



Mythbusters: Ethanol and Foreign Oil Displacement

Posted by [Robert Rapier](#) on August 7, 2007 - 10:00am

Topic: [Alternative energy](#)

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As a result of the recent [Rolling Stone article](#) on ethanol, I have been getting a lot of e-mails in which the same topics come up again and again. Therefore, I decided to write a comprehensive ethanol FAQ, which will eventually be placed in full here at TOD. Right now, the FAQ is a [work in progress on my blog](#) (feel free to provide comments/criticisms), but I will occasionally post various topics here as I work my way through them. Today's topic is the claim:

Ethanol Reduces Dependence on Foreign Oil

It is interesting that this claim is so popular, given that it is so easily shown to be false. From the Renewable Fuels Association's (RFA) "[Energy Facts](#)":

FACT: In 2006, the production and use of ethanol in the U.S. reduced oil imports by 170 million barrels, saving \$11 billion from being sent to foreign and often hostile countries.

Interestingly, the RFA's [page on industry statistics](#) shows that ethanol production in 2006 was 4.86 billion gallons. This is 116 million barrels. Somehow using 116 million barrels of ethanol, with a per barrel BTU value of just over half that of a barrel of oil, displaced 170 million barrels of oil. To be precise, 116 million barrels of ethanol contain the BTU equivalent of 64 million barrels of oil.

The RFA's source on that was the consulting firm [LECG](#), where director [John M. Urbanchuk](#) has also been quoted:

The production of nearly five billion gallons of ethanol means that the U.S. needed to import 206 million fewer barrels of oil in 2006, valued at \$11.2 billion. This is money that stayed in the American economy.

Source: [Contribution of the Ethanol Industry to the Economy of the United States in 2006](#) (PDF download)

But it gets even better. From DOE Assistant Secretary Alexander Karsner's [keynote address to the RFA's National Ethanol Conference](#) in Tucson, Arizona:

Last year, we contributed something on the order of a displacing 500 million barrels of oil, oil that we didn't have to import from regimes that are hostile to our interest or might leverage energy economics over our future.

Here's [the same claim](#) by [Paul Dickerson](#), Chief Operating Officer at the DOE's [Office of Energy Efficiency and Renewable Energy](#):

Over 6 billion gallons of ethanol were produced in the United States last year, and we have an additional 5 billion gallons of refining capacity under construction.

That effort means 500 million fewer barrels of oil that we have to import from the Middle East.

That's from the [U.S. Department of Energy](#), folks. That is the department of the U.S. government that is charged with formulating and carrying out U.S. energy policy. And they are clearly delusional about the level of petroleum displacement from ethanol. If I truly believed those numbers, I would be all over the ethanol bandwagon as well. Either they are purposely misleading people, or they actually believe what they are saying. Both options are disturbing, considering the role the DOE plays in influencing energy policies.

How on earth are people coming up with these numbers? Can 64 million barrels of oil equivalent displace 170 million, 206 million, or even 500 million barrels of oil? And recognize that we haven't even touched upon the fact that the 64 million barrels is the gross output, and not the net. To get a true displacement number (for just petroleum), we have to subtract out all of the petroleum inputs that went into making those barrels of ethanol. At least that's what we would do if our goals were scientific, with the intention of getting to the truth of the matter, and not politically motivated.

Since ethanol is a gasoline replacement, this oil displacement should be most pronounced if we look at the gasoline demand curve. As ethanol has ramped up exponentially since 2000, how much gasoline has been displaced? [It's not apparent that there was any displacement](#). As shown in the link, as ethanol has ramped up since 2000, not only has gasoline demand **increased** by 10 billion barrels per year, but there isn't even any obvious effect from ethanol on the gasoline growth curve. As ethanol has ramped up, we have become **more** dependent upon petroleum. That is not my opinion. That's what the numbers say, in black and white.

U.S. dependence on foreign oil is a demand-side problem. It is not going to be fixed by producing more ethanol - false claims about the amount of displacement notwithstanding. And it is not going to be fixed unless we confront the reality of the situation instead of the political spin.



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