

April 3, 2009

Mary. D. Nichols, Chairwoman  
c/o Clerk of the Board  
Air Resources Board  
1001 I Street  
Sacramento, CA 95814

Dear Ms. Nichols:

I am writing to comment on California's proposed low carbon fuel standard (LCFS).

While the LCFS clearly has noble intentions, it is flawed because it includes indirect land use charges to biofuels. These charges are unprecedented – for example, does CARB do any of the following?

- Charge electric or hybrid automobiles for the GHG emissions from the fossil energy power plants used to provide their electricity (or for the indirect heavy-metal emissions from mining operations needed to produce their batteries).
- Charge \$100k electric automobiles with the indirect GHG emissions caused by their manufacture (probably ~7x those of a small gasoline powered vehicle).
- Charge bicycles (I'm a longtime bike commuter) for the indirect GHG emissions due to the longer life expectancies and bigger appetites of riders.
- Charge gasoline for the indirect GHG from the military actions aimed at securing Mideast oil.

How rational is the proposed policy if biofuels must account for their indirect GHG impacts while other fuels/modalities don't have to?

Indirect land use effects are real, but difficult to quantify. But indirect impacts of transportation fuel sources go far beyond what Searchinger et al.<sup>1</sup> and Fargione et al.<sup>2</sup> have captured in their analyses, and therefore regulation on this “partial truth” basis is wrong. A first step in the right direction might be to charge fuels for their direct GHG emissions – this would still drive us toward better solutions – but in a more rational manner.

Thank you for considering my comments. I would like to emphasize that they are mine alone, and not those of my university, institute, or department.



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Associate Director of Educational Programs, Bioeconomy Institute  
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<sup>1</sup> Searchinger, T., Heimlich, R., Houghton, R. A., Dong, F., Elobeid, A., Fabiosa, J., Tokgoz, S., Hayes, D., and Yu, T.-H. (2008) Use of U.S. Croplands for Biofuels Increases Greenhouse Gases Through Emissions from Land-Use Change, *Science* 319 (5867) pp. 1238 – 1240.

<sup>2</sup> Fargione, J., Hill, J., Tilman, D., Polasky, S., Hawthorne, P. (2008) Land Clearing and the Biofuel Carbon Debt, *Science* 319 (5867) pp. 1235 – 1238.