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Ethanol Fails to Lower Gas Prices, Study Finds

Blending ethanol brewed from corn into gasoline stocks is not bringing down fuel prices, an M.I.T. study finds

By Julia Pyper and ClimateWire | Wednesday, July 18, 2012 | 18

The renewable ethanol fuel blended into the United States' gasoline supply does not lower prices at the pump as advocates have claimed, according to a study released this week by the Massachusetts Institute of Technology.

The paper critiques earlier studies sponsored by the Renewable Fuels Association (RFA), which found that mixing ethanol with transportation fuel reduced gasoline prices by 89 cents in 2010 and $1.09 in 2011.

"The RFA and Secretary of Agriculture are relying on the [papers] for policy recommendations, and once I started seeing signs and billboards all around D.C. pop up with the same numbers, it became important for me to set the record straight," said Christopher Knittel, a professor of energy and economics at MIT and lead author of the report.

Today, ethanol made from corn makes up about 10 percent of all U.S. gasoline, up

Pin it

PRICE IMPACT: An analysis from M.I.T. finds that blending corn-based ethanol into gasoline supplies is not reducing prices. *Image: USDA.gov*

from 3 percent in 2003. Industry groups have maintained that increased ethanol production supports farmers, improves energy security, lowers greenhouse gas emissions and saves money at the pump.

But the MIT paper found that ethanol production has almost no impact on gasoline prices. According to Knittel, the RFA reports are flawed because the statistical models omitted important variables and made flawed correlations -- in this case that as ethanol production increased, the ratio of gasoline to oil prices fell.

"We just took their exact statistics model, and instead of using the ratio of oil prices to gasoline prices, we plugged in variables we know ethanol can't affect," he said. "We found that if you use their flawed statistics model, one would find that ethanol reduced natural gas prices, increased unemployment in the U.S. and Europe, and increased the age of our children."

Matt Hartwig, RFA's director of communications, pointed out, however, that the cost-savings were derived from the model used in a 2009 peer-reviewed study. It was accepted that introducing more ethanol expands fuels supplies, reduces the amount of imported oil and lowers the price of gas.

"It's the tone of the paper that belies more than anything perhaps a personal vendetta or grudge rather than intellectual process," Hartwig added. "It seems to be heavy on snark and light on substance."

Congress still pondering

Knittel's economic critique of ethanol comes as Congress continues to debate government policies on alternative vehicles and alternative fuels, including the

renewable fuel standard ethanol blend mandate, or RFS. The updated RFS2 program requires that 36 billion gallons of renewable fuel be blended into transportation fuel by 2022.

At a House Energy and Commerce Subcommittee on Energy and Power hearing yesterday, subcommittee Chairman Ed Whitfield (R-Ky.) said that the RFS program "has worked well in several respects." But, he added, alternative energy technologies required greater congressional scrutiny in order to ensure an "all-of-the-above approach" rather than energy policies that favored one particular fuel over another.

Rep. Joe Barton (R-Texas) said that if the goal of the RFS is to reduce dependence on foreign oil imports and improve environmental quality, then natural gas and clean coal technology should be given greater consideration.

"Although clean coal and natural gas are not renewable in the classic sense, certainly they would reduce emissions. I'm puzzled," he said. He added that some studies have suggested that the low energy density of ethanol would perversely lead to greater amounts of greenhouse gas emissions.

Citing the recent record-breaking drought that has struck two-thirds of the country, Rep. Bobby Rush (D-Ill.) maintained that biofuels and the RFS are important parts of U.S. climate policy.

"Today we see why it is extremely necessary to move our country towards an increasing reliance on alternative sources of energy as opposed to carbon-intensive fossil fuels ... that contribute enormously to ever-present climate change," he said.

Concerns about impact of drought on fuel prices

By devastating corn crops, this year's scorching summer temperatures will also affect ethanol production.

"The tough conditions that the nations' farmers are having certainly will have an impact on ethanol production, and it may result in fewer gallons produced than estimated at beginning of year," said RFA's Hartwig. "But we firmly believe production is ... still on pace to exceed RFS2 requirements."

The RFS requires refiners to blend 15.2 billion gallons of renewable fuel sources in 2012 of which ethanol will make up the vast majority. The RFS also set a 15-billion-gallon cap on corn-based ethanol per year, which has urged the industry to look to feedstock alternatives, such as algae or wood and grasses and other cellulosic biofuels. Refiners are required to blend 2 billion gallons of advanced biofuels this year.

"From here on in, it's going to be advanced biofuels," said Douglas Durante, executive director of the Clean Fuels Development Coalition, speaking from a forum hosted yesterday by the American Council on Renewable Energy (ACORE). "So now the risk gets higher; the technology leap gets greater."

Political uncertainty has also made advanced biofuel production a challenge, he added. "We've had very inconsistent policy, and it's very difficult to figure out if we're committed to this thing."

Automakers producing flex-fuel vehicles have also been struggling to get a grip on where ethanol markets and regulations are headed. The results of the MIT study could complicate their strategy further.

"If an alternative fuel is not lowering prices to the consumer, the expectation is and historical evidence is that consumers won't respond. If it's not lowering prices at the pump, then there's no incentive for most customers to choose these high ethanol fuels (E85) that may cost more per gallon on an energy basis," said an auto industry expert who did not want to be seen as taking a public position on the issue.

"We're not opposed to biofuels in any way," he said. "Our concern is that it could undermine the consumer pull for these fuels. ... What's the value of spending billions and billions equipping vehicles to handle high flex fuels if the consumer is not going to continue to use that fuel?"

Reporter Robert S. Eshelman contributed.

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