Mary Nichols, Chair  
Chair, California Air Resources Board

1001 “I” Street  
Sacramento, CA 95814

**Re: Comments on the Draft Environmental Analysis for the Proposed Strategy for Achieving California’s 2030 Greenhouse Gas Target**

Dear Chair Nichols,

I appreciate the opportunity to comment on the final version of the updated AB32 Scoping Plan. Through the founding of the Marin Carbon Project and the support of the State’s Healthy Soils Initiative, and Short Lived Climate Pollutant Plan, I have dedicated the past decade to solutions that offer the power to stabilize the earth’s climate. I believe that California is the model for the world and am supportive of the vision and strategy detailed in the 2017 Scoping Plan Update.

Thank you continuing to lead the world in renewable energy production and requirements. This leadership has shifted global markets, demonstrating that goals of 50% renewable energy and greater are not only technically possible, but economically beneficial. I would like to commend the state also for its focus on short lived climate pollutants and the inclusion of natural and working lands in this update. These two new areas of focus demonstrate a leading strategic commitment that emphasizes the timely reduction of high potency GHG’s while increasing support for measures that will draw down existing levels of atmospheric carbon. I appreciate the linkage of goals set forward in SB1383 and the Healthy Soils Initiative within the overall vision represented by the Scoping Plan.

The planet continues to warm at a rapid and largely unprecedented pace, with major climate tipping points occurring years before they were predicted. As the State of California works to develop the Healthy Soils and Waste Management Plans I encourage the Air Resources Board to take the next step in emphasizing these two critical and interlinked strategies, which I believe must be deployed rapidly to stabilize the earth’s carbon cycle.

**Waste**

**1) Separate compost emissions from landfill emissions.**

*P. 119: "Within CARB’s greenhouse gas inventory, emissions from the waste management sector consist of methane and nitrous oxide emissions from landfills and from commercial-scale composting, with methane being the primary contributor to the sector’s emissions. The sector emitted 8.85 MMTCO2e in 2014, comprising approximately 2 percent of the state’s GHG emissions."*

Compost is the most effective available alternative to landfilling of organics and constitutes less than 6% of total emissions from the waste sector (ARB 2016; <https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2014/ghg_inventory_trends_00-14_20160617.pdf>); this is **less than 0.0012% of the state’s GHG emissions**.  Assuming composting currently captures 25% of the state’s organic waste stream, if this were increased to 75% diversion of organics from landfill, methane emissions from the landfill sector would be reduced by roughly 80%, and GHG emissions from composting would constitute .0036% of State GHG emissions.

**2) Create a calculation framework that recognizes baseline air emissions associated with organic waste management practices**

*P. 62 “…compost facilities could potentially increase VOC and PM emissions”.*

Since the SLCP measures are diverting food waste and green waste from landfilling, these baseline conditions need to be recognized where the net benefit of reductions in both greenhouse gases and criteria pollutants can be demonstrated when diverting green waste and food waste from landfills to composting and/or anaerobic digestion facilities. Consistent with the methodology of this Scoping Plan, we urge the state to conduct an analysis of compost emissions compared to baseline emissions from existing management of organic materials including: landfilling of organics, land application of organics and green waste, open burning of woody biomass in agricultural and forest settings, and manure from dairies and other confined feed lot operations. This exercise and the underpinning methodology could then be used to communicate methodology for baseline assessments of air emissions impacts at the regional air district level. Unless the regional districts can confidently show that compost facilities do not increase overall regional air pollution the state will be unable to meet the goals of developing new facilities to process the volume of organics that will come from landfills’ in compliance with SB 1383.

**3) Adopt lifetime warming factors for short lived climate pollutants**

*P. 119 “Data from CalRecycle’s report, 2014 Disposal Facility-Based Characterization of Solid waste in California, shows that materials, such as organics, that decompose in landfills and generate methane comprise a significant portion of the waste stream. Methane is a potent SLCP with a global warming potential 25 times greater than that of carbon dioxide on a 100-year time horizon and more than 70 times greater over its own atmospheric lifetime.”*

Emissions factors reflecting the strength of the GHG over its atmospheric lifetime should be set. These factors should then apply to SLCP projects funded by Greenhouse Gas Reduction Fund monies. The LAO has already determined that organics/recycling loans and organic composting/anaerobic digestion grants are among the most cost-effective (from $4/ton to $9/ton CO2e) where $57/ton is the average and the high has been up to $725/ton. Further targeting SLCP’s and rewarding their capture, destruction or alternative management based on the warming they cause in their lifetime, will spur market innovation to increase the rate of adoption of mitigating practices and technologies. (Please see the attached spreadsheet which was developed for forward thinking California cities and counties looking to emphasize SLCP reduction in local Climate Action Plans).

**Natural and Working Lands**

1. **Use realistic values for the land area available and best practices on those lands.** We recognize that the preliminary synthesis posted on the ARB website is incomplete, but some of the values used were particularly troublesome. For example, grassland area available for management was unrealistically low, and the baseline conditions (as well as some of the C-sequestering management) resulted in unexplained C losses. Clearly more research is needed, but the available peer-reviewed literature should be better incorporated into these preliminary estimates.
2. **Emphasize the practices that restore soil carbon, including compost, for resilience in our natural and working lands.** Recent studies have shown that both natural and working lands are losing soil carbon from changes in management (Ryals et al 2014). This loss is likely to increase rapidly as temperatures continue to rise and warm soils (Hick Pries et all. March 2017 Science). Efforts to arrest and reverse soil carbon losses should be identified and emphasized in the plan and given priority in funding programs to prevent further collapse of this critical carbon pool.
3. **Align emission calculation methodologies for natural and working landscape emissions scenarios with the DayCENT model**. The current calculation methodology offered in Appendix G, Natural and Working Lands is based an overly simplified formula that fails to capture the current understanding of the dynamics of carbon in ecosystems, nor the potential for soil carbon management in natural and working lands. There are several models currently available that incorporate an understanding of the relevant biogeochemical and ecological process. The best of these models for grasslands and forests is DayCent. The model was originally developed for grassland ecosystems and has been extensively tested and used in California. The model has also been widely applied to forest ecosystems. The model has been more widely tested than DNDC and is more widely adopted globally. The Healthy Soils Program will be using the USDA NRCSCOMET-Planner to ascertain and reward emissions reduction potential in its grant program. The COMET tools are based on DayCENT.
4. For quality assurance and consistency we urge the state to align Scoping Plan emission reduction assessments with on-ground emission reductions awarded under the HS program.

Thank you,

John Wick, Co-Founder Marin Carbon Project

Calla Rose Ostrander, Coordinator California Carbon Campaign