

Biofuel Distribution Task Force

The National Commission on Energy Policy (NCEP) is convening a new task force that will explore the future of biofuel distribution, both bulk (cross-country) and local (terminal). NCEP commissioner Norm Szydlowski, President and CEO of Colonial Pipeline, is helping to lead this project.

Recently passed legislation creating a Renewable Fuels Standard calls for the production of 36 billion gallons of ethanol by 2022, compared with current production of 7 billion gallons. This enormous increase in production raises a host of challenging questions concerning the manner in which biofuel will be distributed from production centers to major markets. The current system for moving biofuel around the nation's fuels marketplace is via barge, rail car, and tanker truck. Whether this arrangement can physically scale to handle the increasing volumes, and at what cost, is unclear at this point. Pipelines may assume a significant role – either through utilization of the existing network or the development of a dedicated system – however technical hurdles and economies of scale have precluded much activity in this arena until now. One key concern is the effect that large increases in distribution via rail and truck would have on the broader transportation system. The implications of these distinct outcomes deserve exploration.

NCEP plans to explore these biofuel distribution issues by convening a roundtable discussion of ethanol, fuels and transportation experts from industry, finance, government, environmental organizations, and academia. Over the course of several meetings in the next six months, this group will develop possible future scenarios in biofuel production and distribution that could inform a set of strategic policy recommendations. This work will focus on the implications of a large increase in biofuel production, the technical, economic, and social issues associated with these volumes, and the policy and regulatory measures that might facilitate an efficient distribution network. Some potential scenarios and issues to study include:

Possible Scenarios

Due to favorable economics compared with oil, as well as a Renewable Fuels Standard, the nation produces or imports 36 billion gallons of ethanol by 2022:

1. No pipeline network develops, rail provides distribution, and tanker trucks cover first and last mile.
2. An intermodal system based around supply area and market area hubs develops. Dedicated pipelines deliver ethanol from one major aggregated supply region to the East and/or West Coast(s). Rail and trucks provide distribution from regions where aggregated supply is too small for a pipeline. Technological developments enable ethanol to travel through existing petroleum product pipelines.
3. A national pipeline network develops providing all distribution except the “last mile” carried by tanker trucks.

Issues to Explore

1. The distribution implications of a large increase in biofuel production.
 - How will biofuel move to major markets on the coasts? Will there be complete national distribution?
 - What effect would large increases in distribution via rail and truck have on the broader transportation system? On air quality?
2. The difference between where corn ethanol is produced and where cellulosic ethanol would be produced, and how these two different production regions affect what transportation network would be necessary to move product.
 - How “batching” ethanol shipments within existing petroleum pipelines would alter what network is needed and where ethanol is aggregated, i.e. in the Midwest or in the Gulf Region.
3. The technical issues involved in building biofuel pipelines.
 - What are the challenges associated with moving ethanol through pipelines? What are the solutions?
 - What are the financing issues?
 - What are the industrial material demand issues?
 - What are the regulatory issues related to siting and operations that need to be considered such as eminent domain, hazmat licensing, first responder preparedness, etc?
4. How an intermodal distribution system involving trucks, rail cars, barges and pipelines could be developed around hubs to reduce cost and increase flexibility.
 - The economics of various transportation modes, i.e. the cost per barrel mile of shipment. This would include infrastructure requirements for liquid containers or pipelines, storage at ethanol facilities, at hubs and in market areas, and blending terminals.
5. The policy or regulatory measures that might facilitate an efficient and economical biofuel distribution network.