

alphaDIRECT MANAGEMENT SERIES

DECEMBER 18, 2018

IN FOCUS: LOW CARBON ETHANOL AND HOW IT FITS GEVO'S SHORT-TERM STRATEGY

This report focuses on Gevo, Inc. (GEVO) and low carbon ethanol and how it fits the company's short-term strategy.



Gevo's plant in Luverne, MN. Source: www.gevo.com

THE alphaDIRECT INSIGHT

Using non-food, low carbon corn (NFLCC) as the main feedstock, Gevo produces two types of oxygenate blend stocks, ethanol and isobutanol. This alphaDIRECT Management Series focuses on low carbon ethanol and how it fits into Gevo's short-term strategy. With its low carbon ethanol and its long-term goal to decarbonize the Luverne plant, Gevo targets domestic markets like California with a Low Carbon Fuel Standard that rewards fuels with improved carbon scores. The goal is to be able to produce the lowest CI score ethanol in the United States. With economical low-cost feedstocks being critical for success, Gevo uses NFLCC as their main feedstock since it provides the lowest cost, widely available fermentable sugars in the world in our view. We also believe that this feedstock creates co-product value which offsets the cost to produce fermentable sugars from corn. We believe that the company could manage to lower its cash burn, while building its low carbon infrastructure, using low-carbon ethanol as a stepping stone into even more attractive growth markets like jet fuel and fully renewable gasoline from isobutanol.

GEVO Business Snapshot

Founded: 2005
HQ: Englewood, Colorado
Ticker: GEVO (NASDAQ)
Sector: Chemicals & Material
Website: www.gevo.com



About alphaDIRECT Advisors

alphaDIRECT Advisors, a division of EnergyTech Investor, LLC, is an Investor Intelligence and publishing firm that creates and implements digital content and programs to help investors better understand a company's key drivers including industry dynamics, technology, strategy, outlook and risks as well as the impact they could have on the stock price. alphaDIRECT's expertise encompasses a variety of sectors including Clean Transportation, Emerging EnergyTech, Energy Services, Smart Buildings, Solar, Water Value Chain and Industrial. alphaDIRECT was founded by Wall Street veteran and research analyst, Shawn Severson, after seeing a significant shift in the investment industry that resulted in less fundamental research conducted on small cap companies and a significant decline in information available to all investors. alphaDIRECT's mission is to bridge that information gap and engage companies and investors in a way that opens information flow and analytical insights.

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Participants

Patrick R. Gruber, Ph.D.
Chief Executive Officer
Gevo, Inc.

Dr. Patrick Gruber is the CEO of Gevo, Inc. and has served as a Director of the company since 2007. Previously, he was the CEO of Outlast Technologies Inc. He also co-founded NatureWorks, LLC (formerly Cargill Dow, LLC), and served as VP of Technology and Operations and CTO until 2005. In addition, Dr. Gruber is an advisor to the Energy Future Coalition and currently serves on the boards of directors of Gevo and Segetis. Dr. Gruber has received numerous awards for his outstanding contributions in the field of biotechnology and its application in biological engineering, environmental science, bio-refining and bio-based products, and well as for his work in the development and commercialization of green chemical production processes, his contributions to industrial biotechnology, and his ability to identify and act on business opportunities.

Mr. Shawn Severson
Founder and CEO
alphaDIRECT Advisors

Mr. Severson is the founding partner of alphaDIRECT Advisors, a division of EnergyTech Investor, LLC. He has over 20 years of experience as a senior research analyst covering the technology and cleantech industries. Prior to founding ADA, he led the Energy, Environmental and Industrial Technologies practice at the Blueshirt Group. Mr. Severson was frequently ranked as a top research analyst including one of the Wall Street Journal's "Best on the Street" stock pickers and multiple awards as Starmine's top three stock pickers.



ABOUT GEVO

Gevo, Inc. (Gevo), is a renewable chemicals and biofuels company that focuses on the development and commercialization of alternatives to petroleum-based products based on isobutanol produced from renewable feedstocks. The company produces renewable isobutanol at its wholly-owned production facility in Luverne, MN, and further converts this into alcohol-to-jet fuel (ATJ) and isooctane at a production facility in Silsbee, TX. The company engages in research and development focusing on the development of its proprietary biocatalysts for the production of renewable alcohols, as well as chemical catalysts for the conversion of renewable alcohols to high-value fuels and chemicals. Gevo was founded in 2005 and is headquartered in Englewood, CO.



Shawn Severson: Thank you very much, Pat for taking the time to speak with us today. The last time that we spoke we discussed the renewable hydrocarbons market and renewable gasoline/isooctane. Today our focus will be on low-carbon ethanol and how it fits into Gevo's short-term strategy. To get started, can you talk about some of your high performance oxygenate blend stocks for gasoline and how they differ compared to other products on the market today?

Pat Gruber: Thanks, Shawn, sure. We make two types of oxygenate blend stocks: ethanol, and isobutanol. We are on a quest to make the lowest the lowest fossil carbon content possible in our products. In California and other places, fossil carbon intensity is measured as a Carbon Intensity Score, or CI. We are pushing for a paradigm changing lowering of CI. With ethanol and isobutanol, it's clear cut that the carbon comes from renewable carbon and can generate a low CI score. It's the energy sources used for electricity and to generate heat for the production processes that become important. As we lower the CI of our energy sources, we lower the CI of our product.

We plan on and expect that we will have very low CI renewable fuel products in the future as we implement our plans for decarbonization of the Luverne Facility. We can see a way to become the lowest in NA and maybe the world. That is a striking point of view, especially when you combine it with the fact that when we use NFLCC as a feedstock, we produce fuel products and we produce enormous quantities of animal feed products.

