August 31, 2015

The Honorable Richard Corey
Executive Officer
California Air Resources Board
1101 I Street
Sacramento, CA 95814

Re: Comments on Carbon Sequestration in California's Natural and Working Lands

Dear Mr. Corey:

The Bioenergy Association of California is grateful for the opportunity to provide comments early in the development of the Carbon Sequestration Plan. As ARB and other agencies know, carbon sequestration is an essential tool in California's – and global – efforts to combat climate change. We look forward to working with the Administration on a robust strategy to increase carbon sequestration in California lands, reduce greenhouse gas and short-lived climate pollutant emissions, and provide other benefits to the environment and economy.

The Bioenergy Association of California (BAC) represents more than 60 public agencies, private companies, local governments, environmental groups and others working to convert organic waste to energy. BAC members include local air districts and environmental agencies, as well as numerous wastewater and solid waste agencies. Its private sector members are working in the forestry, agricultural, dairy, solid waste and wastewater sectors to produce low carbon fuels, renewable electricity and organic soil amendments.

BAC offers these preliminary comments on Carbon Sequestration on Natural and Working Lands.

1. A Carbon Sequestration Plan Should be Based on Lifecycle GHG Emissions and Sequestration Values.

Since carbon sequestration is one of the Administration's 5 Pillars of Climate Change, the plan to sequester carbon should be based on lifecycle greenhouse

gas and short-lived climate pollutant (SLCP) emissions, as well as carbon sequestration values. In many cases, we don't yet know how to quantify the lifecycle emissions or need more data to do so, but moving toward a lifecycle analysis of the climate benefits and impacts is critical if this Pillar is intended to help California meet its climate protection goals.

In both the forest and agricultural sectors, it is very important to include both analyses of the sequestered carbon and the total climate emissions caused or reduced by a project. In the forest sector, for instance, removing forest fuel for wildfire protection may reduce short-term carbon sequestration, but increase long-term sequestration by improving forest health and reducing black carbon and carbon dioxide emissions from wildfire. The state needs to consider both sequestration and emissions in determining the lifecycle value of forest carbon. Similarly, agricultural or dairy waste may be used for compost to restore carbon in agricultural lands, displacing fossil fuel based fertilizers in the process. But those same organic wastes could also be used to produce bioenergy and then to land apply the remaining digestate, biochar or biosolids.

Ensuring that California's carbon sequestration plans achieve the maximum climate and other benefits requires assessing not just the carbon sequestration value of various strategies, but the associated emissions and reductions in other climate pollutants, including short-lived climate pollutants, as well.

2. The Plan Should Present Clear, Quantifiable Goals and Priorities, Including Cross-Sector Goals.

In order to be successful, California's carbon sequestration program must clearly identify its goals and prioritize those goals where they may conflict. For instance, maximizing climate benefits may sometimes conflict with maximizing soil carbon restoration. Maximizing carbon sequestration in California's forests may conflict with forest sustainability, resilience, wildfire reduction, or lifecycle climate emissions/benefits.

BAC would propose clarifying that the over-arching goal of the carbon sequestration program is to maximize overall climate benefits, meaning the lifecycle impacts on sequestration and emissions, consistent with other environmental sustainability factors. Other goals should be secondary to that, but should still be explicit.

In addition, the plan should quantify the sequestration/net emissions reduction attributable to each goal so that progress is easier to assess and the program can play a meaningful role in the state's overall climate strategy.

3. The Plan Should Identify the Lead Agency and Cooperating Agencies Needed to Achieve Each Goal.

In most if not all areas, the carbon sequestration program will require inter-agency cooperation. We recommend, therefore, that each goal and action item clearly identify the lead agency and the other agencies needed to ensure its successful implementation. This is important to clarify which agency holds primary responsibility for achieving the goal and what the responsibilities are of the other agencies needed to achieve it.

4. The Plan Should Identify and Prioritize Critical Research Needs.

California's natural and working lands are highly complex ecosystems. Maximizing the benefits of a carbon sequestration program will require a much better understanding of how different carbon sequestration practices affect overall climate emissions and reductions, soil health, air and water quality, forest health, agricultural productivity, water use and more, as well as a better understanding of the risks facing sequestration projects.

The sequestration plan should identify and prioritize research needs in both the natural and working lands sector. Some obvious needs include:

- Updating and expanding on the analysis of net greenhouse gas reductions from forest biomass to energy, prepared by the US Forest Service for the California Energy Commission in 2010.[1]
- Quantifying the potential carbon sequestration, water conservation and other benefits of using the biochar from forest biomass gasification as an organic soil amendment.
- Quantifying the carbon sequestration, water saving and other benefits of using digestate from anaerobic digestion and biosolids from the wastewater treatment process as organic soil amendments.
- Conducting a lifecycle analysis of the greenhouse gas reductions and other benefits of different methods of converting organic waste to energy and/or organic soil amendments such as compost.
- Assessing the market potential and market incentives needed to significantly increase the production and use of organic soil amendments.
- Improving assumptions and equations used in wildfire risk assessment and impact models

[1] *Biomass To Energy: Forest Management For Wildfire Reduction, Energy Production, And Other Benefits,* prepared by the US Forest Service for the California Energy Commission Public Interest Energy Research Program, January 2012. CEC-500-2009-080.

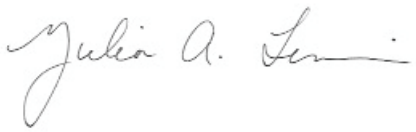
5. The Plan Should Identify Funding Needs to Achieve Each Goal.

To the extent possible, the plan should identify the funding, infrastructure and other items needed to achieve the carbon sequestration plan's goals. The plan should also identify potential sources of funding and ways to augment that funding.

As noted above, we look forward to working with the Air Board and other state agencies to develop and implement the state's carbon sequestration plan. We will have additional recommendations as the program develops, but appreciate the opportunity to comment early in its development.

Thank you for your consideration of these recommendations.

Sincerely,



Julia A. Levin
Executive Director