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Ethanol plants come with hidden cost: Water

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ROGERSVILLE, Mo. — David Pitts doesn't begrudge the farmers and investors who see a new ethanol plant as a way to make some good money.

He's just worried he won't have any water to drink when they're through.

The former state conservation official was horrified by news that a thirsty ethanol plant might rise up near his home in southwestern Missouri. The plant would draw 1.3 million gallons of water from the ground every day to produce the corn-based fuel.

Then there's the 400,000 gallons per day of contaminated water from the plant — water that would be sprayed on land around the plant by irrigation equipment and then seep back into the ground.

Pitts, 63, is soft-spoken — except at the thought of somebody sticking a giant straw into the region's storehouse of precious water. His well already has dropped 60 feet in the last 10 years due to drought and development.

"The people who are investing in ethanol plants are the only ones who get anything out of it, and it stinks," he said.

It remains uncertain whether the company proposing the \$165 million plant, Gulfstream Bioflex Energy LLC, will succeed. Neighbors have battled the company to a standstill in Webster County Circuit Court over water.

The case, which could be decided in the next several weeks, has implications for the fast-growing Springfield, Mo., region and potentially elsewhere as citizens groups challenge the ethanol industry.

Water hogs

The Great Ethanol Boom rumbling across the Midwest is a positive force in many ways, bringing farmers extra cash for their crops, offering the potential to stem decay in tiny towns, and providing the nation with an alternative to foreign oil. The United States already has 115 ethanol plants in operation, including four in Missouri and seven in Illinois. Another 80 or so are under construction around the country, and many more are planned.

But all the costs of ethanol don't get tallied until later. And one of the biggest of those costs, one now generating tension throughout the Midwest and elsewhere, is water.

The ethanol industry says it takes about 3 gallons of water on average to produce a gallon of ethanol and that recycling and other water-saving innovations will reduce that amount.

Sometimes that consumption is understated: In Minnesota, one of the few states that require reporting of water use, a state study in 2005 found that ethanol plants used an average of 4.5 gallons for every gallon of ethanol.

The water drawn for ethanol is a cost borne by communities — or whole regions — and a price sometimes ignored in the planning stages for new plants, experts say.

In St. Louis, National Corn Growers Association CEO Rick Tolman said his organization has advised ethanol plant builders about the limitations of water. "The water question will not be an impediment to ethanol expansion overall, but it certainly will limit expansion in certain locations," he said.

The subject has special currency in Iowa, which produces about 30 percent of the nation's ethanol.

Richard Cruse, director of the Iowa Water Center at Iowa State University, pointed to potential conflicts when the ethanol industry seeks to use the same pure water that people drink and give to their livestock.

"I'm not suggesting they're maniacs running wild not thinking about water," Cruse said. "But with the industry growing so fast and drawing so much water, it can become a risk issue. When we go for three, four or five months with shallow aquifers being drawn down to the point where we have to limit or ration high-quality water, who has the priority?"

'Best place to build'

Water for an ethanol plant might come from a river, from wells drilled into underground aquifers or from lakes. For the Rogersville plant, the several hundred million gallons of water that would be needed to produce 100 million gallons of ethanol annually would be drawn from the Ozark aquifer, part of a sprawling underground system that provides water from rock formations hundreds of feet under ground.

Southwest Missouri differs from many locales selected for ethanol plants because little or no corn grows in the Ozarks' thin soils. Nonetheless, the site near Rogersville, 20 miles east of Springfield, appealed to promoters for other strategic reasons: It is tucked between a busy four-lane highway, U.S. 60, and a railroad line, perfect for hauling in corn and dispatching tank cars full of ethanol. There's a natural gas pipeline nearby to power the plant.

Promoters point to a state report a decade ago that estimated that more than 12 trillion gallons of water lay beneath Webster County. That would be enough, they say, to operate the plant for thousands of years.

"Webster County is the best place to build the ethanol plant, based on those figures," Bryan Wade, a lawyer for the Gulfstream partners, argued last month in court.

Promoters have not identified principal funding sources other than to say they have been working with investors in New York. One of the Gulfstream founders is Greg Wilmoth, a trucking company executive from Mount Vernon, Mo., who has drawn extra attention because of family connections: He is a cousin, once removed, of the state's most prominent ethanol booster, Gov. Matt Blunt.

On the witness stand last month, Wilmoth described one significant benefit of the plant: 40 to 50 jobs paying between \$30,000 and \$35,000 a year. Later, he was asked by the lawyer for those suing to stop the ethanol plant what would happen if it gets built and the groundwater system fails.

"I've got a \$165 million white elephant," he replied, a predicament that the company does not expect to confront.

Relying on rain

The Rogersville plant is one of three in Missouri that Gulfstream Bioflex says it wants to build. Another would be in Monroe County, near Hannibal, where water is not an issue because it would draw from an aquifer replenished regularly by the Mississippi River. A location for the third has yet to be identified.

