

The Folly of BioFuels

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You may never have heard of Patricia Woertz, or Archer Daniels Midland. Woertz is the CEO of ADM, America's 27th largest company, and it's the largest company headed by a female in the US. The reason you ought to care is that Woertz and ADM have the power to make your life more expensive – much more expensive. And they have been aggressively exercising that power for over 30 years.

ADM is the largest primary food processor in the country – it turns corn and soybeans (among other products) into a host of consumer products: corn flakes, cornstarch, corn syrup, corn meal, popcorn, and hundreds of other items. One of those other items is ethanol. Ethanol is a pure grain alcohol that, when blended with gasoline, yields gasohol – the E10 or E85 blends. Ethanol has long been touted as a path to energy independence, the way to reduce, or even eliminate, oil imports.

More accurately, though, ethanol is the latest incarnation of snake oil. It is an inferior product in every facet, and the entire ethanol industry would disappear overnight if the federal government would perform its intended function – the service and protection of its people – and end ethanol subsidies once and for all.

The origin of ethanol as a national fuel source can be traced back to the national hysteria surrounding the oil shocks of the 1970's. An enterprising Dwayne Andreas (then-chairman of ADM) managed to convince President Carter that a domestically produced fuel substitute could reduce or even eliminate dependence on foreign oil. Andreas managed to secure massive federal subsidies for both the production and consumption of ethanol – and a new "industry" was born, albeit one that would not survive off the omnipresent life-support of the federal government. Sadly, as can only be expected of a product that cannot compete on its own merits, ethanol has proven to be a success only as a case in corporate welfare, not as a viable form of alternative fuel.

Ethanol is the greatest bust in the history of this country joining the ranks of the Edsel, New Coke, the USFL and *Ishtar* -- all are great names in failure, but none can compare to the sweeping and encompassing flop that is ethanol. Ethanol disappoints functionally, economically, socially, and, perhaps worst of all, ecologically.

Ethanol has only about 67% the energy of a similar volume of gasoline. Thus, E85 (a 15% ethanol blend) has less energy than gasoline – and delivers only about 75% of the mileage that gasoline would in the same "flex fuel" car. Ethanol does not perform in cold weather without special additives and lubricants that are not required in traditional gasoline. Ethanol results in higher NOx emissions (a significant component of smog) than gasoline and also has the potential to damage engines not specifically designed for ethanol use.

While the current national average prices for gasoline (\$2.72/gallon) and E85 (\$2.20/gallon) might falsely imply that E85 is cheaper, when adjusting for mileage delivered, the true price of E85 ($\$2.20 / .75 = \$2.93/\text{gallon}$) can be seen to be almost 10% higher than gas. This price delta continues to exist despite billions of taxpayer dollars annually given to ethanol producers to artificially create a market for this otherwise worthless product.

Ethanol is currently derived almost exclusively from corn. While there is much hype about generating ethanol or biodiesel from other non-edible sources (e.g. algae, cornstalks, grasses), those processes are not yet in place at anything approaching a commercial level. Because corn pricing behaves as a function of supply and demand, any significant increase in demand (e.g. ethanol production) without a corresponding increase in supply will necessarily lead to increases in price.

Multiple studies from such varied sources as Oak Ridge National Laboratory, National Renewable Energy Laboratory, US Department of Agriculture, Kraft Foods, International Monetary Fund, and the World Bank, have found that ethanol production has led to spikes in global food prices – not just foods used directly in ethanol production (e.g. corn, soy, and sugar), but substitute foods as well (e.g. wheat, rice, etc). A June 2009 Oxfam study concluded that global food price increases directly attributable to ethanol production were responsible for pushing an additional 30 million people into poverty. In a competition for resources, the world's richest 700 million people (drivers) will necessarily outcompete the world's poorest 3 billion (those

living at or near the poverty level), and exacerbate what are already dire living conditions among those subsisting on minimal diets.

All of this aside, however, the greatest offense of ethanol lies in its fundamental deceit. If the yellow brick road of the green movement is the ideal of cleaner and renewable energy sources, then ethanol is not the wizard, but the man behind the curtain.

Outside the US, the push for biofuels is causing serious damage. In Asia, peat bogs are being drained and burned to make more room for oil palm production. These efforts to create more land for biofuels are inherently carbon-intensive operations, not to mention massively destructive from an environmental perspective. As much as 98% of the Indonesian rainforest could be degraded or destroyed by 2020, much of that due to the planting of palm oil for biofuel production. The biofuel industry has, ironically, created the world's most carbon intensive fuel, all in the name of saving the planet.

For those ardent supporters of ethanol, consider, finally, this: Each bushel of corn can yield approximately 2.8 gallons of ethanol. Each acre of land can yield approximately 150 bushels of corn. Therefore, each acre can produce approximately 420 gallons of ethanol. Adjusted for mileage concerns, that equates to roughly 315 gallons of gasoline. In 2009, the US consumed approximately 140 billion gallons of gasoline. At 315 gallons per acre, that equates to nearly 700,000 square miles of land devoted to growing corn dedicated to ethanol production. Texas covers only 270,000 square miles of land.

The Lower 48 covers about 3.2 million square miles. To satisfy this nation's thirst for gasoline, nearly 20% of the entire country – mountains, cities, plains, and lakes – would have to be covered in corn slated for ethanol production. The numbers don't lie – ethanol is prohibitively expensive, ill-performing, carbon-intensive, and fundamentally unsuited as a replacement for oil-derived gasoline. But ADM hopes that you – or at least your senators and representatives – won't realize that anytime

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