

A \$25 million partnership brings new biodiesel technology to the Midwest

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For several years now, the U.S. biodiesel industry has been eyeing an alternative process for refining the renewable fuel that relies on a solid – rather than liquid – reactor. Although the potential benefits of the unconventional process were known, the execution of the technology eluded most U.S. companies.

Until this week.

On Wednesday, Chicago-based Benefuel Inc. and Indiana-based Seymour Biofuels LLC announced they will invest \$25 million to build a biodiesel refinery in Seymour, Ind. that will harness the new technology. The companies said the plant will begin production toward the end of 2008 and will generate 10 million gallons of biodiesel annually.

“It is what I would call cutting-edge technology,” said Steve Howell, technical director for the National Biodiesel Board, of the new reactor.

Seymour Biofuels LLC, the majority holder in the partnership, will operate the new plant, and Benefuel will supply the reactor, said Marshall Royalty, a principal with Seymour Biofuels.

In addition to providing the reactor for the Seymour plant, Benefuel plans to use its technology to build a network of biodiesel refineries around the country that could capitalize on locally available raw materials.

“In general terms, a solid catalyst is something people have been looking at for a while as a potential catalyst,” said Howell. But to his knowledge, only French conglomerate IFP has been able to develop a solid reactor process that is both technically and economically sound.

The biodiesel industry in the United States is small, but it is growing rapidly. According to the U.S. Department of Energy, biodiesel production has grown six-fold since 2004.

Most conventional biodiesel refineries convert vegetable oils and animal fats into usable fuel by mixing the base oil with an industrial alcohol (typically methanol) and a catalyst (usually sodium hydroxide).

By contrast, the Seymour refinery will rely on a solid acid reactor that will enable the plant to produce high-quality fuel from almost any kind of vegetable oil or animal fat, without the pre-processing required by traditional methods, said Rob Tripp, CEO of Benefuel.

The plant's new technology will be a "great leap forward for the entire biodiesel industry," Tripp said in a statement.

Because the solid reactor process converts raw materials directly to biodiesel, it maximizes the yield of usable fuel, minimizes waste and simplifies the entire production process.

According to Benefuel estimates, Tripp said the new reactor will result in a cost benefit of 80 to 90 percent for the producer.

Additionally, because the Seymour plant will be able to process a broader range of feedstocks, it won't need to import raw materials from outside the Midwest. Instead, it will purchase local crude soy bean oil and animal fats.

"Locally produced, locally consumed," Tripp said is the business model for this plant and the network of future refineries Benefuel intends to build.

To date, Tripp said, biodiesel distribution has inefficiently mimicked that of petroleum fuel distribution. Sources of raw materials are scattered across the country, so biodiesel refineries should be equally decentralized, he said.

The Seymour plant will follow this principle by targeting companies within 60 miles of the plant to minimize transportation costs and energy consumption, Tripp said. The plant does not yet have any firm contracts with Midwest distributors.