

*The*  
MINNESOTA  
PROJECT

working for strong local economies, vibrant communities, and a healthy environment

October 21, 2009

Ms. Kristen Kerwin  
U.S. Department of Energy  
Golden Field Office  
1617 Cole Blvd  
Golden, CO 80401

RE: Abengoa Biorefinery Project EIS

U.S. Department of Energy,

We would like to thank you for inviting comments from The Minnesota Project on the proposed Biorefinery in Stevens County, Kansas.

The Minnesota Project is a non-profit organization directed toward creating more sustainable systems of agriculture, food, and energy. For 30 years The Minnesota Project has been at the forefront of issues regarding the improved health and prosperity of people and the land. Among those issues are biofuels and sustainable agriculture. The Minnesota Project played a key role in establishing a Renewable Portfolio Standard in Minnesota as well as establishing community wind policies that maximize local control and local enjoyment of the benefits of wind projects. The organization also played a key role in establishing the Reinvest in Minnesota-Clean Energy (RIM-CE) program and has played a lead role in establishing innovative environmental quality indice programs designed to easily and effectively measure and quantify the environmental impacts of various crop production techniques. Most recently, we published *Transportation Biofuels in the United States: An Update* ([http://www.mnproject.org/pdf/TMP\\_Transportation-Biofuels-Update\\_Aug09.pdf](http://www.mnproject.org/pdf/TMP_Transportation-Biofuels-Update_Aug09.pdf)) which provided an up-to-date review of biofuel technologies and issues. As we push for innovative policies to ensure that not only are clean energy sources developed, but that the benefits are maximized to local communities, we will continue to provide comments on key federal

developments to help achieve our goals of advancing the sustainable production and equitable distribution of energy and food in communities.

We wish to provide a number of comments on the construction of the Abengoa Biorefinery in Stevens County, Kansas. The Minnesota Project recommends the Proposed Action for the Biorefinery project, with requests for further considerations for a number of project components.

The Minnesota Project recommends the Proposed Action for many of its environmental benefits. The 306-percent reduction in greenhouse gas emissions compared with gasoline represents a large advancement in carbon reduction of transportation fuel production. This dramatic reduction is a great step towards achieving the necessary greenhouse gas emissions reductions that need to be made in the next 30 years. Additionally, this project has the potential to avoid the negative impacts of land use change that can accompany new energy technologies. Moreover, this biorefinery project augments its positive potential environmental impact by combining the technologies that create cleaner fuels with those that create cleaner electricity. The combination of these technologies greatly reduces greenhouse gas emissions, and works towards a cleaner energy future in two energy sectors. *To ensure the lowest negative environmental impact, the Abengoa biorefinery must pursue the proposed combined heat and power option.*

Several other issues with this biorefinery project must be addressed before this project is implemented. Clarification is needed on the source and removal rates of the corn stover feedstock. Stover removal rates established in section S.3.1 of the Environmental Impact Statement must be followed. Moreover, stover removal rates must not exceed rates that would lead to undue wind and sheet erosion. Corn stover removal studies conducted by H. Blanco-Canqui et al indicated a maximum of 25% removal rate for soils found in Ohio before considerable negative impacts occurred.<sup>1</sup> These studies looked at both removal rates as well as tillage regimens. *Region specific studies should be completed before corn stover removal occurs in order to establish appropriate stover removal rates based on soil characteristics, tillage practices, and region-specific weather patterns.*

The Minnesota Project also has concerns over the ash the solid biomass boiler would create. The EIS states that the biorefinery plans to sell the ash as a nutrient

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<sup>1</sup> See: H. Blanco-Canqui, R. Lal, W.M. Post, R.C. Izaurralde, and M.J. Sipitalo, "Soil hydraulic properties influenced by corn stover removal from no-till corn in Ohio," *Soil & Tillage Research* 92 (144-155).

replacement co-product to agricultural producers in the region, but may not be able to do so because of a lack of a market. What does the market for the ash currently look like? The utilization of this resource would be a huge asset to this project, as it would prevent 228-233 tons of ash per day from going to landfill. This ash, however, must be allocated to regional biomass producers at a rate that does not exceed the ability of the soil to absorb the nutrients. Were the ash to be too heavily applied to agricultural lands, there would be an increase in nutrient runoff, which would pollute the surrounding lands and waterways. As with the removal of corn stover, scientifically-determined rates of ash land application must be established to minimize environmental impacts on surrounding agricultural lands and watersheds. Use of indice programs to track impacts on land and water resources would also provide useful and cost-efficient follow-up to lands experiencing corn stover removal or ash application. *The Minnesota Project recommends scientific measurement, or at a minimum, use of indice programs based on National Resources Inventory data to establish runoff index scores for agricultural lands to determine appropriate field-specific removal and application rates.*<sup>2</sup>

Lastly, a clear plan for waste management must be defined before the construction of this project. In the event the biorefinery is unable to land apply its ash waste, it will exceed the capacity of the local landfill to absorb the produced waste. The waste management plans presented are inadequate and lacks a clear plan for what to do with this waste. This waste must be dealt with in such a way that minimizes the impact on the local community and their resources (e.g. does not inordinately shorten the lifespan of the Stevens County landfill). *Stronger long-term plans must be established for landfill management of refinery waste in preparation for the potential that land application of ash can not handle the ash waste product.*

I appreciate the opportunity to provide comments on the EIS for this biorefinery.

Thank you,

Dr. Ryan Stockwell  
Director of Energy and Agriculture  
The Minnesota Project

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<sup>2</sup> See: [www.ers.usda.gov/Publications/aer832h.pdf](http://www.ers.usda.gov/Publications/aer832h.pdf)