

## Ethanol Craze Cools As Doubts Multiply

Claims for Environment,  
Energy Use Draw Fire;  
Fighting on the Farm  
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Little over a year ago, ethanol was winning the hearts and wallets of both Main Street and Wall Street, with promises of greater U.S. energy independence, fewer greenhouse gases and help for the farm economy. Today, the corn-based biofuel is under siege.

In the span of one growing season, ethanol has gone from panacea to pariah in the eyes of some. The critics, which include industries hurt when the price of corn rises, blame ethanol for pushing up food prices, question its environmental bona fides and dispute how much it really helps reduce the need for oil.

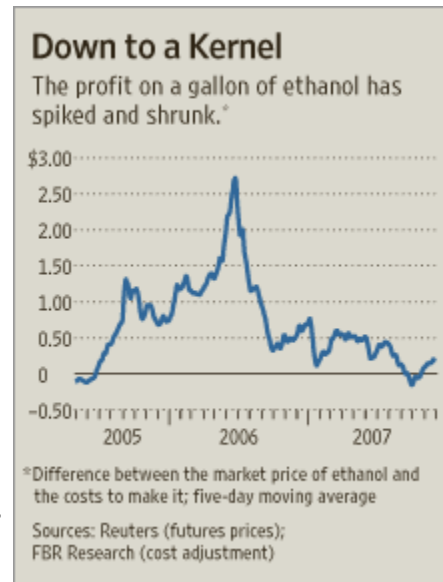
A recent study by the Organization for Economic Cooperation and Development concluded that biofuels "offer a cure [for oil dependence] that is worse than the disease." A National Academy of Sciences study said corn-based ethanol could strain water supplies. The American Lung Association expressed concern about a form of air pollution from burning ethanol in gasoline. Political cartoonists have taken to skewering the fuel for raising the price of food to the world's poor.

Last month, an outside expert advising the United Nations on the "right to food" labeled the use of food crops to make biofuels "a crime against humanity," although the U.N. Food and Agriculture Organization later disowned the remark as "regrettable."

The fortunes of many U.S. farmers, farm towns and ethanol companies are tied to corn-based ethanol, of which America is the largest producer. Ethanol is also a cornerstone of President Bush's push to reduce dependence on foreign oil. But the once-booming business has gone in the dumps, with profits squeezed, plans for new plants shelved in certain cases, and stock prices hovering near 52-week lows.

Now the fuel's lobby is pleading with Congress to drastically boost the amount of ethanol that oil refiners must blend into gasoline. But formidable opponents such as the livestock, packaged-food and oil industries also have lawmakers' ears. What once looked like a slam-dunk could now languish in pending energy legislation that might not pass for weeks, if ever.

Ethanol's problems have much to do with its past success. As profits and production soared in 2005 and 2006, so did the price of corn, gradually angering livestock farmers who need it for feed. They allied with food companies also stung by higher grain prices, and with oil companies that have long loathed subsidies for ethanol production.



The U.S. gives oil refiners an excise-tax credit of 51 cents for every gallon of ethanol they blend into gasoline. And even though it's the oil industry that gets this subsidy, the industry dislikes being forced to use a nonpetroleum product. The U.S. ethanol industry is further protected by a 54-cent tariff on every gallon of imported ethanol.

Ethanol prices peaked at about \$5 a gallon in some markets in June 2006, according to Oil Price Information Service. The price soon began to slide as the limited market for gasoline containing 10% ethanol grew saturated. New plants kept coming online, increasing supply and dropping prices further. Today, the oil refiners that purchase ethanol to blend in need pay only about \$1.85 a gallon for it.

The low ethanol prices help some oil refiners. "I'd pay a hell of a lot more for ethanol than I am right now.... I'm getting a windfall because it's priced so much less than its value to me," Lynn Westfall, chief economist for refiner Tesoro Corp., told investors recently. The ethanol tax credit will bring refiners an estimated \$3.5 billion this year. Some oil companies use ethanol to stretch gasoline supplies or meet state requirements to make gasoline burn more cleanly. Ethanol that's voluntarily blended into gasoline reached a high this month, according to the Energy Information Administration.

The low prices reflect soaring output. Global ethanol production has grown to a projected 13.4 billion gallons this year, from 10.9 billion gallons in 2006, according to the International Energy Agency. The U.S. production is more than half of that total, or about seven billion gallons this year, up 80% in two years. It equals less than 4% of U.S. gasoline consumption.

