ETHANOL PRODUCTION TRENDS 2010

THE ETHANOL INDUSTRY HAS WEATHERED A STORMY 2009 AND IS LOOKING FORWARD TO A LITTLE MORE SUNSHINE IN 2010. ANALYZING LEADING MARKET TRENDS TODAY MAY HELP PRODUCERS IMPROVE THEIR BOTTOM LINE NEXT YEAR.

By Doug Haugh

Looking ahead, 2010 poses many challenges for the ethanol industry. The past few years have been volatile, to say the least, yet this industry has endured. In order to insure profitability and raise overall productivity, here are a few things those in the ethanol industry should consider.

LOWER YOUR CARBON FOOTPRINT

All ethanol production is no longer created equal. Several states have rules on the books to require a lower carbon fuel standard (LCFS) than the national renewable fuels standard. California going from E5.7 to E10 on Jan. 1, represents a market of 1.2 billion gallons of ethanol that requires a lower carbon fuel standard than other states.

California won't be alone in setting tougher limits, and like so many trends in emissions and sustainable business practices, what starts in California inevitably washes east to the rest of us. Nor is the U.S. alone; Canada is seeing similar moves with British Columbia working on lower carbon fuel legislation with updates expected in the next few months. All this indicates the door is wide open to new markets for plants that can produce to a more carbon efficient standard.

To move with that market, in 2010 we'll see more plants:

- Move from distillers dried grains to wet distillers grains (saving one-third of the cost)
- Replace natural gas with renewable biomass. (Biomass is carbon neutral—natural gas is not.)

Overall, this will produce greater energy per Btu consumed, and result in a reduced carbon footprint.

Farmer-owned Siouxland Energy and Livestock Cooperative in Sioux Center, Iowa, is a case in point. What started out as a 15 MMgy plant grew, and now produces at 70 MMgy. The plant never included a dryer, which from a carbon footprint position, means sustainable plant production that will see value either from qualifying for more renewable identification numbers (RINs) or selling at a premium into LCFS markets, or perhaps both.

"A lot of Midwestern farmers resorted to drying beans last harvest because it was so wet in the

Midwest," says Bernie Punt, general manager of SELC. To take grain moisture down for a dry distillery, Midwest farmers saw costs hover around 70 cents per bushel. Punt's facility has a bunker about the size of three football fields and processes corn from local farmers at high moisture, which saves almost one-third the processing cost, he says.

Cleaner Fuel Facilities Cash In

Destilmex S.A. de C.V., a Mexican ethanol facility owned and operated by Zucarmex S.A. de C.V., in Navolato, Sinaloa, is among the trend-setting businesses positioning themselves to be clean fuel facilities.

Normal fuel facilities get one RIN per gallon of ethanol. But reducing a company's dependence on fossil fuels, will facilitate generating more than one RIN per gallon of ethanol, thanks to its "clean fuel facility" status with the EPA. To achieve this standard, last fall Destilmex tore out its fossil fuel boiler and put in a fluid bed boiler.

"If you are certified by the EPA as a clean fuel plant, the payback can be fast and furious at two RINs per gallon," says Jon Bjornstad, president of C&N, Ethanol Marketing Corp. marketer representing more than 15 plants and 650 MMgy of ethanol and biodiesel production. To illustrate his point, in 2009, RINs averaged 10 cents per gallon. Forty million gallons times 10 cents per gallon times 2, equals $8 million in value that will be reflected in the premium price the product receives in the market.

Deepen Ties to Local Community

Becoming more local means more money for most plants, which immediately saves in a host of significant costs, including transportation.

This strategy has paid big dividends for the SELC. According to Punt, "We're a very local plant. We have higher grain yields, have livestock close by and use livestock waste for fertilizer—it all works together and we extract maximum value for everyone."

According to Bjornstad, "If you can develop the local market for your distillers grains, haul them to the feedlot and feed the animals, and not have to dry them, then your plant can sell the largest coproduct for significantly more margin. If you can also integrate that with a nearby market for manure as a boiler feedstock, even better. Auditors are going to look at the whole picture for each plant, and see how each facility fits into its landscape to figure out the total carbon picture."

