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Dr. Holly Stallworth
EPA Designated Federal Officer
EPA SAB Panel - Carbon Dioxide Accounting for Emissions from Biogenic Sources
Sent via email: Stallworth.Holly@epa.gov

Dear Dr. Stallworth,

NCASI is a non-profit environmental research organization funded primarily by the North American forest products industry. We are writing to provide comments to the Biogenic Carbon Emissions Panel of the EPA Science Advisory Board for its meeting on October 12, 2016 to discuss issues identified during the SAB's review of the Panel's draft final report on an accounting framework for biogenic carbon dioxide emissions. Our comments are contained in this letter. We are also requesting an opportunity for Dr. Stephen Prisley to make a 3-minute oral presentation via telephone to the SAB on October 12.

Our comments focus on the Panel's work in three areas of particular concern to the SAB, as evidenced by SAB comments on the draft Panel report:

1. temporal scales;
2. modeling approaches; and
3. baselines.

1. Temporal Scales for Assessing the Impacts of Forest Carbon Policies

Although the selection of a temporal scale has important policy dimensions, policy makers need to be fully aware of the science-based implications of selecting different temporal scales for designing policies and regulations on CO₂ emissions. In particular, policy makers need to understand the risks of policies that reduce emissions of CO₂ in the near term while ignoring or, worse, increasing cumulative long-term emissions. It is widely agreed that, due to the lifetime of CO₂ in the atmosphere and the warming response of the atmosphere to CO₂, peak global temperatures are expected to be driven by cumulative emissions of CO₂. IPCC's Fifth Assessment Report specifically concludes that;

taking into account the available information from multiple lines of evidence (observations, models and process understanding), the near linear relationship between cumulative CO₂ emissions and peak global mean temperature is well established in the literature and robust for cumulative total CO₂ emissions up to about 2000 PgC [petagrams of carbon]. It is consistent with the relationship inferred from past cumulative CO₂ emissions and observed warming, is supported by process understanding of the

carbon cycle and global energy balance, and emerges as a robust result from the entire hierarchy of models (IPCC 2013, p. 102)

To the extent that there are climatic tipping points, policies that reduce CO₂ emissions in the near-term but fail to reduce long-term cumulative emissions of CO₂ may delay, but will not prevent, crossing these points. This is not true of all GHG emissions. Near-term emissions of methane, for instance, are far more important to near-term climate response than to ultimate peak global temperatures. When it comes to CO₂, however, the science is clear that policies need to consider the warming impacts of long-term cumulative emissions.

This science-based finding is especially relevant to policies on forest carbon. Due to the timing of biophysical processes, market responses and warming impacts, forest carbon policies designed to accomplish short- to intermediate-term reductions in CO₂ emissions can sometimes result in long-term increases in atmospheric CO₂ and, according to IPCC's assessment, higher peak global temperatures. It is critical, therefore, to account for both the near-term and long-term implications of forest carbon policies. A failure to consider long-term implications can result in forest carbon policies that ultimately result in more CO₂ in the atmosphere rather than less and higher peak global temperatures.

Regarding these science-based phenomena, the Panel's draft final report correctly noted that with regard to CO₂ emissions "it is cumulative emissions over roughly a 100-year period that lead to a climate response" and "different scenarios of emissions pathways over the next several decades that have equivalent cumulative emissions over the next 100 years are likely to lead to remarkably little difference in global temperature response." These are not policy statements. They are statements of science.

The Panel's draft final report went on to explain that "reducing cumulative emissions will reduce the likelihood of crossing tipping points or thresholds in the climate system in the future, while reducing emissions in the short run through temporary storage in forest sinks may at best delay tipping points by a few years but not reduce their likelihood in the longer term." Again, this is a statement of science, not policy.

We urge the Panel to retain these important science-based findings in its report to the SAB as they are critical to developing policies that achieve climate change objectives.

2. Modeling Approaches for Assessing the Future Impacts of Forest Carbon Policies

The Panel investigated several modeling approaches for applying anticipated future baselines and concluded that an approach that integrates economic dynamics and biophysical effects is appropriate. NCASI's familiarity with the research addressing factors that influence forest carbon stocks indicates that, for studies using anticipated future baselines, the Panel's recommendation is well founded.

The introduction of economics into forest carbon modeling introduces uncertainty, but policy makers need to know that it is impossible to understand the potential impacts of policies on forest carbon without considering economics. The research on this topic is unambiguous. In the United States, the responses of private forest owners to increased demand for wood help to mitigate, and may completely offset, the carbon impacts of increased demand. It is critical that policy makers understand that forest carbon policies that fail to consider market responses risk

increasing, rather than decreasing, emissions of CO₂. For this reason, the draft panel report's discussion of the importance of markets and economics, and of the value of models that address these drivers, should be retained.

The Panel's draft final report recognized the uncertainties inherent in such modeling and has recommended that EPA identify and evaluate a set of criteria for choosing a specific model and examine the sensitivity of the Biogenic Accounting Factor estimates to the choice of the model. This is a sound recommendation and speaks more broadly to the need for considering uncertainty in applying model-based projections to the calculation of emission factors used in regulatory programs. There are, we suspect, situations where this uncertainty will lead EPA to conclude that, although the development of regulations needs to be informed by model-based projections, the implementation framework for regulations should focus on what is actually happening instead of what models suggest may happen. This observation is especially relevant to the selection of baseline approaches.

3. Baselines

One area where we feel the Panel has unnecessarily limited the range of policy contexts of potential interest to EPA is in its examination of baselines. The Panel continues to express concerns that "the reference point approach has important limitations and should not be the preferred approach."

NCASI's previous comments to the Panel have pointed out the limitations associated with both reference point and anticipated future baselines. NCASI's analysis has documented why EPA should not be precluded from using reference point baselines in situations where, for both technical and non-technical reasons, reference point baselines are best suited to meeting EPA's specific policy objectives. We continue to suggest that the report be modified to alert policy makers to the potential for encountering such situations.

We thank you for the opportunity to provide comments on this important topic.

Respectfully submitted:

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