

January 5, 2022

California Air Resources Board  
1001 I Street  
Sacramento, CA 95814  
Submitted via email

**RE: POET COMMENTS ON CARB PUBLIC WORKSHOP: 2022 SCOPING PLAN UPDATE - NATURAL WORKING LANDS SCENARIOS TECHNICAL WORKSHOP ON DECEMBER 2, 2021**

**Introduction**

POET appreciates the opportunity to provide comments in response to the California Air Resources Board (CARB) 2022 Scoping Plan Update – Natural and Working Lands (NWL) Scenarios Technical Workshop on December 2, 2021. The workshop builds upon past workshops on NWL and included staff presentations on the modeling approach, draft scenarios to reach carbon neutrality by 2035 and 2045 and incorporated feedback from stakeholders from previous workshops.

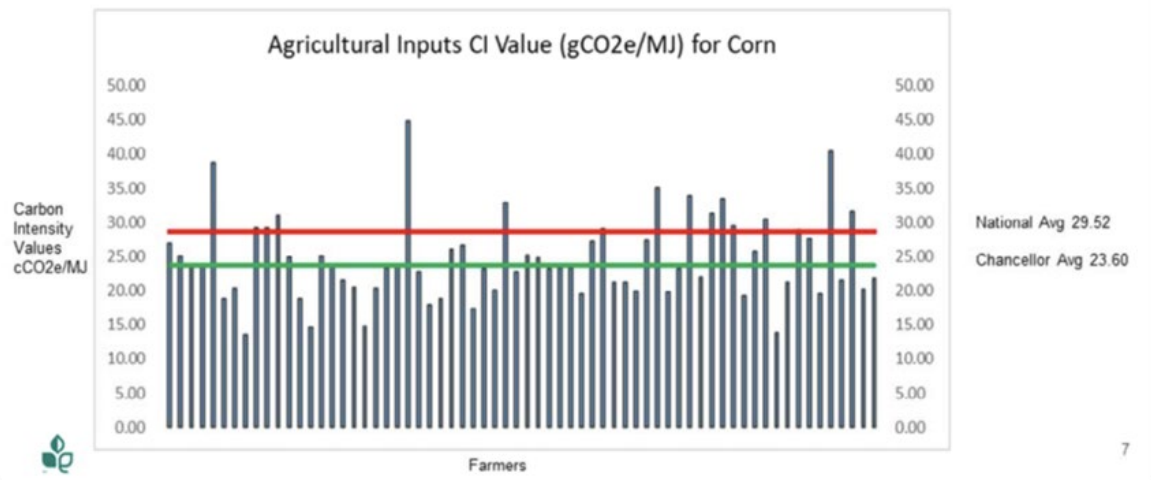
Meeting California’s climate goals will require action to rapidly drive down greenhouse gas (GHG) emissions across the state. To be successful, California must continue to find innovative and cost-effective ways to secure emission reductions from all economic sectors, including the agricultural sector. California has a long history of developing creative programs to cut GHG emissions that have been modeled by jurisdictions across the world. POET can play a key role in California’s efforts to achieve carbon neutrality. The 2022 Scoping Plan update will set the direction California takes over the next several decades to meet its climate and air quality goals and the plan must include all available approaches to be successful.

