UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2024

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _________ to _________

Commission file number: 001-35073

GEVO, INC.
(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation or organization)	**87-0747704** (I.R.S. Employer Identification No.)
345 Inverness Drive South, Building C, Suite 310 Englewood, CO **(Address of principal executive offices)**	**80112** **(Zip Code)**

(303) 858-8358
(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Trading Symbol	Name of Each Exchange on Which Registered
Common Stock, par value $0.01 per share	**GEVO**	**The Nasdaq Stock Market LLC**

Securities registered pursuant to Section 12(g) of the Act:
None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☐

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to § 240.10D-1(b). ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The aggregate market value of common equity held by non-affiliates of the registrant was approximately $0.4 billion as of June 30, 2024, the last trading day of the registrant's most recently completed second fiscal quarter, based on the closing price of the common stock as reported on the Nasdaq Capital Market on June 30, 2024. Shares of common stock held by each officer, director and holder of 10% or more of the outstanding common stock have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not necessarily a conclusive determination for other purposes.

As of March 26, 2025, the number of outstanding shares of the registrant's common stock, par value $0.01 per share, was 239,609,874.

DOCUMENTS INCORPORATED BY REFERENCE

Part III of this Annual Report on Form 10-K incorporates certain information by reference from the registrant's proxy statement for the 2025 annual meeting of stockholders to be filed no later than 120 days after the end of the registrant's fiscal year ended December 31, 2024.

GEVO, INC.

FORM 10-K—ANNUAL REPORT
FOR THE FISCAL YEAR ENDED DECEMBER 31, 2024
TABLE OF CONTENTS

		Page
PART I		
Item 1. and 2.	Business and Properties	6
Item 1A.	Risk Factors	18
Item 1B.	Unresolved Staff Comments	36
Item 1C.	Cybersecurity	36
Item 3.	Legal Proceedings	37
Item 4.	Mine Safety Disclosures	37
PART II		
Item 5.	Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	38
Item 6.	[Reserved]	39
Item 7.	Management’s Discussion and Analysis of Financial Condition and Results of Operations	40
Item 7A.	Quantitative and Qualitative Disclosures about Market Risk	52
Item 8.	Financial Statements and Supplementary Data	53
Item 9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	93
Item 9A.	Controls and Procedures	93
Item 9B.	Other Information	94
Item 9C.	Disclosure Regarding Foreign Jurisdictions that Prevent Inspections	95
PART III		
Item 10.	Directors, Executive Officers and Corporate Governance	95
Item 11.	Executive Compensation	95
Item 12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters	96
Item 13.	Certain Relationships and Related Transactions, and Director Independence	96
Item 14.	Principal Accountant Fees and Services	96
PART IV		
Item 15.	Exhibits, Financial Statement Schedules	97
Item 16.	Form 10-K Summary	101
SIGNATURES		102

Forward-Looking Statements

This Annual Report on Form 10-K (this "Report") contains forward-looking statements within the meaning of Section 21 E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"). When used in this Report, the words "expect," "believe," "anticipate," "estimate," "intend," "plan" and similar expressions are intended to identify forward-looking statements. These statements relate to future events or our future financial or operational performance and involve known and unknown risks, uncertainties and other factors that could cause our actual results, levels of activity, performance or achievements to differ materially from those expressed or implied by these forward-looking statements. These statements reflect our current views with respect to future events and are based on assumptions and subject to risks and uncertainties. These forward-looking statements include, among other things, statements about: our financial condition, our results of operation and liquidity, our expectations regarding the financing, development, and construction of our Alcohol-to-Jet Projects (as defined below), as well as other growth projects, and the associated costs, our ability to produce our products, our expectations regarding the demand for our products and our ability to meet such demand, our ability to meet production, financial and operational guidance, our strategy to pursue low-carbon or "net zero" carbon renewable fuels, our ability to replace our fossil-based energy sources with renewable energy sources at our Alcohol-to-Jet Projects and elsewhere, our expectations regarding jet fuel consumption, our expectations regarding the location, start-up date and production results for our initial Alcohol-to-Jet Project, our expectations regarding the benefits of increased modularization of the plant design for our Alcohol-to-Jet Projects, our expectations regarding the benefits of ETO (as defined below) technology for our Alcohol-to-Jet Projects, our expectations regarding our ability to produce and the anticipated benefits of renewable liquid hydrocarbons, our expectations regarding our ability to produce and resell protein and other products for use in the food chain, our ability and plans to construct greenfield commercial hydrocarbon facilities to produce sustainable aviation fuel ("SAF") and other products, our ability to raise additional funds to finance our business and the sources of those funds, our ability to successfully operate our renewable natural gas ("RNG") facilities in Iowa and our expectations regarding levels of RNG production, our ability to offset RNG production costs, the availability of, and market prices for, government economic incentives to the renewable energy market, achievement of advances in our technology platform, the availability of suitable and cost-competitive feedstocks, our expectations regarding integration of CultivateAI, our expectations regarding project approvals, our ability to gain market acceptance for our products, our expectations regarding the demand for carbon credits, the expected cost-competitiveness and relative performance attributes of our products, our strategy to pursue alcohol-to-SAF development and production, additional competition and changes in economic conditions and the future price and volatility of petroleum and products derived from petroleum. Important factors could cause actual results to differ materially from those indicated or implied by forward-looking statements such as those contained in documents we have filed with the United States ("U.S.") Securities and Exchange Commission (the "SEC"), including this Report in Item 7. "Management's Discussion and Analysis of Financial Condition and Results of Operations," Item 1A. "Risk Factors" and subsequent reports on Form 10-Q. All forward-looking statements in this Report are qualified entirely by the cautionary statements included in this Report and such other filings. These risks and uncertainties or other important factors could cause actual results to differ materially from results expressed or implied by forward-looking statements contained in this Report. These forward-looking statements speak only as of the date of this Report. We undertake no intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, and readers should not rely on the forward-looking statements as representing the Company's views as of any date subsequent to the date of the filing of this Report.