Speaking of protein products, it seems that most people don't realize that we capture all

the protein of the NFLCC possible, which in our case is around 100% of it, then we upgrade it and deliver it to the food chain. A plant the size of our Luverne Facility with its 20 MGPY ethanol produces nearly 100 million pounds of animal feed. It's a food AND fuel operation.

Shawn Severson: What is Gevo's value proposition for its low-carbon ethanol fuel products?

Pat Gruber: To be the lowest CI score ethanol in the United States and North America—at least that is what we are shooting for. We expect that this ethanol will be sold into markets that reward improved carbon scores, like California, with its Low Carbon Fuel Standard. CARB with its LCSF have done a great job in getting a robust methodology together that we can use to measure CI and they have an effective carbon trading market established.

The tools and techniques now exist to pursue this with much less speculation than before. CARB has done a great job.

Shawn Severson: What's your main feedstock for your ethanol production and do you use the same feedstock(s) to produce isobutanol?

Pat Gruber: We use the same feedstock for both ethanol and isobutanol here in the US: non-food, low carbon corn. The reason is that NFLCC provides the lowest cost fermentable sugars in the world (that we know of anyway, and we do strive to keep track). The reason NFLCC is so effective is that so much valuable feed and protein is produced by using corn as the feedstock. That value for feed and protein product creates nice co-product

value, offsetting the cost to produce fermentable sugars from corn.

In other parts of the world we could use molasses, cane sugar, beet sugar, wheat sugar, agave and such. In the future we expect to be able to use cellulosic sugars once they are available and economical.

Economical low-cost feedstocks are critical to success when trying to make fuel products that compete with fossil-based fuels.

Shawn Severson: Thank you, Pat. You recently hosted an alphaDIRECT Virtual Conference Series about Gevo's plans for the Luverne Facility. Can you briefly explain how low-carbon ethanol fits into the "bigger picture"?

Pat Gruber: It's low-carbon ethanol that we think is interesting. We see the opportunity to get paid for renewable carbon value. The markets are clear, available, near-term, and very large. The challenge is to make enough improvements to our energy infrastructure and equipment at the Luverne Facility to create an optimum of value for the carbon associated with ethanol (and isobutanol). Of course, we are adding equipment to add value to the protein and oil from corn too.

Low-carbon ethanol serves as a "means to an end". We see we could make an attractive business with low-carbon ethanol, which we expect would lower our cash burn, but it's the renewable jet fuel and fully renewable gasoline from isobutanol that are most attractive for growth and making a really big business. Low-carbon ethanol is a stepping stone.

Shawn Severson: Can you explain how you expect low-carbon ethanol to reduce your cash burn over the next two years and also

talk about how you plan on improving margins?

Pat Gruber: Sure. As we improve the co-product values of the protein and oil products we produce by implementing the Shockwave Dry Fracc process and related equipment, we expect to start to improve the profitability of the plant. As we add and optimize equipment for lower energy consumption and replace our fossil-based electricity, we expect our profitability to improve further. As we replace our natural gas with renewable gas, we'd improve even further. All of this would improve profitability of ethanol while setting up our Luverne Facility infrastructure, in part for when we expand production capabilities for isobutanol and add production capabilities for jet fuel and isooctane.

Think about it: improve value of protein and oil co-products, margins improve; improve the renewable carbon value, margins improve. Now the question is how fast we can do it. We see it makes sense. We also appear to have the opportunity for vendor financing of some of the required equipment, which is good.

Shawn Severson: Do you see yourself becoming profitable on a non-GAAP Cash EBITDA basis depending on speed needed for IBA and Hydrocarbons?

Pat Gruber: I see the possibility, yes. It's a question of timing and execution. We can see that the capital cost required is manageable. We see scenarios that, depending on the value of renewable carbon and what carbon reductions can be captured by us, would be possible to become profitable at the Luverne Facility and as a company even while spending

money on the development and engineering resources for IBA, jet fuel, and isooctane. We want to move down the path of reducing the CI score at the Luverne Facility as quickly as we practically can.

Shawn Severson: Do you see any conflicts/risk with your short-term low-carbon ethanol strategy, given your long-term strategy to produce and sell only ethanol free gasoline (isobutanol etc.)?

Pat Gruber: I think both go hand-in-hand. The low-carbon ethanol opportunity is a vehicle by which we could make money sooner, or at least significantly reduce our cash burn, while we still deploy many resources (people and money) toward the development of isobutanol and the hydrocarbons. The improvements we are making at the Luverne Facility to lower the carbon footprint are designed to result in a biofuels facility that can produce some of the lowest CI score renewable fuels. Initially, we plan to produce low-carbon ethanol followed by the production of low-carbon isobutanol and hydrocarbon products.

Shawn Severson: Thank you very much for today, Pat. We look forward to speaking with you again soon.

SHAWN SEVERSON FOUNDER AND CEO

Mr. Severson founded *alphaDIRECT* Advisors, a division of EnergyTech Investor, LLC, in 2016 after seeing a significant communication and information gap developing between companies and the financial community. Mr. Severson has over 20 years of experience as a senior research analyst covering the technology and cleantech industries. Previously, he was Managing Director at the Blueshirt Group where he was the head of the Energy, Environmental and Industrial Technologies practice. Prior to the Blueshirt Group, Mr. Severson was at JMP Securities where he was a Senior Equity Research Analyst and Managing Director of the firm's Energy, Environmental & Industrial Technologies research team. Before joining JMP, he held senior positions at ThinkEquity, Robert W. Baird (London) and Raymond James. He began his career as an Equity Research Associate at Kemper Securities. He was frequently ranked as a top research analyst including one of the Wall Street Journal's "Best on the Street" stock pickers and multiple awards as Starmine's top three stock pickers.



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