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Infrastructure Impacts

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INFRASTRUCTURE IMPACTS:

As federal pressure increases to meet ethanol mandates and as new ethanol plants are built across the country, how will all this ethanol be moved around – from factory to distributor to vehicle? Here's a sampling of the infrastructure issues.

BY CAROLYN JOHNSEN



PHOTOGRAPH BY KATE VEIK

Minden, Neb., grain bins help to supply the KAAPA Ethanol LLC plant



Congress mandates biofuel production

The federal renewable fuel standard in the Energy Independence and Security Act of 2007 requires the country to use 36 billion gallons of ethanol and biodiesel by 2022. Of that amount, 15 billion gallons can be ethanol made from corn. To meet this mandate, the country will have to invest in new technology to efficiently and safely transport, sell and use ethanol.

Transporting ethanol

Oil is distributed around the country in 200,000 miles of pipeline. Ethanol corrodes conventional pipelines, so it's currently moved by train and truck. But to use 15 billion gallons of ethanol by 2022, the country will need to find new ways to move the fuel from factory to consumer. Brazil has used pipelines to move ethanol; in November 2007, an Oklahoma company proposed building an ethanol pipeline as part of an ethanol hub in Nebraska, but no action has been taken on that proposal.

Congress weighs in

The energy bill passed by Congress in December 2007 includes several mandates to study how to upgrade the infrastructure to distribute ethanol. For example, the bill includes money for determining “the feasibility” of requiring gas stations to install E85 pumps and of building pipelines to transport ethanol and for studying how otherwise to improve the distribution of biofuels.

Selling ethanol

The Renewable Fuels Association said 170,000 filling stations operated in the U.S. in early 2007, but only about 1,100 of them were selling E85 — the 85 percent ethanol-15 percent gasoline

blend that flex-fuel cars typically run on. The scarcity of E85 pumps in the country made finding fuel difficult for the drivers of the six million flex-fuel vehicles on the road then — and for the million more flex-fuel vehicles that automakers expected to sell in 2007.

Driving on ethanol

Automobile manufacturers and ethanol advocacy groups alike caution against using ethanol in cars that aren't designed for it. But the Christian Science Monitor has reported that big automakers told President Bush that “by 2012, half of all their new vehicles could be flex-fuel models” — well ahead of the 2022 deadline for meeting the renewable fuel standard.

Insuring public safety

In the last three months of 2007, ethanol fires in Missouri, Ohio and Pennsylvania called attention to the special problems of fighting such fires. All three of these fires involved tanker trucks or trains carrying ethanol.

The foam that firefighters use to put out gasoline fires won't work on an ethanol fire, which just eats through the foam and continues to burn. There is a special foam to use against ethanol fires, but fire departments need to be trained to use it.

The Nebraska State Fire Marshal and Region VII of the Environmental Protection Agency offers such training. The Nebraska Ethanol Board distributes a free DVD on the topic to local fire departments. Although officials with the State Fire Marshal's office said there have been ethanol fires in Nebraska, the records were unclear on how many.

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