notes that different carbon accounting factors for residues and roundwood would create incentives to classify as much material as possible as residues. This is an important point, as chips from residues and roundwood are often mixed. Massachusetts’ recent Renewable Portfolio Standard revisions propose to address this issue by having foresters and logging contractors attest to quantities of each feedstock type using a Biomass Tonnage Report and Biomass Fuel Certificate, with spot checking by regulators (http://www.mass.gov/eea/energy-utilities-clean-tech/renewable-energy/biomass/renewable-portfolio-standard-biomass-policy.html). EPA may learn from the Massachusetts experience as the state begins to implement its new regulations. As residues have a relatively higher proportion of bark, and bark characteristics differ for branches and bole wood, it may be possible to verify self-reported feedstock quantities based on proportion and characteristics of bark content.

Incentivizing residues over roundwood could also lead to insufficient retention of dead wood after logging operations. EPA should encourage states to incorporate dead wood retention guidelines in best management practices and forest practices regulations to protect long-term forest health. Model guidelines, based on work to-date by the Forest Guild (http://www.forestguild.org/publications/research/2010/FG_Biomass_Guidelines_NE.pdf and http://www.forestguild.org/publications/research/2012/FG_Biomass_Guidelines_SE.pdf), might be offered as a supplement to EPA’s final regulation.

[1] “In long run scenarios (100 years or more) in which total emissions were fixed, climate response is relatively insensitive to the emissions pathway” and “So long as rates of growth across the landscape are sufficient to compensate for carbon losses from harvesting over the long run, the climate system is less sensitive to the imbalance in the carbon cycle that might occur in the short run from harvesting of biomass for bioenergy facilities.”

Leakage

The SAB appears conflicted on the subject of leakage, at times asserting that the accounting method must fully incorporate this factor (see p. 7), at other times suggesting omitting it in order to treat biogenic fuels and fossil fuels equally and because holding emitters responsible for factors beyond their control is neither fair nor efficient (see p. 25). Negative ("good") leakage - in the form of increased planting of long-rotation forest crops or slowing rates of forestland conversion - is particularly speculative as biomass energy values typically pale in comparison with returns from other land uses. Text on p. 36 also implies that forest intensification or retention in response to *non-energy* wood prices should be included when estimating negative ("good") leakage, but clearly any accounting for negative leakage effects should be limited to the wood *energy* demand response and should exclude any response to demand for other wood products.

In the case of public subsidies designed to increase social welfare (e.g. a Renewable Fuel Standard), it is clearly important to include leakage effects to ensure that program benefits exceed costs. In the regulatory context, however, it seems an open question whether indirect leakage effects should be either credited or debited to a regulated entity which has no direct control over the activities that give rise to them. Leakage and other indirect effects are not incorporated in fossil fuel emissions regulations, so their inclusion for biogenic emissions should be limited to their impact on factors used to estimate offsetting "anyway" emissions or additional sequestration. The suggestion by SAB on p. 26 to minimize positive ("bad") leakage through supplemental policies may prove a practical alternative, should measurement challenges prove intractable.

The extended discussion on pp. 36-38 suggests that anticipated baseline and biomass scenarios must use complex bio-economic models at regional to global scales. Although such models may be useful for estimating leakage, if leakage is addressed through other means then generic BAF factors could be based on much simpler models that predict the effects of new bio-energy demand on harvest practices and forest growth responses, using parameters appropriate to each facility's woodshed.

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Thank you for the opportunity to comment on the SAB process and for supporting in-depth discussion and review of these important issues.

Sincerely,

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