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[Elevance accelerates: second commercial-scale biorefinery to be operating in 2016 in Natchez](#)

[Jim Lane](#) | October 23, 2013



Success in

Indonesia prompts traction, action in Mississippi

In Illinois, Elevance Renewable Sciences announced that it has authorized the next significant stage of its second world-scale biorefinery in Natchez, Miss., in order to expand production of its Inherent renewable building blocks in 2016. The decision is based on the successful start-up and operation of Elevance's first world-scale joint venture biorefinery in Asia, as well as robust customer activity and demand forecasts for the company's specialty and intermediate chemicals.

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The commercial-scale manufacturing facility in Natchez will produce novel specialty chemicals, including multifunctional esters such as 9-decenoic methyl ester; a unique distribution of bio-based alpha and internal olefins including decene; and a premium mixture of oleochemicals. It will have a capacity of 280,000 MT (approximately 617 million pounds).



The high-value performance specialty chemicals, olefins and oleochemicals produced at the company's biorefineries will be used in personal care products, detergents and cleaners, lubricants and additives, engineered polymers, and other specialty chemicals markets.

Elevance is the only specialty chemicals company that will have two world-scale biorefineries in operation by 2016. The Natchez project will be the second biorefinery based on Elevance's proprietary metathesis technology. Elevance announced commercial shipments from the company's first biorefinery, a 180,000 MT joint venture with Wilmar International Limited located in Gresik, Indonesia, earlier this year.

The Natchez biorefinery will initially operate using canola or soybean oil; the Gresik biorefinery is now operating on palm oil. Both plants are capable of running on multiple renewable oil feedstocks, including jatropha or algal oils when they become commercially available.

The company says that it has already transformed existing operations at Natchez from batch to continuous operations, and begun site preparation for biorefinery construction, including the removal of obsolete equipment and structures that has resulted in savings of more than \$1 million compared to initial project estimates.

Background on the Gresik project

Back in July, Wilmar and Elevance announced that they have begun shipping commercial products, including novel specialty chemicals, to customers from their first world-scale joint venture biorefinery, located in Gresik, Indonesia. The biorefinery is the first based on Elevance's proprietary metathesis technology.

The commercial-scale manufacturing facility produces novel specialty chemicals, including multifunctional esters such as 9-decenoic methyl ester, a unique distribution of bio-based alpha and internal olefins including decene and a premium mixture of oleochemicals. It has a capacity of 180kMT (approximately 400 million pounds) with the ability to expand up to 360kMT (approximately 800 million pounds) of products. (For those of you who think in terms of gallons, 180kMT is around 57 million gallons per year – the size of a major biodiesel facility).

Why is this a low cost process?

"The catalyst provides very benign operating conditions," notes Elevance CEO K'Lynne Johnson. "It's a reaction that occurs at 60-70 C and slightly above atmospheric pressure, so we are able to reduce the design parameters compared to other technologies, and reduce process steps. The elegance is in driving simplicity. Plus, we don't have large waste streams, and we don't have toxic co-products — that helps drive low capex."

4 Key Questions — and answers from Elevance

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Q: Feedstocks. What mix of canola/soy? Suppliers?

The Natchez biorefinery will be capable of running on multiple renewable oil feedstocks. Elevance is currently working to qualify both canola and soy as feedstocks for the plant. The selection of the preferred feedstock as well as the supplier(s) of the feedstock has not yet been made. Elevance has excellent relationships with the United Soybean Board, Saskatchewan Canola Development Council as well as the leading oilseed processors in North America.

Q: Natchez. Is financing in place? What exactly is meant by “significant next stage” – specifically, “Tripled the production of the existing operations there” to what does that mean, more precisely?

There are several activities that will now commence such as placement of long lead time items and finalization of permitting in preparation for construction. Some construction has already begun, including the removal of obsolete equipment and structures and the initial capital projects described below. We plan to finance the site using a combination of equity and debt.

The plant is currently producing biodiesel. Since acquiring the facility, Elevance has tripled the production rates that it was operating at initially. This has allowed us to produce over 20 million gallons of biodiesel.

Q: What initial capital projects have been completed?

A: Completed projects include replacing a cooling tower that dated to the 1960's with one that will be required to support the biorefinery and the installation of equipment that will improve our handling of the incoming feedstocks.

Q: Offtake customers – any to publicly announce?

While the announcement disclosed that our current customer forecasts call for the need for Natchez capacity as early as 2016, we are not naming any specific off-take customers.

Background on offtake deals and demand

“With the significant inflection point [at Gresik],” Johnson noted, “the emphasis moves to the ramp up of volumes, and then to new product commercializations, and entering the new markets. We’re ramping up now over several months, and we have secured the offtake for a substantial portion of our capacity. As we ramp up, we’ll continue to fill that up.”

“We’re working with our partners, such as Arkema and Stepan Company, to meet product demand and accelerate rapid deployment and commercialization of their high-performance chemicals in end user applications.”

Reaction from Elevance

“Our current customer forecasts for Inherent™ renewable building blocks call for demand to exceed Gresik’s capacity,” said Elevance CEO K’Lynne Johnson. “With commercial production underway at Gresik, customer activity continues to increase in each of our market platforms. By building biorefineries in multiple geographies, we are able to meet customer demand for better-performing, cost-competitive renewable alternatives to petrochemicals across multiple industries. We will also be providing our customers the added security of two world-scale commercial plants with diversified feedstock supply chains.”

“We have been very pleased with the operation of the Gresik facility,” said Vice President of Manufacturing John Harvey. “Production at Gresik has hit all targets, including the ability to operate at design rates, and demonstrating the ability to shut down and restart without issues while delivering excellent product quality. Our operations in Natchez will complement our joint venture with Wilmar International in Asia and expand our global capabilities.”

Harvey said, “We have invested approximately \$30 million in the Natchez site, and made several significant improvements that were required for today’s announcement.”

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