

# Amazing Waste

## BIODIESEL COMPANY LOOKS TO TURN ETHANOL BYPRODUCTS INTO PROFITS

by Chris Birk

**P**rimafuel Inc. is pushing for a new era of sustainability and profitability for biofuel producers in California and abroad.

The three-year-old Long Beach-based company expects its \$90 million biodiesel production and storage plant at the Port of Sacramento to be operational by the end of next year. Announced in 2007, the 12-acre waterfront site, which garnered the largest grant in California Air Resources Board history, will kick out as many as 60 million gallons of biodiesel per year.

While those green-friendly gallons will curb carbon dioxide pollution, the facility itself will also significantly expand production and distribution infrastructure, helping to increase the flow of biofuels to fast-growing markets in Northern California.

"We don't see the kind of penetration into those marketplaces that products like biodiesel ought to have," says communications manager Doug Heckman. "The ability to either produce or distribute biofuels is very, very constrained."

That could change rapidly depending on Primafuel and the pace set by its planned 29,000-square-foot production facility. Primafuel landed a \$640,000 grant last year from CARB as part of the state's \$25 million Alternative Fuels Incentive Program. California's aggressive regulations aim to cut greenhouse gas emissions from fuel providers by 10 percent by 2020.

The biodiesel production and technology firm plans to erect 48 storage tanks at the site to store low-carbon fuels. But creating the necessary infrastructure to handle the facility's target capacity — especially transportation pathways via ship and railway — represents a significant task.



Brook Porter, executive vice president and co-founder, Primafuel Inc.

The Port of Sacramento site would be the largest biodiesel production facility in the state, providing both domestic and international companies the chance to store biofuels in the booming California market.

"California's infrastructure is currently gasoline-centric, which makes it nearly impossible for alternative fuels to compete, even when they are cheaper and more sustainable," says Rahul Iyer, chief marketing officer and co-founder. "Primafuel's new infrastructure project changes the equation and will make California's fuel market more competitive, more sustainable and more flexible. The facility will be the cleanest, most efficient biofuels production and storage terminal in the state."

It will also serve as a stage for Primafuel's biofuel technologies. Company officials say the plant will host commercial demonstrations of new technologies, providing a real-world showcase of new processes, such as glycerin purification.

"It's not just a terminal, and it's not just a biodiesel facility," Heckman says. "It's a little more than that, and that's part of the reason why the community is quite excited about the project."

Primafuel officials, meanwhile, remain excited about some of those new technologies under development or about to pop commercially.



This July, the company rolled out its new Kansas-based biofuel subsidiary, Primafuel Solutions. Its first major technological offering is expected to trim energy costs and boost both production and profits for biofuel manufacturers.

The technology, called Smaart Oil, recovers byproducts from the ethanol production cycle. Producers can then recycle some of the materials and increase their fuel production, getting more fuel from the same bushel of corn.

The Smaart Oil system also extracts fats and oils from distillers' grains, an ethanol production byproduct typically used as cattle feed. Those fats and oils can be sold on the open market, while the quality of the feed is boosted by extraction.

An ethanol plant using the Smaart Oil system could produce 1 million gallons of oil for every 110 million gallons of ethanol, Heckman says.

The system itself is a back-end technology that interacts with an existing ethanol plant at only one point. Basically

a "one-valve connection," the Smaart Oil add-on doesn't require a wholesale reconfiguration of a facility, meaning producers can continue cranking out biofuels while the technology is installed.

The company in late July reached a deal with Amaizing Energy Holding Company LLC in Denison, Iowa, to install the Smaart Oil system at the farmer-led ethanol facility. The system is expected to be up and running by this winter at the plant, which has the capacity to produce 55 million gallons per year.

Primafuel officials believe the Smaart Oil system can help differentiate producers in an increasingly competitive biofuels environment because of the added production.

Whether that path is sustainable depends on long-term market interest, says Rick Kment, a biofuels analyst with research firm DTN.

"It's still going to be a wait-and-see type of operation until they get up on a commercial level," Kment says. "That's going to take months to years to really

see if that technology and their processes, in order to produce those products, are able to actually withstand the commercial pressure."

Surveying the economic landscape, though, company officials are actually looking to the petrochemical industry for inspiration — oil refineries thrive by churning out dozens of distinct products.


Primafuel envisions its technologies to allow biofuel producers a similar diversity of production. Officials expect the Primafuel Solutions subsidiary to launch a couple more technology platforms for biofuel producers in 2009.

One, a small-scale purification system, will separate oil streams from the ethanol production process into more lucrative byproducts. "People should be very excited for what the future holds," Heckman says. "The agricultural industry has the opportunity to be a part of the solution — to make a lot more money by being a part of the solution." ■

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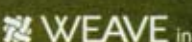
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