**About POET and The Gradable Program**

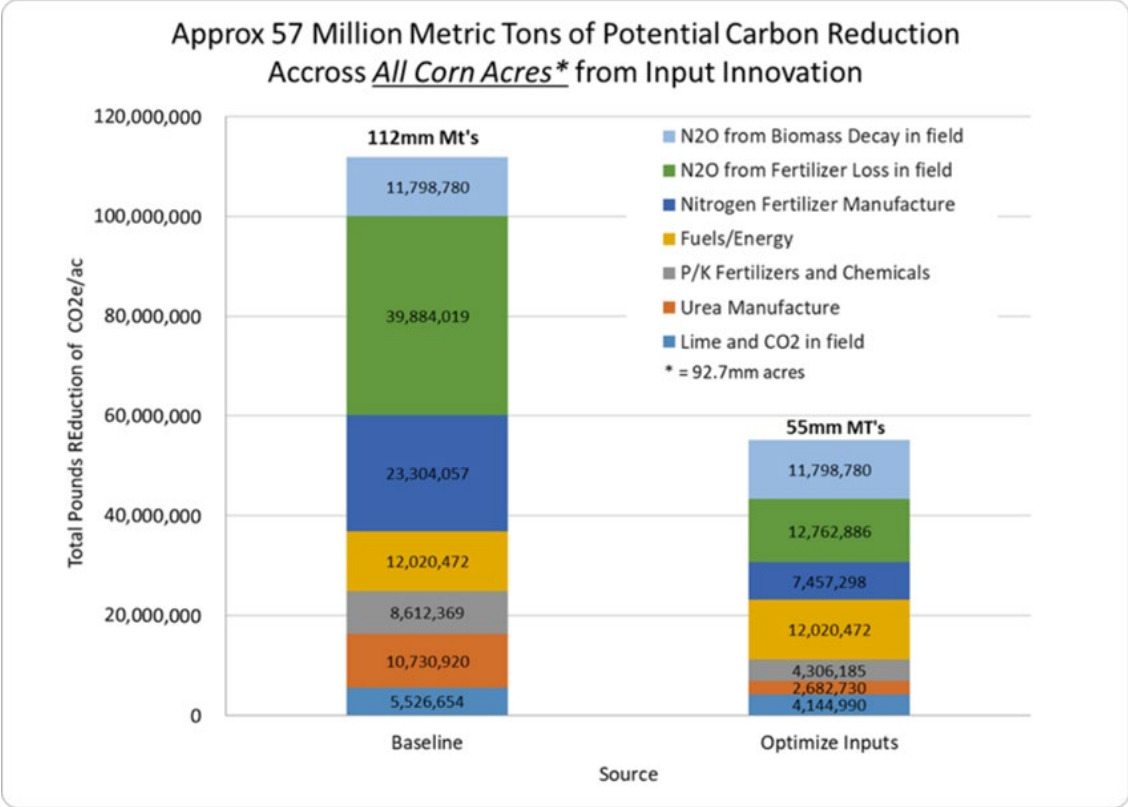
POET is deeply committed to reducing GHG emissions and developing cleaner, affordable alternatives to fossil fuels in California and across the United States. We are the world’s largest biofuels producer currently operating 33 biorefineries capable of producing three billion gallons of starch and cellulosic ethanol. Renewable clean-burning biofuels like those produced by POET cut carbon emissions by an average of 46 percent compared to gasoline, which can have an enormous impact on cutting the amount of (GHG) in the atmosphere.

POET is continuing to innovate to further improve on the GHG benefits of its products. We partnered with the Farmers Business Network (FBN) and Argonne National Labs to create [Gradable](#), a pilot program to track and score the carbon footprint of farmers’ production methods and to encourage sustainable farming, validate data inputs, and calculate CI scores for agricultural inputs. Gradable’s trial involving 64 area farms supplying corn to POET’s Chancellor plant resulted in a 25 percent reduction in GHG emissions from corn cultivation and farm energy use compared to the assumptions embedded in CA-GREET.

## Argonne Farm Level Results Confirm Opportunity



Gradable illustrates that CI values are highly sensitive to different agronomic practices, even within the same area with similar soil types and weather patterns. This suggests that widespread adoption of low CI farming practices could readily result in CI reductions if farmers had the incentive to engage in such practices. The prospect of extrapolating these lessons to the entire industry is worthy of CARB's focus. The below graphic illustrates the potential carbon reduction possible with sustainable farming techniques.



California is among the leading agricultural states in the nation and in the world. As CARB has consistently recognized, the state’s agriculture sector must play a key role in efforts to achieve California’s net zero climate target by 2045. The Gradable program positions the biofuels industry and growers to supply low-carbon fuel markets with ever-cleaner renewable fuels as an important component of California’s decarbonization efforts.

**Incentivizing Smart and Clean Agricultural Practices**

California can demonstrate leadership nationally and internationally by putting in place policies and programs that effectively incentivize the lowest carbon, most sustainable and most advanced “climate smart” agricultural practices across the planet. POET believes that CARB is in a position to incentivize enormous changes in the agricultural supply chain that would lead to significant reductions in agricultural GHG emissions. By allowing site-specific agricultural inputs, CARB can encourage reduced agricultural GHG emissions through readily available technologies such as better tillage practices and nitrogen and biodiversity management, and by incentivizing the agricultural supply chain to reduce GHG impacts in new and innovative ways.

POET stands ready to work with CARB and other state agency partners to create a world leading set of practices that account for, incentivize and reward low-carbon agriculture practices. There are a range of actions California can take to support low-carbon agricultural practices and technologies. Specifically, in

the near term, CARB can take action to recognize the benefits of climate-friendly farming by allowing for variable scoring as part of the upcoming Low Carbon Fuel Standard (LCFS) rulemaking. As demonstrated in the graph above, sustainable farming practices can potentially remove approximately 57 million metric tons of carbon across all corn acres in the United States on an annual basis. POET encourages CARB to include a pathway for “identity-preserved” feedstocks (i.e. those used by renewable fuel producers because of their verifiably lower CI characteristics) in its LCFS proposed rule.

