ST. LOUIS POST-DISPATCH

Hurtling Toward Ethanol Saturation . . . What's Next? Each Growth Path Offers its Own Challenge

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Pick any one of the nation's 170,000 filling stations and there's a 50-50 chance the gasoline contains ethanol. The likelihood is increasing each day.

The nation's 124 ethanol plants produce about 6.5 billion gallons a year, and enough new projects and expansions are under way to double that volume in a few years. When that happens, the grain-based fuel will satisfy almost 10 percent of the nation's thirst for gasoline to run cars, pickups and SUVs.

"There are going to be some fits and starts, but we're going to get there (to 10 percent)," said Bob Dinneen, president of the Washington-based Renewable Fuels Association. "Beyond that - that's where the uncertainty lies."

Ethanol use easily has eclipsed requirements of the federal Energy Policy Act of 2005, a law that mandates the use of 7.5 billion gallons by 2012. What's uncertain is whether there will there be enough demand to soak up billions of gallons of additional production capacity that will come online in a few years.

There are two possible avenues for growth beyond a 10 percent ethanol blend. They include increasing use of a purer blend of ethanol as a gasoline substitute, E85, and raising the level of ethanol in conventional gasoline to 15 or 20 percent. Both come with their own set of challenges.

"It's not a doom-and-gloom scenario for the ethanol producers," said Ron Oster, an energy analyst at A.G. Edwards & Sons Inc. in St. Louis. "We think it's a viable business. But I think you're going to experience some growing pains along the way."

Sales of E85 - a blend of 85 percent ethanol and 15 percent gasoline - are growing, but from a tiny base. Today, E85 accounts for just about 1 percent of total ethanol sales. Only about 5 percent of the nation's automobile fleet is capable of digesting the purer ethanol blend. And the build-out of tanks and pumps required to sell the fuel is progressing, but slowly.

Meanwhile, early efforts to pave the way for a 20 percent ethanol blend, E20, have prompted concern from car, boat and engine manufacturers, who are questioning the potential impact.

No one can say for sure how a mix of 20 percent ethanol and 80 percent gasoline will perform in a car, boat or lawn mower engine. The Department of Energy's research and

development arm, the National Energy Technology Laboratory, conducted a study in 2002. The tests identified some technical issues, especially in older cars, and concluded that more research was needed.

Auto and engine makers say higher-level ethanol blends can lead to corrosion and degradation of engine parts and may contribute to increased emissions.

The group is worried about a potential customer backlash similar to General Motors Corp.'s failed attempt at converting gasoline engines to diesel during the energy crisis of the late 1970s and early '80s. The result was a fleet of unreliable, sputtering cars that soured a generation of car buyers.

"When you start going beyond E10 in the motor gasoline pool, there is a range of potential problems," said Ron Sahu, a mechanical and environmental engineer working as a technical consultant for the concerned group. "We recognize (ethanol) has great benefits and some drawbacks. Let's just flesh this out so we're not living in a land of unintended consequences."

Minnesota is the likely battleground in the debate over higher-level ethanol blends.

In 2005 the state Legislature passed a law mandating the use of 20 percent ethanol in gasoline by 2013. And U.S. Sen. John Thune, R-S.D., wrote to the Environmental Protection Agency in March urging regulators to be prepared for an application for use of E20 in automobiles.

Currently under the Clean Air Act, only so-called flexible fuel cars can run on fuels that contain more than 10 percent ethanol. A waiver from the EPA would be needed to change that rule.

The state of Minnesota and the Renewable Fuels Association, a trade group representing ethanol and biodiesel producers, are conducting a study to help determine the viability of 20 percent ethanol blends.

At the University of Minnesota's campus in Minneapolis, 80 of the university's fleet of 525 cars, trucks and vans are part of a 14-month blind study of E20 drivability that began last summer. Half of the vehicles have been run on pure gasoline, and the others are using E20. The vehicles are routinely inspected by mechanics.

Other tests are looking at materials compatibility, fuel quality and emissions, said Ralph Groschen, a marketing specialist for the Minnesota Department of Agriculture. Though testing isn't complete and results won't be available until later this year, "in a nutshell, things have been promising," he said.

The growth of the petroleum alternative E85 has its own set of infrastructure challenges.

Many gasoline station owners are reluctant to pay the $2,000 to $100,000 required to retrofit existing tanks and pumps or install new ones to sell the fuel. And they're currently grappling with another problem - certification of E85 dispensers.

Underwriters Laboratories Inc., the private product-safety group that certifies consumer goods ranging from coffee makers to garage door openers, withdrew authorization for the UL-certified label on parts used in E85 dispensers last fall. No problems have been reported, but ethanol is more corrosive than gasoline, and that fact led to concerns the fuel could eat away at the metal and plastic parts.

Underwriters Laboratories began a review last fall that's expected to be complete later this year. Many gas station owners still can install dispensers with local approval. But a lack of certification and the potential of liability issues has a chilling effect on some fuel retailers, said Michelle Kautz, a spokeswoman for National Ethanol Vehicle Coalition in Jefferson City.

Some small, independent retailers are adding E85 dispensers, but many larger chains are waiting, she said.

What's more, station owners don't want to spend the money to install E85 dispensers only to have to replace them in a few months, said Bill Fleischli, executive vice president of the Illinois Petroleum Marketers Association.

As a result, "(E85) expansion is almost at a standstill," he said.

No matter the current challenges, Dinneen of the Renewable Fuels Association said ethanol will continue to seize a bigger share of the nation's motor fuels pie. "We look to a future when we're not just a blending component."