



Press Release

TOTAL Cray Valley and Gevo to Further Scale Up Development of Renewable Isoamylene from Fusel Oil

HOUSTON, May 3, 2021 – TOTAL Cray Valley and Gevo, Inc. (NASDAQ: GEVO) announced today the successful completion of Phase 1 of their Joint Development Agreement (JDA) to upgrade fusel oils into renewable isoamylene. The companies are now seeking to advance to Phase 2 of the JDA, which will allow for scale-up of Gevo's technology at a demonstration scale.

Fusel oils, made during the production of ethanol, equate to approximately 1 million tons of bio-based feedstock. The JDA, signed in 2020, is based on Gevo's chemical-based catalytic processes that selectively convert low-value fusel oils, mixtures of alcohols that are byproducts from fermentation processes, such as ethanol or isobutanol production, into higher-value renewable chemicals such as isoprenes, ketones, aldehydes or olefins, in this case isoamylenes.

Isoamylene is used in a diverse set of applications, including resins, pesticides, flavors and fragrances, pharmaceuticals, healthcare products, adhesives, antioxidants and UV stabilizers. Cray Valley uses isoamylene as a raw material in resin manufacturing.

"We were very satisfied with the results of pilot tests during Phase 1. Gevo's technology was found to be robust and flexible, and the initial economic assessment shows potential for a profitable business" said Valérie Goff, senior vice president polymers at TOTAL. "This JDA between TOTAL Cray Valley and Gevo is an excellent example of collaboration to develop the materials of the future produced from bio-based feedstock, and it meets a strong demand from our customers."

"The team has achieved an important milestone with the success of Phase 1 to deliver plant-based, low-carbon solutions to our partner, TOTAL Cray Valley. We look forward to continuing our track record of success at the demonstration scale," stated Dr. Paul Bloom, chief technology and innovation officer at Gevo. Dr. Bloom continued, "This is a new way to think about decarbonization and biogenic carbon sequestration. Now this byproduct from ethanol, instead of being burned, can be converted into usable products that take carbon dioxide out of the atmosphere while delivering drop-in performance in final products on the market today. For every pound of bio-based isoamylene made and used in durable products like resins, it is essentially the equivalent of sequestering 2.5 pounds of biogenic CO₂ from the atmosphere, compared to that carbon being combusted. Another example of how Gevo is advancing our focus to net zero and beyond."

The companies are currently exploring options for scale-up and commercialization of the technology, which would provide the U.S. market with a renewable source of isoamylenes, a world first.

About TOTAL Cray Valley

TOTAL Cray Valley is the premier global supplier of specialty chemical additives, hydrocarbon specialty chemicals, and liquid and powder tackifying resins used as ingredients in adhesives, rubbers, polymers, coatings and other materials. TOTAL Cray Valley has pioneered the development of these advanced technologies, introducing hundreds of products that enhance the performance of products in energy, printing, packaging, construction, tire manufacture, electronics and other demanding applications. For more information, please visit www.crayvalley.com.

About TOTAL

TOTAL is a broad energy company that produces and markets fuels, natural gas and electricity. Our 100,000 employees are committed to better energy that is more affordable, more reliable, cleaner and accessible to as many people as possible. Active in more than 130 countries, our ambition is to become the responsible energy major.

About Gevo

Gevo's mission is to transform renewable energy and carbon into energy-dense liquid hydrocarbons. These liquid hydrocarbons can be used for drop-in transportation fuels such as gasoline, jet fuel and diesel fuel, that when burned have potential to yield net-zero greenhouse gas emissions when measured across the full life cycle of the products. Gevo uses low-carbon renewable resource-based carbohydrates as raw materials, and is in an advanced state of developing renewable electricity and renewable natural gas for use in production processes, resulting in low-carbon fuels with substantially reduced carbon intensity (the level of greenhouse gas emissions compared to standard petroleum fossil-based fuels across their life cycle). Gevo's products perform as well or better than traditional fossil-based fuels in infrastructure and engines, but with substantially reduced greenhouse gas emissions. In addition to addressing the problems of fuels, Gevo's technology also enables certain plastics, such as polyester, to be made with more sustainable ingredients. Gevo's ability to penetrate the growing low-carbon fuels market depends on the price of oil and the value of abating carbon emissions that would otherwise increase greenhouse gas emissions. Gevo believes that its proven, patented technology enabling the use of a variety of low-carbon sustainable feedstocks to produce price-competitive low-carbon products such as gasoline components, jet fuel and diesel fuel yields the potential to generate project and corporate returns that justify the build-out of a multibillion-dollar business.

Gevo believes that the Argonne National Laboratory GREET model is the best available standard of scientific-based measurement for life cycle inventory or LCI.

Learn more at Gevo's website: www.gevo.com

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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 including, without limitation, the JDA between Gevo, Inc. and Total Petrochemicals & Refining USA, Inc. (Total Cray Valley), the ability of the parties to scale up and/or commercialize the fusel oil technology that is the subject of the JDA, and other statements that are not purely statements of historical fact. These forward-looking statements are made on the basis of the current beliefs, expectations and assumptions of the management of Gevo and Total Cray Valley 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 and Total Cray Valley undertakes no obligation to update or revise these statements, whether as a result of new information, future events or otherwise. Although Gevo and Total Cray Valley believe 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, 2020, 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.