



February 15, 2010

Mary D. Nichols  
Chair  
California Air Resources Board  
Headquarters Building  
1001 I Street  
Sacramento, CA 95812

Dear Chair Nichols:

I am writing to share a number of recommendations that experts believe would enhance the report entitled “**Land Use Change Effects for Soy Biodiesel and Renewable Diesel,**” which was released February 1, 2010. These reports, authored by Donald O’Connor, PE and Bruce Babcock, PhD, are attached to this cover letter. Thank you, in advance, for your consideration of these recommendations.

As you know, Purdue University (Purdue) was asked by staff at the California Air Resources Board (ARB) to conduct a GTAP model run for soy-based biodiesel, presumably as a result of concerns related to the work conducted by staff at the University of California, Berkeley (UCB). Based upon the following statement taken from the ARB’s foreword to the Purdue analysis, we are concerned that some readers might be left mistakenly with the impression that the Purdue results validate the UCB results.

*“Nevertheless, it should be noted that, despite the use of two different contractors applying two different GTAP approaches, the modeling done by both contractors yielded essentially identical values for carbon intensity from land use changes associated with soy biodiesel and renewable diesel.”*

In an effort to add context to this excerpt, it should be noted that these two modeling exercises predicted very different amounts of land use change, and they predicted very different carbon intensities for the land being converted. The fact that both models arrived at an identical overall value should be viewed as coincidental and not a validation of either modeling attempt. It should also be noted that both contractors used the same model (albeit slightly different versions) and were given the same set of rather severe restrictions from ARB staff. Most importantly, on the latter point, neither contractor was allowed to address so-called “structural issues” with the GTAP model which, among other things, include the fact that the model does not allow idle lands to be considered. These acres account for 30 percent of the land included in the model. So when new lands

are needed as a result of renewable fuels policy, those acres derive from forest or pasture rather than lands that are readily available for agricultural use. This is one reason the ARB's final emissions figure for soy-based biodiesel is approximately four times higher than the RFS-2 analysis recently performed by the U.S. Environmental Protection Agency (U.S. EPA).

This statement from the foreword is also concerning and merits comment from NBB:

*“Based on these changes, staff believes the model results are now sufficiently robust to be included in the lookup table.”*

In our view, the two GTAP model runs for soy-based biodiesel should be described as “interim results” given the ARB's stated interest in addressing the extensive problems that exist with the model through the upcoming Expert Review process.

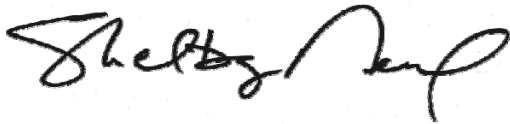
The modeling of indirect land use changes and the resulting emissions is a very difficult and tedious undertaking. The National Biodiesel Board is not alone in commenting to the ARB that the most robust lifecycle analyses are those with clear, consistent boundary conditions. This traditionally limits analysis to direct, measurable consequences. As long as the ARB maintains its position that an expansive approach to include indirect consequences must be part of the low carbon fuel standard, the agency has a responsibility to ensure that the predicted results are accurate. In his latest analysis, Donald O'Connor quantifies that indirect land use change emissions from expanded soy-based biodiesel actually create a net greenhouse gas benefit. This is a dramatic departure from the assumptions that have influenced ARB's thinking to-date. In our view, it would be prudent to use the Expert Review process to identify inconsistencies between analysis reported by the ARB, the U.S. EPA, and Donald O'Connor, who manages Canada's lifecycle modeling.

Until these inconsistencies are thoughtfully explored and documented, the analysis is neither sufficient nor robust. One such inconsistency between the ARB process and the U.S. EPA analysis is that the ARB is utilizing a much simpler approach by employing a single model that was created to predict global trade and simply repurposing it in an attempt to predict global land use changes. On this point, it should be noted that the individual who manages the unit at Purdue University responsible for maintaining the model has himself stated publicly that GTAP is not appropriate for the purpose for which it is being used by the ARB. Further, as a bottom line indication of the truth inherent in his statement, the ARB's “final” results were more than 40 percentage points lower than the analysis conducted by U.S. EPA, which recently concluded that soy-based biodiesel is 57 percent better than petroleum-based diesel in terms of net greenhouse gas emissions.

Finally, I would like to state for the record the NBB's interest in completion of pathways for all virgin vegetable oils. It is unclear, for example, how regionally grown, sustainable crops such as camelina and canola would be treated under the regulation.

Once again, I would like to express our continued appreciation for the positive working relationship we have enjoyed with the ARB. We very much look forward to participating in the Expert Review process. If you should have any questions about this matter, please feel free to contact me at any time by telephone at (573) 823-0233 or by email at [sneal@biodiesel.org](mailto:sneal@biodiesel.org).

Sincerely,

A handwritten signature in black ink, appearing to read "Shelby Neal". The signature is fluid and cursive, with the first name "Shelby" written in a larger, more prominent script than the last name "Neal".

Shelby Neal  
Director of State Governmental Affairs