

Managing risk

Rising ethanol prices come with higher natural gas inputs

Chuck Woodside, general manager of KAAPA Ethanol, probably doesn't have a typical day. Besides overseeing the plant's operations, he may be at the legislature monitoring bills that affect his industry or giving a talk about the plant at a local civic group.

"It's making sure that we get everything orchestrated in the right direction; that's what I try to do," Woodside says.

A key part of that is managing price risk for both the plant's inputs and its products. With annual operating costs of about \$60 million, there are four key prices to watch: the corn and natural gas the plant buys and the ethanol and wet cake feed it sells.

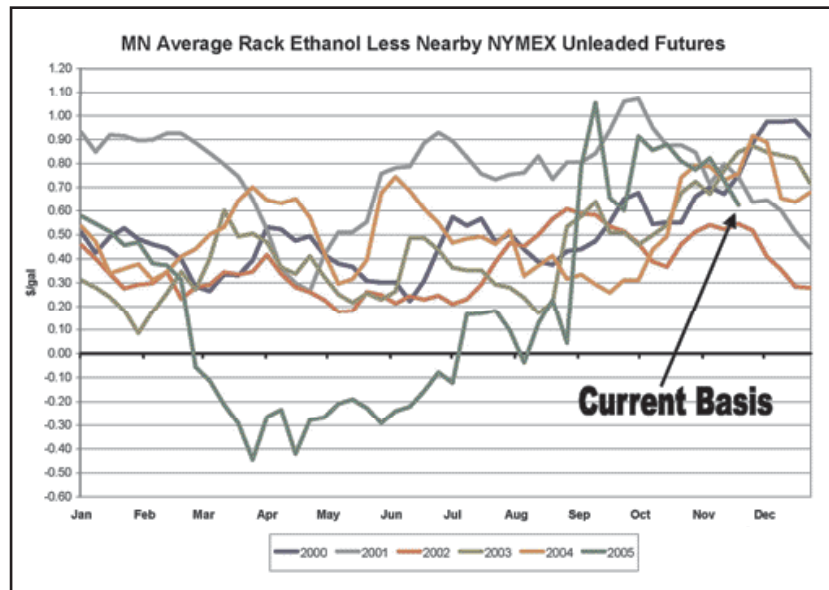
Protecting the margin

KAAPA's risk management policy focuses on the margin – the difference between those input costs and market prices for ethanol and feed. Working with commodity manager Rick Sorensen, Woodside pursues the plant's goal to "protect KAAPA's break-even margin" and to "lock in attractive ethanol processing margins" whenever possible.

For natural gas, for example, the plant is required to have at least 30 days' supply hedged with cash or futures contracts, options, or over-the-counter instruments. "It's looked at daily," Sorensen says of the natural gas market. At the same time, he's barred from hedging natural gas more than six months out, unless he has offsetting ethanol sales.

Distilling is no longer a gas

When KAAPA's organizers were seeking financing, they expected costs of about \$2.50 per million Btu's for natural gas, Woodside recalls. Last year those natural gas contracts on the New York Mercantile Exchange (NYMEX) hit a high of \$15.78. Fortunately, KAAPA had some gas hedged at a lower price,



This chart of the difference between Minnesota ethanol prices and futures prices for unleaded gasoline shows an unreliable link.

and "ethanol prices have been stronger than projections" he says.

Still, rising natural gas prices are becoming a major risk factor for ethanol plants.

"It's gone from what may have been construed as a minor input to a major one," says Julie Ward, a risk manager for R.J. O'Brien, who works with plants like KAAPA.

In the last six months of 2005, natural gas costs went from being about 20% of a plant's inputs to 35%, she says. The cost of corn is a little over half of a plant's inputs. "It's been maybe 20% less than corn in terms of dollars of input costs."

Hedging helps temper the effect of gas price increases,

"There are seasonals in the natural gas market just like there are seasonals in the grain market," Ward says. They tend to rise in the first and third quarters of the year and drop in the second and fourth. "As we go into the winter, you'd think demand would be big. Then, when weather doesn't pan out to be as bad, gas prices drop back,"

On the output side, ethanol is

about 80% of a plant's sales revenue. As the chart above shows, hedging remains a challenge.

A picture of volatility

The chart shows the difference between NYMEX unleaded gasoline futures and the spot market for ethanol in Minnesota.

The Minnesota price is what blenders pay ethanol plants before they get a 51¢-a-gallon tax credit. Ethanol prices range from about \$1 to 20¢ a gallon higher than unleaded futures. Except for the suggestion of a dip in basis in spring, the chart shows little seasonal pattern and wide volatility.

Last year (the green line) was even less predictable. In the spring and early summer, ethanol was cheaper than gasoline, even without the tax credit.

During that time, you were reading newspaper stories about consumer groups complaining that ethanol blends aren't offered by enough service stations.

By September, after Hurricane Katrina, the ethanol basis spiked up

to more than \$1 over gasoline futures, as blenders struggled to find fuel for motorists.

Using cash contracts

Such volatility makes hedging ethanol sales difficult. Some ethanol plants, including KAAPA, have been able to manage ethanol price risk with forward cash contracts negotiated with oil companies by marketers like the Renewable Products Marketing Group.

