American Lung Association in California
Center for Energy Efficiency and Renewable Technologies
Coalition for Clean Air
Energy Independence Now
Natural Resources Defense Council
Union of Concerned Scientists

October 5, 2011

John Courtis
California Air Resources Board
1001 I Street
P.O. Box 2815
Sacramento, CA 95812

Dear Mr. Courtis:

We would like to thank the California Air Resources Board (CARB) for giving us the opportunity to provide comments on their proposed revisions to Land Use Change Carbon Intensity Values. We appreciate your commitment to reviewing and improving the Indirect Land Use Change (ILUC) Values for Low Carbon Fuel Standard (LFCS) Fuel Path Pathways modeling based on the best-available science. In response to the update on the new Global Trade Analysis Project (GTAP) analysis conducted by Purdue University that was presented at the workshop on September 14, we propose the following changes:

Soy Biodiesel Results: The new GTAP results of land cover changes from the soybean biodiesel scenario seem implausible and warrant a closer analysis. Particularly, the model fails to accurately capture the impact of reduced soy oil exports on palm oil markets. For example, if soybean oil is diverted to domestic biodiesel production, the resulting decline in U.S. soy oil exports would increase world prices of soy oil. Increased demand for cheaper substitutes such as palm oil or other alternative oil-seed production would result in land cover changes.

Additionally, increased soy oil prices would induce producers in soybean producing countries like Brazil to increase soybean production in the long run. However, the modeling results show a decrease in soybean production. Compared to the modeling of corn ethanol scenarios , which is relatively mature, the modeling of land use changes associated with soy biodiesel production seems to be relatively immature and deserves careful attention before firm results can be obtained. We suggest that the soy biodiesel scenario requires further development. Some options include experimenting with different Armington elasticities for the different oilseeds and further splitting the oilseeds sector into soybean, palm oil and other oilseeds.

Assumption regarding food consumption: We support CARB's efforts to quantify the extent to which LCFS compliance is linked to reduced food consumption. We do not think reduced

food consumption is an appropriate component of LCFS compliance and recommend that this portion of the reduced demand for land be excluded from the results. The adjustment to account for food consumption impacts has already been implemented in the sensitivity analysis. At the very least, assumptions regarding developing country food consumption should be held constant as there is reason to expect these countries and the international community would undertake action to stabilize food supplies in response to food price shocks.

Crop Yield Price Elasticity: There is no clear consensus on the magnitude of the yield-price response on land cover changes in the economics literature. The current results of the sensitivity analysis indicate that results on land cover changes are quite sensitive to the value of yield-price elasticity. In light of the findings of the expert work group, Professor Berry's report to CARB[1], and the recent analysis of Berry and Schlenker[2], we recommend that a lower elasticity of 0.05be used in the analysis. This estimate has already been used to test the sensitivity of the different elasticity values on crop yield-price relationship.

Endogenous Productivity Increase in Cropland Pasture. Unlike yield-price elasticity, there is a limited body of literature on the appropriate change in cropland pasture productivity in response to increased land rents. While it is economically plausible that croplandproductivity should increase somewhat with increase in land rents, the proposal to use values as high as 0.2 or 0.4 is hard to justify based on the available data. The expert working group did not review these parameter values, and on that basis we suggest further study is required before adopting a non-zero value.

Simultaneous Shocks. While the modeling to date has focused on one shock at a time, the real world will see increased demand for multiple biofuels, in California and from policies in the U.S., E.U, Brazil and elsewhere.[3] We expect that simultaneous shocks will increase the magnitude of the land use change, and CARB should consider shocking the model simultaneously for multiple fuels and policies.

Land Use Change Emission Factors. The new land cover database presented during the September 14 workshop implements many of the changes recommended by the expert work group.[4] The finer grained representation of land cover – relative to the Woods Hole Research Center database that was previously being used – better corresponds to the GTAP model structure, and the thorough documentation provides a sound basis for future review and

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[1]Available at: http://www.arb.ca.gov/fuels/lcfs/workgroups/ewg/010511-berry-rpt.pdf

[2]Berry, S. and W. Schlenker, August 5, 2011. Empirical Evidence on Crop Yield Elasticities. Technical Report for the International Council on Clean Transportation. Available at: http://www.theicct.org/pubs/berry_schlenker_cropyieldelasticities_sep2011.pdf

[3]According to the International Energy Agency more than 50 countries have adopted biofuel blending targets or mandates with several others having announced biofuel quotas in coming years.

[4]Carbon Emission Factors Subwork group report, available at: http://www.arb.ca.gov/fuels/lcfs/workgroups/ewg/010511-final-rpt-carbon-emiss-factors.pdf, Land Cover Types Subgroup report available at: http://www.arb.ca.gov/fuels/lcfs/workgroups/ewg/010511-final-rpt-land-cover-types.pdf

improvements. It is clearly an improvement as it now stands and we support its adoption by CARB.

Thank you for your consideration and attention.

Sincerely,

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cc:
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