Smart producers, he says, are localizing and thus improving their carbon balance, an equation that depends on all inputs as well as outputs for a plant.

Increased Coproduction

Extracting maximum value from co-products is another trend that will reach new heights in 2010, especially with the pending implementation of the second stage of the renewable fuel standard

(RFS2), that creates a carve-out for biodiesel. This should generate a more stable market for this fuel product, which can be produced from corn oil extracted at ethanol plants.

Popular choices for complementary biorefining include biodiesel, dried distillers grains with solubles, gluten feed, gluten meal, corn oil, and soybean oil meal with high protein content.

Those familiar with the development of the oil industry can see parallels between the early challenges the oil industry faced and those the ethanol industry is facing today. Initially, oil refineries were built to refine lamp oil, extracting kerosene from crude oil to supply this single market. It was a struggle to figure out what to do with the rest of the products. In some markets, it was so bad that the refiners would run gasoline into the rivers at night to get rid of the "byproduct." Obviously, the car came along and solved that problem, but this provides some perspective to consider how much things can change from where they start out. This is just one extreme example that evolving a new industry takes some time and that the markets for each of the resulting coproducts will take time to evolve as well.

Now an oil refinery uses every molecule from that barrel of crude oil. In the same way, 2010 will see single purpose installations in ethanol rapidly evolve into more sustainable plants that reach for pharmaceutical precursors, higher value livestock feeds, and extracted oils.

For example, Central Indiana Ethanol LLC in Marion, Ind., extracts corn oil and sells it to both feed markets and as biodiesel feedstock. "Poultry producers like the orange color given to the eggs by corn oil," Bjornstad says. "It's also a lot more lucrative to the plant not to have a valuable coproduct leave as a lower value product or an uncaptured waste stream."

Tighten Integration With Fuel Supply Chain

Listing RINs on an invoice is perhaps the most popular method in place today to pass RIN value to customers, but this practice will not meet EPA requirements in 2010. The EPA's Moderated Tracking System will be enacted after the final RFS2 rule comes out later in 2010. When MTS activates, EPA will no longer accept spreadsheets or RINs incorporated in invoices as a means to report RIN transactions.

This evolving regulatory need is only part of the story. Customers and marketers need electronic bills of lading complete with electronically generated unique 38-digit RINs in real time as product enters the fuel supply chain. Refiners and ethanol buyers depend on enterprise resource planning (ERP) systems to eliminate manual labor cost and avoid data entry errors. The fuel industry has spent billions to automate its processes, ethanol now has to step up and plug in to that automated supply chain.

"Our industry doesn't yet have sufficient systems to conduct itself in a digital environment," Bjornstad says. "Refinery customers demand that accountability, so in 2010, a greater focus on digital systems is going to separate the men from the boys when it comes to marketing ethanol. What we're doing with our plants is generating a temperature corrected electronic bill of lading and

a RIN live with our terminal automation system that mirrors the systems in use today at major petroleum terminals. This system is networked and immediately updates our tracking system for our plants with their EPA-ready RIN reports, and then allows us to send the report right to our customers ERP systems in formats that can be easily downloaded directly into those systems so the customer has no labor or costs on their end."
Integrating more tightly with the fuels supply chain also means focusing on other needs of refineries—such as reducing third-party risk. When Aventine Renewable Energy Inc. and VeraSun Energy Corp. declared bankruptcy, the contracts they had with refiners were canceled at tremendous cost.

Refiners demand and depend on the reliability and security of their supply. "Refiners are now more aware of that risk," Bjornstad says. "That risk is going to come to an end." There are two ways it can end—refineries can purchase their own ethanol plants, like Valero did, or create relationships with ethanol marketers that have the technical capabilities as well as the financial strengths to be a true partner."

Bob Ferguson, general manager for Heron Lake BioEnergy LLC, recently inked a three-year relationship with C&N. "We reviewed several potential ethanol marketing companies and we are pleased to have selected C&N. Their transparent approach gives us the ability to manage and forecast our costs and margins. Their access to a nationwide market consisting of refiners and blenders gives us great confidence in their ability to secure the best customers for our product." EP

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