



# gevo®

## Clariant to Scale-Up Catalysts for Gevo's Ethanol-to-Olefins (ETO) Technology

May 19, 2016

### ETO technology converts ethanol into value-add products such as propylene, butylene and hydrogen

ENGLEWOOD, Colo., May 19, 2016 (GLOBE NEWSWIRE) -- Gevo, Inc. (NASDAQ:GEVO), announced today that it has entered into an agreement with Clariant Corp., one of the world's leading specialty chemical companies, to develop catalysts to enable Gevo's ETO technology. As previously disclosed, Gevo's ETO technology, which uses ethanol as a feedstock, produces tailored mixes of propylene, isobutylene and hydrogen, which are valuable as standalone molecules, or as feedstocks to produce other products such as diesel fuel and commodity plastics, that would be drop-in replacements for their fossil-based equivalents.

Underpinning the ETO technology was Gevo's invention of proprietary mixed metal oxide catalysts that produce polymer grade propylene or high purity isobutylene, along with hydrogen in high yields in a single processing step from conventional fuel grade specification ethanol. Clariant is committed to the development and scale-up of the catalyst, which is expected to continue the advancement of the ETO technology, while Gevo focuses the majority of its internal resources on the ongoing optimization of its core isobutanol technology. Once the ETO technology has been successfully developed and scaled-up, Clariant will be in a position to produce quantities of the catalyst needed to meet commercial production requirements. As with its isobutanol technology, Gevo anticipates growing its ETO business through licensing.

Gevo has filed a series of patent applications related to this technology. The ETO technology has the potential to provide the estimated 25 billion gallon global ethanol industry a much broader set of end-product market and margin opportunities, beyond the use of ethanol as a gasoline blendstock. It has the potential to address a variety of markets in the chemicals and fuels fields, such as automobile parts, packaging, durable goods made of plastic, renewable diesel fuel and renewable hydrogen for the chemical, energy and fuel cell markets.

"We see the opportunity for Clariant catalysts to convert ethanol, produced from cellulosic or other carbohydrate sources, into more value-added products to create greater growth potential for the ethanol industry," said Stefan Brejz, Head of Specialty Catalysts Business Segment at Clariant.

"We are pleased to be working with Clariant. They have tremendous capability and know-how to scale-up developmental, customized catalysts to enable commercialization of new, large-scale processes. We see the potential with this technology to address several major opportunities cutting across chemicals, plastics, fuels and hydrogen," said Dr. Patrick Gruber, Chief Executive Officer of Gevo.

#### About Gevo

Gevo is a leading renewable technology, chemical products, and next generation biofuels company. Gevo has developed proprietary technology that uses a combination of synthetic biology, metabolic engineering, chemistry and chemical engineering to focus primarily on the production of isobutanol, as well as related products from renewable feedstocks. Gevo's strategy is to commercialize biobased alternatives to petroleum-based products to allow for the optimization of fermentation facilities' assets, with the ultimate goal of maximizing cash flows from the operation of those assets. Gevo produces isobutanol, ethanol and high-value animal feed at its fermentation plant in Luverne, Minn. Gevo has also developed technology to produce hydrocarbon products from renewable alcohols. Gevo currently operates a biorefinery in Silsbee, Texas, in collaboration with South Hampton Resources Inc., to produce renewable jet fuel, octane, and ingredients for plastics like polyester. Gevo has a marquee list of partners including The Coca-Cola Company, Toray Industries Inc. and Total SA, among others. Gevo is committed to a sustainable bio-based economy that meets society's needs for plentiful food and clean air and water.

#### About Clariant AG

Clariant's Catalysts business unit is a leading global developer and producer of a broad portfolio of catalysts for industrial processes. It has been part of the Catalysis business area of the Clariant Group since the acquisition of Süd-Chemie in 2011.

Clariant Catalysts operates globally with a local focus. Headquartered in Munich, Germany, it has a total of 18 production sites, 14 sales offices, and 12 R&D and technical centers around the world. Approximately 1790 employees serve customers across all regional markets. Clariant has over 50 years of extensive experience in transforming laboratory recipes into full-scale production processes. Its state-of-the-art production facilities and decades of know-how enable customers to scale-up, while also maximizing value and protecting customer IP.

Creating Performance Technology® is the philosophy at the heart of the Catalysts business, combined with the Performance, People, Planet core values of Clariant. Reflecting these principles, Clariant's innovative catalysts and adsorbents deliver significant and sustainable value to customers by enabling higher production throughput, and lower energy consumption, while reducing hazardous emissions from industrial processes and combustion engines. Clariant's catalysts and technologies also enable the use of alternative feedstock, such as biomass, as raw materials for chemical and fuel production. In doing so, Clariant Catalysts addresses the global challenges of raw material scarcity, energy efficiency, and responsible care for the environment. [www.clariant.com/catalysts](http://www.clariant.com/catalysts)

#### Forward-Looking Statements

Certain statements in this press release may constitute "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements relate to a variety of matters that are not purely statements of historical fact, including, without limitation, statements related to the ETO technology, the commercialization of the ETO technology, and the ability of Clariant to develop and scale-up catalysts for the ETO technology. These forward-looking statements are made on the basis of the current beliefs, expectations and assumptions of the management of Gevo and are subject to significant risks and uncertainty. Investors are cautioned not to place undue reliance on any such forward-looking statements. All such forward-looking statements speak only as of the date they are made, and Gevo undertakes no obligation to update or revise these statements, whether as a result of new information, future events or otherwise. Although Gevo believes that the expectations reflected in these forward-looking statements are reasonable, these statements involve many risks and uncertainties that may cause actual results to differ materially from what may be expressed or implied in these forward-looking statements. For a further discussion of risks and uncertainties that could cause actual results to differ from those expressed in these forward-looking statements, as well as risks relating to the business of Gevo in general, see the risk disclosures in the Annual Report on Form 10-K of Gevo for the year ended December 31, 2015 and in subsequent reports on Forms 10-Q and 8-K and other filings made with the U.S. Securities and Exchange Commission by Gevo.

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