
Empire State *Building*

Railing in corn is a cost factor, but New York's built-in ethanol demand is prompting developers to join in on the coast-to-coast production boom. EPM takes an up-close look at two proposed facilities in America's No. 3 dairy state.

By Fred Fanning



Aerial view of the proposed Northeast Biofuels site, a former brewery in Upstate New York

With the ban of MTBE in New York and Connecticut, and proposed bans in Massachusetts, Pennsylvania, Rhode Island and New Jersey, some believe the Northeast is on the verge of a major ethanol plant construction boom. New York appears to be poised to test the waters first.

In Upstate New York, two ethanol projects are at different stages of plant permitting and construction. Empire Biofuels, the smaller of the two proposed projects—a 50 mmgy design—is owned by grain farmers and others in the region, and is financially structured much like plants in the Midwest. With the permitting process in full swing (air permits have just been issued), construction is scheduled to start in the second half of this year. The plant would be sited on the banks of the Erie Canal in Seneca Falls, N.Y.

Northeast Biofuels, a 100 mmgy proposed ethanol plant, would convert a brewery that was built in the 1970s. This large, almost cavernous facility is being retrofitted to use the latest ethanol production technologies. With most permitting already in place from past brewing, this project is scheduled to start construction this spring.

The plants are located an hour apart from one another in the heart of New York's dairy belt. Both plants have nearby or on-site rail facilities and major superhighways almost adjoining the sites.

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Will, left, and Hadley

The limited liability corporation arrangements of both plants give investors, farmers and other local agribusiness the opportunity to enter the domestic energy business. "A co-op would not allow us to raise money the way we wanted to," said Brian Mankpelow, an area farmer and Empire Biofuels shareholder.

As all the political, environmental, economic, and, some would say, patriotic variables in this equation start to align, construction and permitting for the two plants is on the fast track.

Political front

Leaders in the Empire State are forging ahead with tax breaks, worker incentives and other benefits for ethanol production facilities that would be located in-state. The Northeast Biofuels project has been granted Empire Zone status. Property

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tax breaks (payment in lieu of taxes—P.I.L.O.T.), worker incentives, utility breaks and perhaps a per-gallon tax abatement is in the works in New York State. Empire Biofuels is also working with state and local officials to obtain tax breaks and other incentives.

In his January State of the State address, New York Gov. George Pataki spoke of the plants and their importance to the local economies. "In Fulton and Seneca Falls, we are working with the Syracuse Center of Excellence to establish two new ethanol facilities," he said. "In Fulton, the old Miller brewery is set to become the largest producer of ethanol in the East."

Pataki also declared that New York would move toward increased use of both ethanol and biodiesel. "I will sign an executive order requiring our state agencies to begin phasing in the use of biofuels to heat our state buildings and power our trucks."

New York, while not a corn production powerhouse, does produce a respectable 60 million bushels per year, almost all of it presently going to dairy cattle feed in the state. New York is the No. 3 milk producer in the nation. The state also has very adequate research capa-



This building would be demolished in the renovation of the former brewery to make way for a new distillers grains drying and handling area.

bilities, and they are being strengthened by the Pataki administration." At Syracuse's School of Environmental Science and Forestry, they're working to produce ethanol from renewable sources like wood fiber," the governor added in his recent address. "At Clarkson University, they are already building refineries to make biodiesel from agricultural products."

Locally, both municipalities have welcomed the new industry. The plants will

Both plants will be buying and railing a significant amount—if not a majority—of corn from the Midwest, incurring higher shipping costs associated with interstate transport.

MONSANTO

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When it comes to building an ethanol plant



The proposed Northeast Biofuels site has several small fermentors already on site.

be among the first ethanol operations in New York, and in fact anywhere in the East. Producing a combined total of 150 mmgy, production will be half of New York's 300 mmgy consumption of ethanol.

Economics

Both plants will be buying and railing a significant amount—if not a majority—

of corn from the Midwest, incurring higher shipping costs associated with interstate transport. Conversely, the two plants have carbon dioxide, distillers grains and ethanol markets that are very close.

Jeannette Marvin, spokeswoman for Empire Biofuels, conveyed the impact Empire Biofuels would have on the local economy. "Within 50 miles of Empire Biofuels there are 300,000 cows," she said.



The former petroleum tanks at the proposed Northeast Biofuels site will be used for ethanol storage.

