

Infrastructure Recommendations and notes:

For Background – here are the 2008 Recommendations:

INFRASTRUCTURE, END USE AND BIOBASED PRODUCTS

1. RECOMMENDATION: Encourage EPA and DOE to complete research and testing on ethanol blends to be able to proactively establish a means through regular rulemaking processes to fully include low, mid and high level ethanol blends (E0-E85) in federal emission certification regulations and emission/fuel economy test protocols. This rulemaking should include matters related to end use compliance of vehicle emission performance, fuel volatility and misfueling as required under the Clean Air Act. This immediate action is intended to remove the timing and technical uncertainty associated with possible midlevel blend waiver requests.
2. RECOMMENDATION: DOE, DOT and EPA should assess the compatibility of the existing delivery and distribution infrastructure with blends greater than E10. The agencies should fund and actively participate in research in materials compatibility and any other barriers identified.
3. RECOMMENDATION: Increase federal research and development in technologies to develop fuels compatible with the existing infrastructure (including but not limited to: renewable gasoline, renewable diesel and renewable jet fuel, cellulosic diesel, FT diesel).
4. RECOMMENDATION: DOE, USDA and DOT conduct analysis and research the impact of the constraints (availability and economics) in the existing transportation infrastructure (rail, truck, barge) to transport biofuels required by the RFS from plant to tank and the associated feedstocks from field to plant.
5. RECOMMENDATION: Conduct a stakeholder review of the mid-level ethanol blend test plan including US Council for Automotive Research (USCAR), Coordinating Research Council (CRC) and California Air Resources Board (CARB).
6. RECOMMENDATION: Provide financial support for biobased product testing to validate performance. This support could be in the form of grants, loans or tax credits to companies seeking to commercialize and utilize biobased products in the private sector; and to research centers and agencies to work with standard setting organizations for generating new and more relevant biobased products standards. Funding could be made available to government or academic testing centers to offer subsidized testing for biobased products manufacturers or to perform life cycle analysis in support of some biobased products.
7. RECOMMENDATION: Increase federal support for R&D on co-products from biorefineries that could be used to manufacture chemicals and value-added products. In addition, provide R&D funding to explore potential production of crop nutrients from biorefineries.

Comments:

A big positive is the shift from an ethanol-only focus to thinking about biofuels more broadly, keeping in mind there remains a lot of work to be done on ethanol.

Recommendations:

- 1 Background: Research is needed to understand consumer preferences and decision-making. How do people make decisions on which fuels to purchase? We would like to encourage more discussion with people and companies that are actually engaged in the marketplace.
Other information: Understanding is that if the fuel is available, compatible with vehicles, and cheapest, it will be consumed. Value to consumer and timeliness of data collected will be two major considerations in this research.
Recommendation: Funding should be made available to research consumer preference in the marketplace. Development of tools to capture and provide better consumer-level data for this research is also needed.
- 2 There should be close collaboration and regular interaction between the DOE infrastructure Platform and our distribution infrastructure subcommittee. We would like to have input on prioritizing barriers and setting goals.
Recommendation: At a minimum, there should be a yearly presentation on goals and milestones; at that time this subcommittee can provide feedback on that information. Summary information on the distribution infrastructure platform's previous goals and activities should be provided to subcommittee prior to the meeting so that it can be a discussion more than a presentation with spot feedback.
- 3 There should be coordination between efforts at DOE and other agencies in this area – especially USDA and DOT. We would like to have an overall picture of the budget being applied to infrastructure.
Recommendation: there should be an interagency infrastructure platform (combining USDA, DOE, DOT and EPA) to coordinate and present information on the various infrastructure research efforts.
- 4 Research in the distribution area should be focused on removing bottlenecks and making fuels distribution more efficient. This needs to be done in close collaboration with DOT. We shouldn't be trying to replace the existing infrastructure, but to make better use of the existing infrastructure unless there is no other option.
Recommendation: Focus of the infrastructure research should be on identifying and removing bottlenecks to liquid biofuels distribution and matching the distribution to matching availability of capable vehicles.
- 5 Analysis activities – limited funds for sustainability work (e.g., feedstock sustainability) shouldn't ignore the separate aspects of sustainability that pertain to infrastructure.
Recommendation: DOE needs to define what sustainability means with respect to distribution infrastructure.

- 6 **Recommendation: There should be funding for research into CO₂ utilization from ethanol plants. This might be more oriented toward another platform (Integrated Biorefineries).**
- 7 **Recommendation: Funding should be put toward implementing, in existing ethanol plants, technologies and practices being developed for advanced biofuels facilities. This might be more oriented toward another platform (Integrated Biorefineries).**
- 8 Funding is very small for infrastructure – about \$5MM per year. Just the fuel compatibility testing should be provided with much more funding – perhaps 10x. The infrastructure platform is currently not funded directly – it receives money from the integrated biorefinery platform.
Recommendation: The infrastructure platform should be a fully-stand alone platform and should receive funding like any other platform. The funding level should likely be increased by at least an order of magnitude. The platform should develop specific goals and work plans in order to determine the appropriate funding level.
- 9 **Recommendation: There should be an analysis carried out on the impact that different level blends have on the delivery infrastructure. Flexible blending at the pump will require much different infrastructure than pre-blended fuels.**