Analysts expect U.S. production capacity to keep growing, encouraged both by high oil prices and by the hope that Congress will stiffen the mandate for refiners to use ethanol. Some observers regard the profit squeeze as part of an ordinary industry shakeout that will ultimately leave the best producers in a position to thrive. As ethanol prices were pushed lower and corn prices stayed high, ethanol profit margins dropped from \$2.30 per gallon last year to less than 25 cents a gallon.

### **Turning Up the Heat**

This year, even as the production glut was driving down ethanol's price, critics and opposing lobbyists were turning up the heat. Environmentalists complained about increased use of water and fertilizer to grow corn for ethanol, and said even ethanol from other plants such as switchgrass could be problematic because it could mean turning protected land to crop use. Suddenly, environmentalists, energy experts, economists and foreign countries were challenging the warm-and-fuzzy selling points on which ethanol rose to prominence.

"Our love affair with ethanol has finally ended because we've taken off the makeup and realized that, lo and behold, it's actually a fuel," with environmental and various other drawbacks, says Kevin Book, an analyst at Friedman, Billings, Ramsey Group Inc.

Against all the criticism and lobbying, "we're David in this fight," says Bob Dinneen, the ethanol industry's top lobbyist. Mr. Dinneen says the industry has been made a scapegoat for food price increases that are due to many factors, including higher oil prices and growing overseas demand for grain. He also faults the lack of a mature U.S. distribution network that would make it easier for consumers to get ethanol. His group, called the Renewable Fuels Association, and the National Corn Growers Association have formed a coalition to "unify the voices" in the ethanol community, he says.



**Bob Dinneen**

Back in early 2005, President Bush gave ethanol a boost in his State of the Union speech by calling for "strong funding" of renewable energy. Energy legislation that summer required oil companies to blend a total of 7.5 billion gallons of "renewable" fuels into the nation's fuel supply by 2012. The legislation also effectively extinguished ethanol's chief competitor as a clean-burning additive, methyl tertiary-butyl ether, which had groundwater-pollution issues. The bill anointed ethanol as the default additive and instantly created demand nearly double what was produced that year.

"That was when the floodgates started coming open," says attorney Dan Rogers of the Atlanta law firm King & Spalding LLP, which arranges financing for ethanol plants. Hedge funds, private-equity investors and East Coast bankers started pouring money into ethanol. Producers such as [VeraSun Energy](#) Corp. and [Pacific Ethanol](#) Inc. went public. Mr. Dinneen, the lobbyist, hopped the country attending ribbon-cuttings at new plants that popped up in corn-growing states.

Local farmers who'd invested soon were cashing handsome dividend checks, even as new demand pushed up the price of corn. After languishing roughly in the \$2-a-bushel range for three decades, corn jumped to above \$4 early in 2007. So far this year, it's averaging \$3.35.

In the past, livestock farmers supported ethanol because it was good for the overall farm economy. But now they began to complain that the higher corn price cut sharply into their profits. A meat-producer trade group called the American Meat Institute took a stand against federal support for biofuels last December, joined soon after by the National Turkey Federation and the National Cattlemen's Beef Association.

The farm fissure widened when livestock, meat and poultry groups started coordinating their lobbying with the oil industry, in discussions helped along by former Texas Congressman Charles Stenholm, who now lobbies for both industries.

Packaged-food companies, too, began pushing back, as one after another blamed biofuels' effect on grain costs for hurting earnings. In June, [Dean Foods](#) Co., [H.J. Heinz](#) Co., [Kellogg](#) Co., Nestle USA, [PepsiCo](#) Inc. and [Coca-Cola](#) Co. sent a letter to senators saying that requiring greater use of ethanol would affect their "ability to produce competitively available, affordable food."

Ethanol's opponents also began to highlight reasons why ethanol might not be such a boon to the environment, citing some recent research studies.

### **Strain on Water Supplies**

One by the National Research Council said additional ethanol production could strain water supplies and impair water quality. A spring 2007 report by the Environmental Protection Agency said that "ozone levels generally increase with increased ethanol use."