The Minneapolis-based venture represents about a dozen farmer-owned plants that sell 600 million gallons of ethanol a year. Large companies like ADM also market ethanol for other producers.

"They have done an exceptionally good job of staying ahead of the dips in these markets," Ward says.

Mixed reviews for contract

But ethanol producers have long wanted a reliable futures contract to make locking in a margin easier. So last March, after working with the ethanol industry, the Chicago Board of Trade introduced a 29,000-gallon ethanol contract. That's about one rail tank car of ethanol.

"The contract hasn't been as much of a success as we'd hoped," risk manager Ward says. "The primary reason is there's very low volume. We need to get buyers into that market. We need to get blenders in the market using it."

On the last trading day of 2005, the open interest for March 2006 ethanol contracts was 96, roughly one unit train of ethanol. Compare that to the March corn contract, with open interest of 449,290 contracts.

Of course, new futures contracts often start out with thin trading.

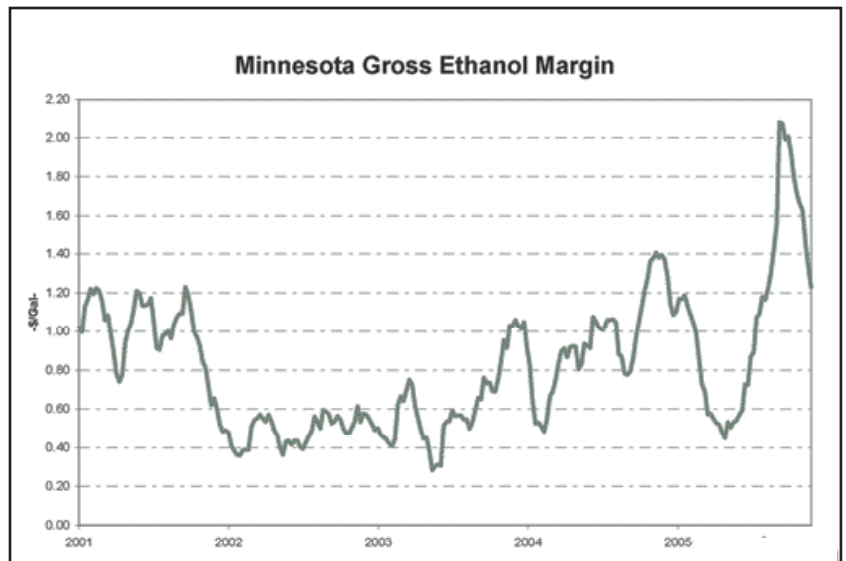
"I'm not overly concerned about what I see out of the contract," says Doug Schultz of John Stewart & Associates, another firm serving ethanol plants. "I think you're seeing normal growing pains."

The Board of Trade is getting more delivery points for ethanol, and the ethanol industry is using the contracts more, he says.

Corn – a bargain for now

The biggest input cost for an ethanol plant remains corn.

"For the short term, the corn pic-



This chart, provided by the Chicago commodities firm R.J. O'Brien, shows the margin between key inputs, natural gas, and corn, and key products, ethanol, and feed.

ture looks reasonably comfortable," says Schultz, citing last year's large U.S. crop and one of the biggest carryouts in years.

A bigger risk in that market in the future will just be sourcing corn in the cash market, Schultz believes.

"I think one of the issues for the industry going forward is concentration on a regional level," Schultz says. As more and more plants are concentrated into one area, competition to buy corn and to sell distillers' grains or wet cake will grow.

At the KAAPA plant near Minden, Nebraska, manager Chuck Woodside agrees. Within a 100-mile radius, three other plants now operate, and plans for another four or five have been announced.

He thinks that in the future farmers will be able to capture even greater spikes in the corn basis from ethanol plants if they have enough grain bin capacity to store.

"In my mind, probably the best money a farmer could spend right now, in terms of return on investment, is storage," he says.

Concentration could bring even bigger challenges for ethanol plants when they sell feed.

KAAPA, which began selling ethanol and feed in late 2003, at one time shipped wet cake as far as Sterling, Colorado, 235 miles west. With a new plant going up there, most of KAAPA sales are now within

about 70 miles, Woodside says.

Because wet cake is 65% moisture, transportation costs limit its market. But even marketing dried distillers' grains, sometimes shipped as far as California, can be a challenge, says Julie Ward.

"DDGS are one of those commodities that is a little difficult to hedge," she says. "They don't necessarily track with any specific market."

And there's a big regional variation in cash prices. In late 2005, for example, feedlots in Nebraska were paying \$95 a ton for DDGS while in Illinois, which has fewer feedlots, the cash price was \$65 a ton.

Bumps on the road ahead?

At the start of this year, ethanol futures were running around \$2 a gallon, and Minnesota cash prices in 2005 had averaged about \$1.80.

For most plants, which have total costs of about \$1.20 to \$1.40 a gallon, that's profitable, says Ward.

With crude oil prices still at about \$60 a barrel, Doug Schultz is fairly optimistic. "From my viewpoint, the demand for ethanol has remained good. It's remained solid in a fairly growthy industry," he says. "And, frankly, we've got to thank high energy costs for doing so."

"I think having quality financial people involved in the industry is important," he adds. "There will be significant bumps in the road." □