### **Assessing Soil Organic Carbon in Farming Practices**

CARB may wish to include assessments of soil organic carbon (SOC) in farming-related CIs and credit farms that sequester carbon in the form of SOC. POET agrees that SOC is a tremendous potential reservoir to sequester CO<sub>2</sub> emissions. However, we also understand that there may be technological challenges in measuring SOC and fluctuations in SOC over time. If CARB believes that current SOC measurement methodologies are too unreliable to be included in farming CI scores, POET strongly encourages CARB to allow for individually tailored farming CIs for other farming inputs in its rulemaking and to return to the consideration of SOC at a later date.

### **Addressing Leakage**

CARB has expressed concern that allowing site-specific agricultural inputs would result in a leakage problem where projects with low CI farming practices would report site-specific data while projects with higher emissions would report average values. The success of the LCFS program illustrates that industry will follow market incentives toward compliance. To that end, POET recommends that feedstocks not participating in the identity-preserved program be assigned a CI value of the default CA\_GREET score plus an adder determined by CARB. This will send the appropriate market signal to farmers, incentivizing them to adopt sustainable farming techniques. Additionally, average farm CI values will decrease as lower CI farming practices gather momentum and popularity. If the LCFS program’s farming practices average values are accurate, leakage will not be a significant issue because lower CI farming will drive the down the average.

### **Re-Evaluate Land Use Change with New Data and Research**

Many stakeholders have requested CARB to re-evaluate CI values associated with land use change (LUC), and CARB has indicated to being open to new data and research related to this topic. POET believes that the body of scientific evidence when vetted for evidentiary basis and analytical rigor clearly indicates that CARB’s prior LUC assessments with respect to corn starch bioethanol are too high, skewing the LCFS program’s incentives. Furthermore, current scientific literature indicates that California’s LCFS 2019 iteration of GREET (CA GREET3.0) overstates CI values for LUC for corn ethanol. Some studies go further and indicate biofuel production does not induce any ILUC.<sup>1</sup>

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<sup>1</sup> Kim S, Dale BE. 2011. *Indirect land use change for biofuels: Testing predictions and improving analytical methodologies*. BIOMASS AND BIOENERGY, 35(7):3235-3240. 10.1016/j.biombioe.2011.04.039; Kline KL, Oladosu GA, Dale VH, McBride AC. *Scientific analysis is essential to assess biofuel policy effects: In response to the paper by Kim and Dale on “Indirect land-use change for biofuels: Testing predictions and improving analytical methodologies”*. (10):4488-4491. 10.1016/j.biombioe.2011.08.011.

LUC estimates are now converging on substantially lower estimates than those established through CARB's prior analysis in the March 2015 Staff Report on ILUC values.<sup>2</sup> Specifically, reliable analyses of LUC impacts generally draw from the GTAP agro-economic model, and have consistent approaches to the economic baseline year (2004), incorporation of yield price elasticity (of approximately .25), and, significantly, address the concept of land intensification.<sup>3</sup> Scientific literature supports that land intensification, producing greater volumes of a crop or multiple crops on existing land, is a key factor in appropriately assessing LUC. Land intensification, a critical model feature, is not currently addressed in CA GREET3.0. As such, POET strongly encourages CARB to engage in additional dialogue on LUC now, rather than putting off such analysis to the future.

### Conclusion

At POET, our mission is to cultivate a world in harmony with nature, where everyone has equal access to affordable, environmentally conscious fuel choices. We are constantly innovating to make biofuel production more efficient while developing more renewable bioproducts that will pave the way to a smarter, more sustainable future.

We thank CARB for this opportunity to comment. POET looks forward to working with CARB and assists in developing and implementing innovative, effective, and cutting edge programs that will provide benefits to the state's agriculture sector and reach the state's climate goals.

Sincerely,



Michael Walz  
Director, Public Affairs/State Government Relations

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<sup>2</sup> [https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/peerreview/050515staffreport\\_ca-greet.pdf](https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/peerreview/050515staffreport_ca-greet.pdf).

<sup>3</sup> See e.g., Rosenfeld J, Lewandrowski J, Hendrickson T, Jaglo K et al., *A Life-Cycle Analysis of the Greenhouse Gas Emissions from Corn-Based Ethanol*, ICF (2018) (under USDA contract No. AG-3142-D-17-0161); Taheripour F, Zhao X, Tyner WE, *The impact of considering land intensification and updated data on biofuels land use change and emissions estimates*. BIOTECHNOL. BIOFUELS, (2017) DOI: 10:191. 10.1186/s13068-017-0877-y.