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Katherine Sideco
Alternative Fuels Section
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California Air Resources Board
Sacramento, CA 95812

Dear Ms. Sideco:

We are writing to provide comments on a March 11 ARB staff presentation entitled, "iLUC Analysis for the Low Carbon Fuel Standard (Update)." As always, we appreciate the opportunity to provide input and appreciate your consideration of our views.

As you know, the National Biodiesel Board (NBB) is the national trade association representing the biodiesel and renewable diesel industries. Our organization represents more than 150 production companies nationwide, including eight that are based in the State of California. In total, the NBB represents more than 90 percent of the biomass-based diesel fuel volume produced in this country.

We would like to begin our comments by acknowledging the effort and resources that have been invested to improve the international indirect land use change (iLUC) estimates for soy and canola biodiesel. Accurate quantification of biodiesel's direct emissions benefits and any potential indirect effects are important for defense of the LCFS against critics who oppose the landmark policy based on the assertion that carbon reductions in the transportation fuel sector cannot be achieved practically and cost-effectively.

As stated in the sustainability principles adopted by the membership of the National Biodiesel Board, biodiesel creates family supporting jobs, strengthens our economy, and increases energy security while offering a low carbon fuel as an alternative to fossil fuels. In order to optimize these economic and environmental benefits, the U.S. biodiesel industry seeks to increase biodiesel production through responsible use of existing feedstocks. The NBB has sought the best possible expert analysis to quantify the global volumes of fats and oils that are available for biodiesel production. We have also contracted third party experts to run partial equilibrium and general equilibrium models to predict future availability of feedstocks. Using the best data available, the U.S. biodiesel industry has set responsible goals that optimize biodiesel utilization without increasing feedstock prices or encouraging negative land use changes.

Actual industry performance demonstrates that these goals are delivering real GHG benefits while avoiding negative indirect impacts. The U.S. Environmental Protection Agency (U.S. EPA) reported 1.8 billion gallons of biomass-based diesel production in 2013. This record-setting year represented a 55 percent increase in production over 2012. Biodiesel from soybean oil grew by 34 percent and consisted of 47 percent of the nationwide production. During this same period of growth, soybean oil prices decreased by 25 percent. This data disproves the erroneous assertion by critics that biodiesel production could not increase beyond one billion gallons without increasing vegetable oil prices. Factors contributing to the abundant supply of soybean oil available for biodiesel include improved crop yields, consistent demand for soy protein co-products, and decreasing demand for partially hydrogenated soybean oil due to trans-fat concerns and trans-fat bans in jurisdictions such as California.

We view the combination of computer models used to predict potential emissions from indirect land use change as an academic exercise that can serve as verification against the facts described above. The models are imperfect, but they are improving as experts continue to refine data and model structures to better simulate the real world. It should come as no surprise that as the modeling improves to better align with actual trade patterns iLUC estimates for U.S. biodiesel continue to decline.

Based on our existing knowledge and the information that was recently released, it seems clear to us that ARB staff have taken the regulatory process seriously and have made material improvements to the model and its input data. In general, it appears that ARB staff have implemented many of the recommendations provided by ARB's "Expert Work Group" (EWG) which, of course, the agency selected and convened following publication of the original iLUC analyses. While we do not agree completely with all of the EWG recommendations, we do believe this guidance serves as the most objective framework available for evaluating model updates. As such, we believe the EWG consensus recommendations should be followed unless compelling evidence to the contrary has been made public since the time in which that extensive and inclusive process concluded.

The majority of our comments in the attached analysis by Don O'Connor, PE are related to one significant deviation from the EWG set of recommendations as well as several issues that the EWG recommended addressing that were left unresolved by ARB staff and contractors.

The following pages discuss several points from Mr. O'Connor's more detailed comment paper.

Yield Price Elasticity (YPE)

We are challenged to understand ARB staff thinking on this issue and would appreciate additional clarification. Since this is the most critical variable in the modeling, understanding the basis for which this input value was determined is quite important from our perspective.

As you know, the EWG completed a full literature review on YPE and determined that the most appropriate value was 0.25. Notably, this is the same input value Purdue University, which developed and maintains GTAP, currently uses. The fact that both entities suggest the exact same value seems compelling.

