

April 21, 2009

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

Dear Chairman Nichols,

As scientists and economists with relevant expertise, we are writing to recommend that you include indirect land use change in the lifecycle analyses of heat-trapping emissions from biofuels and other transportation fuels. This policy will encourage development of sustainable, low-carbon fuels that avoid conflict with food and minimize harmful environmental impacts.

Our comments are relevant to the development of California's Low Carbon Fuel Standard (LCFS), which the Air Resources Board (ARB) will consider for adoption in its April hearing, as well as other policies that evaluate lifecycle heat-trapping emissions from biofuels. For policies like the LCFS to successfully reduce GHG emissions, it is critical to include all major sources of emissions, including indirect land use emissions from biofuels.

We encourage you to investigate and include significant direct and indirect emissions from all fuels, including conventional petroleum, heavy oils, natural gas for transportation, oil sand-based fuels, and the range of fuels used to power electrified transportation, consistent with the best available science. However, you should not delay inclusion of known sources of emissions, including indirect emissions from biofuels, pending discovery of potential effects from other fuels.

Recent peer-reviewed research indicates that conventional biofuels can directly or indirectly result in substantial heat-trapping emissions through the conversion of forests and grasslands to croplands to accommodate biofuel production. Increased demand for crops to make fuel results in higher global commodity prices that can induce farmers in other countries to plow up sensitive, high-carbon ecosystems—including rain forests in South America and Southeast Asia. Previous lifecycle analyses did not adequately account for these emissions, giving biofuels credit for greater carbon savings than actually achieved.

There are uncertainties inherent in estimating the magnitude of indirect land use emissions from biofuels, but assigning a value of zero is clearly not supported by the science. The data on land use change indicate that the emissions related to biofuels are significant and can be quite large. Grappling with the technical uncertainty and developing a regulation based on the best available science is preferable to ignoring a major source of emissions. Over time, greater accuracy and detail in a more refined analysis can be reflected in future LCFS rulemakings.

The need to address uncertainties applies to other areas the analysis as well, and we urge you to evaluate the increasing use of nitrogen fertilizers and herbicides associated with greater biofuel production. In particular, nitrogen fertilizers enhance the emission of nitrous oxide—a powerful greenhouse gas in Earth's atmosphere.

To spur innovation in low carbon fuels, the LCFS must send an accurate signal to the growing clean energy market. Strategic investment decisions should be based upon the best available data of the carbon footprint of alternative fuels. Failure to include a major source of pollution, like indirect land use emissions, will distort the carbon market, suppress investment in truly low carbon fuels, and ultimately result in higher emissions.

The work you are doing in California sets an important precedent for transportation fuel policy nationally and internationally, as well as for action to confront climate change more broadly. We urge you to ensure that your policies are based on the best science, including consideration of emissions from indirect changes in land use.

Sincerely,

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