December 2, 2008

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

Dear Chairman Nichols,

The undersigned endorse the California Air Resource Board's (CARB's) prioritization of an environmentally responsible approach to the Low Carbon Fuel Standard (LCFS) and indirect land-use change (ILUC). Our shared goal is the development of highly productive biomass generation with maximized co-benefits, including the avoidance of conflicts with food production, minimized adverse environmental impacts, enhanced local economic development, and the promotion of suitable animal feed (see "Rethinking Biofuels"[i]).

One test for a good policy is a clear financial incentive for producers to invest in techniques that cause additional carbon reductions. In general we expect such techniques to require a higher up-front capital investment in exchange for a higher return-on-investment than the value of the fuel alone. A second test is a clear statement about preferred approaches to land use.

We believe the following items should be part of the LCFS and are at least partially addressed in the October draft of the LCFS:

(1) The use of a comprehensive evaluation system that promotes higher productivity, waste biomass utilization, non-food feedstocks, and increased soil carbon sequestration.

(2) A clear price signal for the carbon value attributed to various fuels, distinct from inherent fuel value.

(3) The encouragement of facility-specific certification for direct GHG measurement.

We agree with CARB's stance that a policy that defers regulation of ILUC is not aligned with the long-term interests of the biofuels industry or that of the greater private and public stakeholder communities concerned. We support the development of a policy that does not overly depend on precisely predicting indirect land-use effects, with the view that it will be difficult to implement and may not provide clear guidance to the industry.

It has become increasingly recognized that there is uncertainty in existing predictive models' abilities to accurately forecast global land-use changes resulting from biomass production and the resulting greenhouse gas (GHG) emissions. However, even if indirect land use effects are difficult to predict, the models can be designed to encourage the right behaviors by the industry. We are enthused by CARB's preference to send economic signals that will result in better feedstocks, agronomic practices, and conversion processes being developed over time. We believe that tools can be developed to stay the course for 2nd generation biofuel producers. These tools can promote environmentally sustainable energy solutions while correctly managing both

unseen and foreseen externalities accompanying the growth of the biofuels industry. These more sustainable biofuel pathways also provide the greatest possibilities for GHG reduction.

Favorable policy approaches should be considered for non-food feedstocks where the potential exists to develop low carbon and land-use impact approaches and where the total impact is likely to be immaterial in the coming decade because of the nascent status of the technologies in question. We do, however, believe that the industry requires a level of guidance and direction even at this early stage.

In short, we support CARB's decision to act now in motivating market activity that heeds both LCFS and ILUC concerns, and view the "zero" policy approach to be one that mistakenly offers inadequate direction for the market.

Comprehensive Evaluation System

Our understanding is that CARB is currently proposing a comprehensive evaluation system that would be based on the best estimate of GHG impacts, both direct and indirect, as a tool for practically managing LCFS and ILUC concerns. A comprehensive evaluation system that considers all critical attributes of biomass production, rewards lower carbon biofuel production when all critical attributes are properly considered, mitigates select anticipated negative externalities, and upholds the broader goals of a clean energy economy, is our mutual end-goal.

We would like to make sure that the proposed evaluation would achieve the following effects:

1. Minimization of land impacts. The indirect land use measurement should incorporate a consideration of what the land in question is capable of providing and its prior use. The calculus should have the effect of encouraging land use in the following order:

i. No land used (e.g. forest waste, rice straw)
ii. Seasonal cover crop (e.g. sweet sorghum)
iii. Displaced fiber crop (e.g. cotton)
iv. Displaced forage crops (e.g. pasture)
v. Displaced animal feed (e.g. alfalfa)
vi. Displaced human/animal edible crop (e.g. corn, soy)
vii. Displaced human edible food (e.g. wheat, rice, vegetables)

2. Maximization of productivity. The combined effects of the ILUC and direct measurements should encourage the following:

viii. Production/acre – Reward improved productivity (in BTUs) per unit of land.
ix. Water efficiency – Reward the use of non-irrigated land and water reduction below prior use. We recognize that this may create a need to equate water usage and GHG production. Fortunately, in California, there are models for the embedded GHG effects of water utilization, and we assume that these or comparable models can be applied in the rest of the country where irrigation is used.
x. Land improvements – Reward practices that improve the carbon sequestration in soil, including non-till practices and biomass systems.
xi. Protein and electricity co-products – Rewards for the creation of protein/animal feed and electricity.

In aggregate, the measurements need to be consistent with the relative GHG reduction and sustainability benefits between different biofuel pathways. Measurements should pay attention to the relative state of technology development and the potential future technology trajectory.

Separation of Carbon Value

We believe the LCFS should be designed in a way that establishes a clear market price on the value of reduced carbon in transportation fuels. By establishing a clear carbon value as distinct from the underlying fuel value, investors will have the ability to capture the monetary value of additional GHG reductions.

The decoupled method of valuation for fuel and carbon reduction provides a number of advantages to the biofuels and broader clean energy industry. For one, the ease of monitoring clean compliance and accounting will be enhanced. Secondly, quantifiable carbon reduction value units will assist in the marketing of various fuels; end-users will be able to ascertain their exact GHG benefit. Thirdly, investors will be able to quantify gains in value to both the energy components and the carbon value components of their biofuel investments, a factor expected to attract deeper liquidity to the market. A deepening of liquidity in the market can be expected to encourage a broader universe of participants in the biofuels industry. More importantly, enhanced capital availability will spur innovation (such as improved GHG reduction techniques) and further reductions in GHGs as a broader universe of producers compete with each other and more capital is available to fund their innovation and entrepreneurship in the sector.

We agree that surplus credits should be able to be exported outside of the LCFS market but not imported in. We also see no advantage to limiting the universe of buyers for fuel carbon credits. While a concern exists that speculators could manipulate the LCFS market, we believe this should be put in context and viewed from the perspective that regulated entities could also engage in market manipulation. To maintain transparency and avoid the potential for market manipulation, entities which own more than a small percentage of the total credit supply in the market should be required to publicly state the number of credits under their ownership. Public disclosure of individual equity stake ownership is an important regulatory feature of most public equities markets, and can be applied to the LCFS credit market equally well.

Facility Specific Certification

As we understand that under the current proposal, facilities are allowed to use an industry average model when computing direct GHG impact. While this approach reduces the overhead for compliance, it also encourages facilities to under-invest in GHG reductions since there is no penalty for underperforming relative to the average. A facility that expects to be above the model does have an incentive to be independently certified. As an alternative, we suggest that a facility be allowed to temporarily use an industry average model, but be certified within two years of production to establish and benchmark against their actual GHG emission factor.

Summary

We believe that CARB can encourage clean energy solutions for the medium- and long-term within a transparent market framework through (i) a comprehensive evaluation system that encourages high-value energy crops and categorically discourages potential negative effects in

the production of biofuels, (ii) the separation of the carbon value attributed to various fuels from each fuel's inherent fuel value, and (iii) the requirement that all biomass facilities be certified.

We are requesting clarification as to which portions of our proposals are already contained within the LCFS draft and which can be accommodated by changes in the proposal.

Thank you for your consideration.

Sincerely,

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Environmental Entrepreneurs

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The people above have signed as individuals.

[i] http://www.e2.org/jsp/controller?docId=16033&section=biofuellanduse