A study coauthored by Nobel-prize-winning chemist Paul Crutzen said corn ethanol might exacerbate climate change as the added fertilizer used to grow corn raised emissions of a very potent greenhouse gas called nitrous oxide. The ethanol industry replies to that one with an Energy Department study concluding that use of ethanol reduces greenhouse-gas emissions by 18% to 28% on a per-gallon basis, provided that coal isn't used to run ethanol plants.

Opponents of ethanol also have hammered on an Agriculture Department projection that by 2010, less than 8% of the U.S. gasoline supply will come from corn-based ethanol -- and 30% of the corn crop will be used to make it. That suggests to some that the tradeoff between food and fuel is unbalanced.

At the same time, some foreign countries have been increasingly questioning ethanol. Mexico blamed it in part for contributing to rising prices of corn-based tortillas. China barred new biofuel plants from using corn, and Malaysia trimmed its biofuels production mandates. Cuban President Fidel Castro has called using food crops for fuel a "sinister idea." President Hugo Chávez of Venezuela ordered troops to secure his oil-producing nation's grain supplies, saying corn was to be used for food, not fuel.

The government of Quebec, which has offered loan guarantees for corn ethanol plants, recently decided not to initiate any new ones. Instead it will turn its attention to so-called cellulosic ethanol, which would be made from switchgrass, wood chips or other plant matter. It concluded that "the environmental costs of corn ethanol are higher than expected," says a spokesman for the province's minister of natural resources.

In recent months, U.S. lawmakers appear to have become more receptive to the anti-ethanol arguments. "People never thought they would have to make a trade between energy security and food security," says Jesse Sevcik, a lobbyist for the ethanol-opposing American Meat Institute.

The ethanol industry, accustomed to getting its way in Washington, hadn't faced such opposition before. It may not have helped that Mr. Dinneen, in a close echo of former Vice President Spiro Agnew's famous line, for months brushed off his foes as "nattering nabobs of negativity."

Mr. Dinneen says arguments about ethanol driving up food costs are overblown, in part because corn farmers will produce so much grain that corn prices will ease. But even

though U.S. farmers this year planted their biggest crop since World War II, prices have stayed well above \$3 a bushel, thanks to rising demand in developing countries and poor weather in some grain-growing nations. The price is expected to stay well above \$3 next year as farmers shift some land from corn to two other crops whose prices have risen sharply, wheat and soybeans.

## Bigger Plants

New and bigger ethanol plants, spurred by money from investors far from the Corn Belt, have contributed to production capacity that's expected to approach 12 billion gallons next year. But annual U.S. demand stands at just under 7 billion gallons.

So it's easy to see why the industry supports the Senate version of pending energy legislation, which includes a requirement that gasoline blenders use 36 billion gallons of renewable fuels by 2022. Up to 15 billion gallons of this would come from corn-based ethanol. The rest would come from cellulosic ethanol -- an industry that now barely exists -- or other fuels. A similar bill passed in the House has no such provision.

Mr. Dinneen, who has been lobbying on ethanol so long he's known as the "reverend of renewable fuels," says he's "reasonably confident" Congress will raise the ethanol mandate. He says he's talking with the military, labor groups, Southern black churches and others about how ethanol can help them. "We've got to build the biggest, baddest coalition we can."

<b>Better Alternatives?</b>				
How the first-generation renewable fuels ethanol and biodiesel each compare with a possible second-generation successor				
FUEL	COMPANY	WHAT IT IS	PROS	CONS
<b>Ethanol</b>	Marathon	Alcohol-derived fuel made from corn, sugar cane and other feedstocks	A high-octane fuel with low greenhouse emissions	Difficult to transport in pipelines, requires large crop volumes
<b>Biobutanol</b>	BP	Alcohol-derived fuel, similar to ethanol	Easier transport, less corrosion in pipelines than ethanol	Not yet produced at commercial volumes
<b>Biodiesel</b>	Chevron	A diesel-fuel equivalent derived from plant oils	Reduced emissions, increased lubricity in engines	Difficult to transport in pipelines, leaches water from tanks, not supported by all engine manufacturers
<b>Renewable Diesel</b>	ConocoPhillips	A diesel-fuel equivalent derived from animal fats and hydrocarbons	The fuel meets federal standards for ultralow-sulfur diesel, the addition of animal fat improves the fuel's ignition properties, can be transported by pipeline	Emissions seen as higher than those for biodiesel

Source: WSJ reporting