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Down & dirty

INDUSTRY

"We are very close to Livingston and Wyoming counties (major dairy counties). An advantage we feel is that this will be a year-round product for dairies."

Also, it is expected that Empire Biofuels will encompass 1,000 construction jobs and 35 permanent positions. The \$90 million plant has closed out two rounds of fundraising with one more remaining this spring.

Northeast Biofuels expects financing to be completed this spring and construction to commence then. Outside of the former brewery, the \$160 million plant will require a cooling tower and a building that will house distillers grains dryers. All other Northeast Biofuels construction will be inside the former brewhouse and surrounding structures. "My hope is that we have financing nailed down in the first quarter, which would allow us to start construction," said Eric Will II, co-owner of the complex renamed Riverview Business Park LLC. The plant will employ approximately 300 construction workers and 100 production workers when fully operational.

Also planned for the site is a carbon dioxide recovery operation. "BOC Gases is going to construct a liquefaction plant," said J. Michael Hadley, CFO of Northeast Biofuels. "That plant will be \$15 million in improvements that is not reflected in the \$160 million cost."

Partnering with success

Empire Biofuels and Northeast Biofuels, while completely different entities, have structured similar paths to production. Both facilities have realized their strengths and have developed relationships with other companies to obtain mutual benefits.

Empire Biofuels has collaborated with Malcolm Pirnie for proper permitting and the all-important State Environmental Quality Review Act (SEQR) permit. Seneca Falls LLC contracted with the T. E. Ibberson Co. "It is a Delta-T and TIC (The Industrial Company) alliance agreement," said Wayne Wajciechowski, project manager with Delta-T. "It is one of our alliance projects. T. E. Ibberson is also in that alliance group. T.E. Ibberson is taking the lead on the project. We are applying engi-

neering and Delta-T [process] technology."

Empire Biofuels will use minimal water from the nearby Erie Canal. The Andersons of Maumee, Ohio, are handling grain origination. One of the farmer-investors plans to market the distillers grains, but talks are taking place with an established national distillers grains merchandiser.

Northeast Biofuels has also partnered with the resources that compliment its business model. The O'Brien & Gere Companies are in charge of acquiring permits for the ethanol plant. Engineering is being handled by Lurgi PSI of Memphis, Tenn. "We've negotiated a contract with Lurgi to engineer it," Will said. "The preliminary engineering is done. They are going to construct it with a fixed price and a guaranteed completion date."

Grain acquisition and distillers dried grains marketing is being handled by Perdue Farms. The Salisbury Maryland Co. may be better known for its chicken, but in this case the company is locating what will become its Northeast headquarters at Riverview Business Park. Venture Milling, a Perdue affiliate, will be marketing distiller grains into the "ag economy."

CSX Rail is coming on board, providing transportation solutions for both the grain and ethanol portions of the operations. Tracks at the facility are being upgraded and enlarged at the grains drying portion of the plant. "This will be the largest private rail yard on the CSX line east of the Mississippi," said Stewart Hancock of Hancock Public Affairs LLC, a representative of Northeast Biofuels.

Construction specifics

Empire Biofuels is strategically partnering with major players in the ethanol plant design/build arena. T. E. Ibberson, TIC and Delta-T have formed relationships to build and construct other plants in the Midwest. Empire Biofuels was solidifying details with these firms at press time. It is expected that the Empire Biofuels plant will be designed and built much like plants in Wisconsin and Minnesota. "Part of the design is CO₂ recovery," said Tom Corle, public relations representative for Delta-T. "They are also installing a thermal oxidizer."

Northeast Biofuels, because of its past use, presents unique engineering challenges and also affords many economic benefits because of current unused assets at the site.

One unique feature of the plant is the equipment redundancy to run two process trains simultaneously. The former plant had two brew houses,

and each had its own vessels and fermentation vat. Pumps, pipe and portions of the control room were duplicated with original construction. "We have two process trains, but they are not isolated to each brew house," said Rick O'Shea, director of engineering at Riverview Business Park LLC. This will enable the plant to have the flexibility to divert the manufacturing stream to accommodate repairs or breakdowns.

While New York's ban of MTBE has caused significant increase in demand for ethanol, the infrastructure in the state and the present political climate is ensuring that a portion of future ethanol needs of the state will be produced in the Empire State. $\text{\textcircled{P}}$

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