ROESLEIN
ALTERNATIVE ENERGY, LLC

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Dear California Air Resources Board Staff,

Thank you for this opportunity to contribute comments for your next Rulemaking. We would like to propose a credit mechanism that takes into account the substantial potential for carbon sequestration in land. To date, the primary mechanism for dealing with biofuels has been the carbon neutral treatment of feedstock with an adjustment for indirect land use conversion (ILUC). ARB's ILUC factor has taken into account global changes in soil carbon with average treatment of U.S farming practices. The challenge is that ARB's approach provides no additional incentive for innovation in land management practices that sequester carbon, reduce GHG emissions, and provide additional ecosystem services.

The proposed agricultural carbon storage concept can serve as a tool by which to accelerate the transition to a clean economy and a healthier environment. Key features of the concept include a uniform system for long-term agricultural carbon sequestration, a method by which to authenticate the amount of carbon sequestered on various land types, and a system of ranked financial incentives to stimulate rapid adoption of sequestration practices while retaining high value carbon sequestration.

Farming practices result in a range of GHG emissions depending upon crop rotation and yield, fertilizer source and application rate, harvest and planting practices, and other factors. Several developers have proposed taking into account more detailed data on fertilizer application rates and other farming practices. We propose the addition of an even more robust form of carbon storage through habitat restoration. One of the many challenges involved in acknowledging soil carbon storage is the matter of verification. Crops such as corn are grown, transported and distributed as commodities, and tracing the individual crop to a field is challenging. The question of permanence occurs with farming practices that store carbon but may revert over time with new farming practices. However, such practices do provide carbon storage benefits and these impacts should not be ignored in, for instance, new biofuel policies.

Under the LCFS program all carbon reductions are valued at the same price and the market determines the price paid to biofuel producers. Revenues paid to fuel producers include the value of the fuel as well as the incentive value. The farmer does not see a direct benefit of these fuel policies and some economists believe that any benefits are competed away at the farm level. The LCFS program is intended to incentivize technologies that otherwise could not be afforded at the $17/tonne level of cap and trade programs. The $200/tonne LCFS credit price brings in technologies such as electric drive and advanced biofuels. Clearly sequestering carbon in the soil does not cost as much as producing a new synthetic fuel plant. Furthermore, these programs are strictly tied to fuel production and do not make a link to soil carbon savings.

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Soil carbon benefits have not been included the California LCFS because they are difficult to validate to the same level of detail as biorefinery inputs. These benefits are lumped in with ILUC emissions and farmers with good soil management practices such as modifying fertilizer application rates, tilling, crop rotation, and cover cropping, receive no additional credit. Emissions associated with the net carbon flux for crops such as corn, soybeans and potentially switchgrass, are incorporated in an ILUC analysis. This analysis takes into account the net carbon flux of the crop that is diverted to biofuel production, assuming that all crops are fungible. However, in order to effect change at the farm level, some analysts believe that incentivizing the individual farmer is the best choice. Direct payments to farmers can result in desired actions such as no-till farming, growing native grasses for biofuel production, land set-aside for native grass and prairie restoration, forest restoration, and low nitrogen practices. While the supply and demand effects of funding farming activities directly will remain a subject of debate, it is clear that the benefits are directionally positive and verifiable at the farm level.

Opportunities include prairie grass harvesting for biofuel production or simply prairie management. While these soil carbon savings have not been traditionally included the LCFS, the opportunity for carbon storage are so significant, ARB should allow such savings as part of the LCFS. To date, most GHG reduction programs are not interrelated. For example, voluntary GHG reductions cannot be used to generate cap and trade credits. Similarly, cap and trade credits cannot be used to generate more valuable LCFS credits. These exclusions are appropriate as they keep the programs focused on their targeted reductions. The higher cost of LCFS credits is intended to support advance technologies such as battery electric vehicles, synthetic fuels, hydrogen, and other options that cost more than land restoration in the early years of implementation. However, due to the large carbon storage potential of soil carbon storage, the role of credits in low carbon fuel programs needs to be considered.

One solution is to tailor the funding mechanisms to the growth in agricultural GHG savings and tie in with revenue from GHG reduction programs at a cost that is consistent with the requirements for farm level activities. For example, revenue from GHG programs could be distributed to farm level programs at a cost in between cap-and-trade programs and LCFS programs. In the near term, funding from voluntary programs could participate at a lower cost level. The mechanisms to harmonize participation with funding sources will need to be carefully designed due to the large levels of GHG savings, need for permanence, and substantial cost.

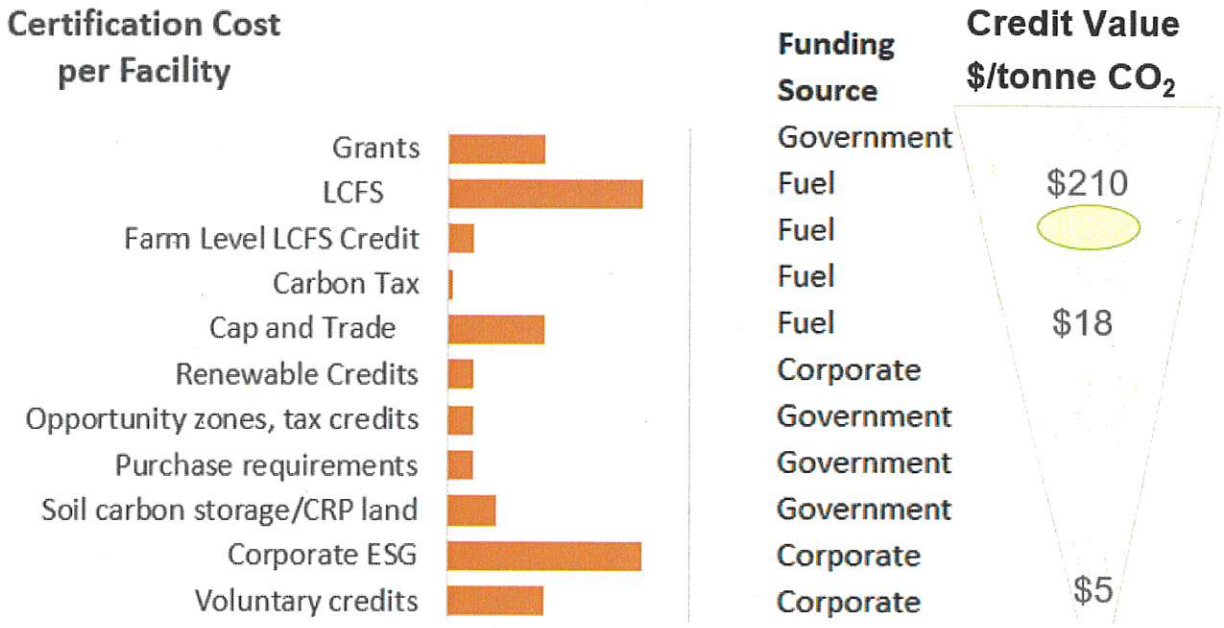

Figure 2. Complexity and Credit Price for GHG Programs

This proposed structure could support existing biofuel programs such as corn oil biodiesel or jet fuel from waste materials that are in commercial or advanced technologies in market entry positions. New participants such as soil carbon savings could also have a role in these programs. Due to an anticipated lower cost per tonne of CO2, the overall policy support from GHG programs may be lower. However, including habitat restoration and farm level GHG savings have potential GHG impacts that are too substantial to eliminate from a national discussion on decarbonization.

Thank you for considering this proposal.

Sincerely,

Chris Roach
President
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