



Board Action Area 5: Distribution Infrastructure

The national fuel transportation and storage infrastructure must accommodate the current and future growth of domestic biofuels production and transportation. Future production goals envision wider use of a variety of fuels, the production of which is currently centered in the Midwest and other rural areas. However, fuel demand is currently concentrated in large population centers on the east and west coasts. As a result, expanded biofuels production may require transportation of fuels and feedstocks over significant distances.

These current geographical dislocations between supply and demand may necessitate increasing the capacity of existing modes of biofuel transport (rail, truck, barge) and possibly adding new ones. Pipelines, which are considered the least expensive means of safely transporting bulk fuel shipments, may prove to be an economical biofuels transportation solution – provided various technical issues such as stress corrosion cracking can be overcome. Also, infrastructure location and configuration may not be optimal for interconnection of feedstocks, biorefineries, and consumer markets.

Other infrastructure upgrades will also be required, including expanded blending terminal storage capacity, retail infrastructure such as underground storage tanks, as well as seal and gasket materials capable of handling higher biofuels blends. One of the most significant hurdles to retail expansion is the current lack of an Underwriters' Laboratory certification for pumps dispensing blends of E15 or higher. Absent this certification, large operators of fuel pumps ranging from the Postal Service to large retailers will be reluctant to sell E85 or any other approved intermediate blend.

DOT is leading the design of frameworks in which the development of safe, adequate, and cost-effective biofuels transport infrastructure can occur. One of its chief initiatives is a Joint Industry Project whose objective is to determine the effects of ethanol blends on pipelines and storage tanks. DOT also has efforts underway to assess the infrastructure capacity requirements necessary to accommodate additional biofuels transport. DOT and USDA are collaborating to determine the impact of biomass transportation costs on feedstock economics.

Next Steps

The future biofuels infrastructure must address each of the following areas:

- **Capital:** Appropriate regulations and policies need to be put into place to attract adequate capital for needed infrastructure growth.
- **Corrosion:** The physical properties of ethanol, biodiesel, and other biofuels may require modifications to existing infrastructure as well as new, specially-designed systems to ensure safe transport.
- **Capacity:** Existing infrastructure will need to be optimized to handle increased liquid fuels throughput. Over the longer term, dedicated infrastructure may be necessary to safely and efficiently transport additional volumes of biofuels. Since the biofuels industry is in its infancy, little is known as to where and in what magnitudes the commodities will flow. This creates challenges to assure that sufficient transport and storage capacity will be available to enable them to do so.



Biomass R&D Board Actions

The Board will establish an interagency working group led by DOT to study and make recommendations to the Board by December 2008 on the following issues:

- Feasibility of pipeline use for biofuels transport, including facilitation of the necessary interagency collaboration on standards development.
- Liquid fuel flows over infrastructure, including pipelines, rail, barge and truck transportation to identify short and long-term infrastructure bottlenecks that will inhibit biofuels development.
- Integration of Geographic Information System (GIS) based tools housed at agencies such as DOT, USDA, EPA, and DOE in order to begin to link transportation infrastructure, demand, feedstock location, as well as water and other resources.