The Honorable Stephen L. Johnson
Administrator
United States Environmental Protection Agency
1200 Pennsylvania Ave, N.W.
Washington, D.C. 20460

Dear Administrator Johnson:

We are writing concerning the EPA's imminent rulemaking in response to the Renewable Fuel Standard passed in the Energy Independence and Security Act of 2007. In that legislation, the EPA was called on to determine the GHG lifecycle emissions reductions due to production of various biofuels. The EPA was directed to account for "significant indirect emissions such as significant emissions from land use changes" (ILUC) in their assessment.

We strongly believe that a requirement to account for ILUC in the legislation was premature, as there are no generally accepted methods for determining indirect land use change, or for that matter, any indirect (market-driven) change, and there is no way to apply even current methods in any meaningful way to the choices a farmer makes. We are not aware of a single published paper in the lifecycle literature using indirect effects, and the International Standards Organization (ISO) has published no standards for analyzing indirect (market-driven) effects. In short, what the legislation requires is currently impossible.

We believe that the GHG lifecycle benefits of 2nd generation biofuels, in particular, are very positive. However, if flawed assumptions and methods are used to determine GHG lifecycle emissions reduction, then the GHG emissions benefits of biofuels produced from perennial grasses, such as switchgrass and Miscanthus, may be underestimated substantially.

Of particular concern is that the EPA appears to be relying heavily on the February 2008 paper concerning potential land use change impacts authored by Searchinger et al. (Science, 319, 1238-40, 2008). We believe this would be a grave error. The Searchinger paper started an important policy discussion, but it is certainly not the last word on the issue. This paper presented a "gedanken" experiment about potential ILUC impacts under a narrowly cast set of assumptions. The authors started with an assumption that any acre taken out of food production in the U.S. would lead to an increase in global agricultural acreage, leading to conversion of native acres to food production acres. In the model Searchinger et al. used, there is little elasticity in food demand, land productivity, land availability, etc.

For example, the authors claim that "[t]he diversion [of land from food to biofuel production] triggers higher crop prices, and farmers around the world respond by clearing more forest and grassland to replace crops for feed and food." While there can be pressure to free up previously "native" lands, a large number of underutilized acres are available globally, and whose conversion to either food or biofuel production would not necessarily lead to any conversion of "native" lands. 200 million cattle are grazing on 500 million acres of pasture land in Brazil; experts project that 150 million acres could be made available for biofuels, with increased intensification of meat production on the remaining 350 million acres, without affecting food supply or "native" land conversion.

Furthermore, the Searchinger paper took the rates of land use change occurring worldwide in the 1990s as a basis for land use change a decade from now, around 2015. There is no basis for such an assumption. These authors also assumed that all of the historical land use

change was driven by agricultural expansion. This is a naïve and uninformed assumption. Of 152 cases of land use change studied worldwide, only 4% could be associated with agricultural expansion alone. The cluster of factors that drive land use change is much more complex than the single factor agricultural expansion driver assumed by Searchinger et al.

Additional research is being done on ILUC utilizing different assumptions than the Searchinger paper and very different results are emerging. For example, the Searchinger paper assumed that the worst (most prone to release soil carbon) tillage practices were used on converted land. However, if current average tillage practices, or the emerging best practices, are used instead, much shorter "payback" periods result. In summary, the science and appropriate methodologies for ILUC analysis are just beginning to be done. EPA should delay rulemaking until the science is ready.

In the Renewable Fuel Standard, Congress called for increasingly large amounts of biomass for biofuels to come from low-carbon biomass sources, such as switchgrass and Miscanthus, from 2015 onward, to meet the combined targets on energy security and climate change mitigation. Switchgrass and Miscanthus are perennial crops, with low nutrient requirements, and they also sequester carbon into soil through their extensive root development. Since these products can also be produced on lands with soil types that are not suitable for high-yield production of annual food crops, their production on alternative lands are likely to contribute strongly to both energy security and mitigation of climate change. It would be very unfortunate if a rush to judgment by the EPA would cast unwarranted doubt on the value of these low-carbon, 2nd generation biofuels.

For these reasons, the undersigned urge you to delay this aspect of the rulemaking that is currently planned for October 31st, and to utilize new general models for agricultural land, economics and trade that will give a more realistic assessment of potential adverse effects of indirect land use change.

Thank you for considering this recommendation.

Sincerely,

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