Nevertheless, rather than use the EWG/Purdue value of 0.25, ARB staff chose a range of values from existing literature and conducted multiple model runs using this data. It appears that the value used (approximately 0.175) is substantially lower than the literature average. As such, we would appreciate clarification on which value was used and the method for its determination.

Lands Pools

Approximately 500 million acres of available cropland worldwide are not included in the GTAP model. This is a major deficiency since the data (attached) suggests this land is accessed before forest or cropland/pasture. Literature shows that over the course of the last 10 years approximately 75 percent of new agricultural lands brought into production have derived from fallow farmland – not cropland/pasture or forests. From our perspective, this issue should be addressed since it likely leads to an overestimation of iLUC by 15-20 gCO2e/MJ (grams).

Double-Cropping

The model should be able to account for increased and increasing rates of double-cropping based on price responses. The data clearly shows this is happening and it should be accounted for so that land conversions are not artificially forced by this limitation in the modeling framework.

Nesting Structure

In the real world, pastureland is utilized before forests when additional agricultural lands are needed. This is due to the fact that conversion costs for forests are orders of magnitude higher than pastures. Reflecting this empirical reality, the latest version of GTAP provides the ability to allocate new agricultural production between pasture and forest based on economic considerations within the respective regions. Rather than using this function in the updated model, however, ARB staff have chosen to turn off the function, assuming the costs of converting pasture lands and forests to agriculture production are the same. Obviously, this is inaccurate, resulting in artificial increases in the carbon intensity of soy and canola biodiesel by an estimated 8 grams.

Irrigation

The GTAP model does not currently have the capacity – either in terms of structure or data – to predict whether or not crops planted on theoretical new lands will be irrigated or rain-fed. This is because including the issue in the modeling correctly would prove to be a major challenge and likely would not make a material difference in the results. In short, including a factor that varies from current irrigation rates would be entirely speculative and would be a complex function because a variety of variables factor into irrigation decisions such as profitability and soil type – not just level of water availability. For these reasons, we believe other issues which have more support in the literature should be addressed before irrigation.

Inaccessible Forests

GTAP does not include inaccessible forests in its modeling structure because the notion that someone who wanted to engage in agricultural production would: a) bypass fallow agricultural lands; then b) bypass pasture lands; and then c) bypass accessible forests in favor of inaccessible forests is wholly illogical. To provide a factor for this assumption, which is unsupported in the literature, would add an artificial forest penalty in addition to the nesting structure artificial forest penalty. We feel it is important for the ARB staff to focus on issues that can be demonstrated empirically or at least documented by numerous experts within the field. Neither of these criteria are met in this instance. Instead, ARB staff would be engaging in speculation based upon an unproven – and illogical – theory.

Food Constant

Holding food consumption constant in the modeling, as at least one stakeholder has advocated, presents several problems. First, artificially constraining part of the model is not an intellectually honest approach for accurately and objectively quantifying the GHG impacts of a fuel. Rather, such an action artificially inflates the carbon intensity of a fuel, potentially creating a basis for a legal challenge, among other problems. Second, the model does not have the capacity to incorporate the food constant theory. When such scenarios are run, very small changes create very large GHG impacts. This type of response is illogical and not supported in the literature. Finally, to the extent a desire exists to address policy issues that are external to GHG lifecycle assessment, those should be addressed through a transparent, direct policy mechanism, not disguised through unscientific and misleading modeling results. Following this course would be both more effective and more ethical. Accordingly, we urge ARB to maintain its current position of not including a food constant scenario in the modeling.

Canola Biodiesel

Based on the ARB results, which provide a higher iLUC penalty for canola than soy, as well as our recent experience with the GTAP model, we feel that more time and resources should be allocated to optimizing GTAP for canola/rapeseed so that reliable and robust results are obtained.

In particular, the price swings for canola appear to be higher than evidence suggests they should be and the level of substitutability with other vegetable oils is lower than similar products. We recommend continuing to use the provisional value that has been allocated to canola biodiesel until such time as a thorough update can be completed.

Once again, we wish to thank you for the opportunity to comment. We continue to appreciate the positive working relationship we have developed with ARB staff and the level of transparency the agency voluntarily provides stakeholders and the general public. If we can answer any questions or provide additional information, please feel free to contact us at any time.

Sincerely,

Shelby Neal
Director of State Governmental Affairs

Cc: John Courtis
Mike Waugh
Richard Corey