James Kaiman, a St. Louisan and former chemical company executive who recently joined the Gulfstream Bioflex enterprise as its president, asserted that people in southwest Missouri who oppose the plant — about 400 or so neighbors and other opponents have signed petitions — constitute only a fraction of the county's 33,000 inhabitants.

"They look at it and say, 'I don't want this in my backyard.' It's a little surprising," he said in an interview.

Landowners near the site of the proposed plant say they have ponied up \$100,000 since last fall to fight the plant. In December, they won a temporary restraining order on construction after arguing in court that water consumption and plant pollution would constitute a public nuisance.

Now, after the two-day trial last month in Webster County Circuit Court, a decision is expected soon. Both sides brought paid experts to court to buttress their opinions about the sufficiency of water in the Ozark aquifer.

Some underground aquifers, particularly those near rivers and streams, readily refill after depletion. By contrast, the Ozark aquifer is classified as a confined aquifer, which means that it has little connection to other underground water sources and must rely on rain and snow to become recharged.

Nobody can say for sure what will happen deep underground with such continuous pumping and how readily the Ozark aquifer can recharge itself. The two sides in the debate offer competing perspectives on whether there will be enough water to go around.

But trends are already troubling.

Dropping water tables

As a result of over-pumping in the region, a "cone of depression" — a lowered water table from pumping — began forming in the 1970s and has continued to grow, according to a groundwater study two years ago at Missouri State University.

In response to declining water levels in the early 1990s, Springfield completed construction of a 40-mile pipeline and pumping station in 1996 to deliver water from Stockton Lake in Cedar County. But other towns, among them Nixa, Ozark, Republic and Battlefield, continue to rely on water from the Ozark aquifer.

According to the Missouri State study, the aquifer outside of Springfield dropped as much as 140 feet in places from 1987-2004 — but in some places water levels remained constant or even rose.

Meanwhile, rural dwellers have reported well problems that began showing up a few years ago. More than half of nearly 300 well owners in northern Greene County reported problems with their wells in a survey five years ago by the Watershed Committee of the Ozarks, a nonprofit dedicated to preserving water supplies in the region. Local landowners and well-diggers say the problems have worsened.

Bob Schulteis, a water specialist at the University of Missouri Extension, was the chairman of a Webster County-appointed committee that concluded that the plant could harm both the quantity and quality of local waters.

"Already we're seeing the water tables in that location dropping, so adding an additional high-demand well or two at the location would likely accelerate that," he said.

Nathan Jones, whose business sells solar-powered pumps, said his Greene County water well situated above the Ozark aquifer had dropped at least 140 feet in nine years.

'Our dreams all exploded'

Gulfstream Bioflex says it would drill wells deeper into the aquifer or supply

better pumps if landowners around the plant have problems. New wells cost about \$10,000 in Webster County.

James Kaiman, the company's new president, said he's confident it won't come to that.

"We wouldn't be doing this if we felt that we were going to be impacting neighbors," he said.

William McDonald, who is representing opponents of the plant, argued that water uncertainties also threaten the plant. "There is no Plan B," he said. "If the groundwater system fails, not only will it be catastrophic for people in the area, it will be catastrophic for Gulfstream Bioflex."

Besides blocking the plant thus far, the resistance by neighbors also has prevented closing on the company's purchase of the 252-acre Porter family farm, for \$12,000 an acre in a county where the typical price for an acre of land is \$2,500 to \$3,000. Larry Porter, who has been shunned by some of his neighbors since plans for the plant were announced last fall, declined to be interviewed.

Opponents are nervous about what comes next if Gulfstream Bioflex wins the court case: The company would be dealing with the Missouri Department of Natural Resources, which handles permits for ethanol plants in the Blunt administration.

Wilmoth, Gulfstream's vice president, is not the only Blunt relative to plunge into the ethanol business. Andy Blunt, the governor's younger brother, was identified last year as an investor in another Missouri ethanol venture.

Matt Blunt, like other Midwestern governors, has championed biofuels expansion. He backed the state law requiring 10 percent ethanol in fuels starting next year, supported paying off unfulfilled state financial commitments to ethanol producers, and lobbied for a pending federal government rules change that would relax air pollution standards for ethanol plants.

Blunt spokeswoman Jessica Robinson said his administration would not stint on regulating the industry in Missouri. Family ties have nothing to do with his ethanol policies, she said.

"His support of ethanol is nothing new to anyone, whether they be Missourians or relatives," she said.

Meanwhile, people who live near the proposed plant in Rogersville envision drying times — and perhaps crying times.

"Our dreams all exploded at one time," Dean Alberty remarked while driving to his family's Red Oak Bed & Breakfast near the proposed plant. Alberty, whose family is among those who sued to stop the plant, has put off building a new home until the case is decided.

Added his wife, Maja: "Ethanol is not a bad thing. But you can't put it where it will take our water."

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