Unless the context requires otherwise, in this Report the terms "Gevo," "we," "us," "our" and "Company" refer to Gevo, Inc. and its wholly owned, direct and indirect subsidiaries.

Risk Factors Summary

Our business is subject to a number of risks and uncertainties, many of which are beyond our control, including those described in Part I, Item 1A. Risk Factors of this annual report. These risks include, but are not limited to, the following:

- We have a history of net losses, and we may not achieve or maintain profitability.
- We will require substantial additional financing to achieve our goals, and a failure to obtain this capital when needed or on acceptable terms could force us to delay, limit, reduce or terminate our development and commercialization efforts.
- Our proposed growth projects may not be completed or, if completed, may not achieve profitability or perform as expected. Our project development activities may consume a significant portion of our management's focus, and if not successful, reduce our profitability.
- We may be unable to successfully perform under current or future offtake and sales agreements to provide our products, and we may need to renegotiate some of our offtake agreements.
- Fluctuations in the price of corn and other feedstocks may affect our cost structure.
- Fluctuations in petroleum prices and customer demand patterns may reduce demand for renewable fuels.
- Any decline in the value of carbon credits associated with our products could have a material adverse effect on our results of operations cash flow and financial condition.
- We may not be successful in the commercialization of alcohol-to-SAF projects utilizing Axens technology.
- The technological and logistical challenges associated with producing, marketing, selling and distributing renewable hydrocarbon products are complex, and we may not be able to resolve such complexities in a timely or cost-effective manner, or at all.
- Our actual costs may be greater than expected in developing our growth projects, causing us to realize significantly lower profits or greater losses on our projects.
- An impairment of our long-lived assets or goodwill could reduce our earnings or negatively impact our financial condition and results of operations.
- We may be subject to liabilities and losses that may not be covered by insurance.
- We may be unable to produce renewable hydrocarbon products in accordance with customer specifications.
- Our experience may not be sufficient to operate commercial-scale facilities, and we may encounter substantial difficulties operating commercial plants or expanding our business.
- Mergers, acquisitions and other strategic investments may not be successful in achieving intended benefits, cost savings and synergies and may disrupt current operations.
- The amount of our indebtedness could adversely affect our ability to raise additional capital to fund our operations, limit our ability to react to changes in the economy or our industry and prevent us from fulfilling certain obligations.
- The Credit Agreement contains restrictions that could limit our flexibility in investing in our businesses.
- If we lose key personnel, including key management personnel, or are unable to attract and retain additional personnel, it could delay our product development programs and harm our research and development efforts, make it more difficult to pursue partnerships or develop our own products or otherwise have a material adverse effect on our business.
- We may face substantial competition from companies with greater resources and financial strength, which could adversely affect our performance and growth.
- Our business and operations would suffer in the event of IT system failures or a cyber-attack.
- We may engage in hedging transactions, which could adversely impact our business.
- As our products have not previously been used as a commercial fuel in significant amounts, their use exposes us to product liability risks.
- We may not be able to use some or all of our net operating loss carry-forwards tax deductions to offset future taxable income.
- Competitiveness of our products for fuel use (including RNG) depends in part on government economic incentives for renewable energy projects or other related policies that could change.
- In order to benefit from RINs and LCFS credits, our RNG projects are required to be registered and are subject to regulatory audit.

- Our RNG operations, and any future digester projects may not be able to achieve the operating results we expect from these projects.
- If we fail to maintain an effective system of internal controls, we might not be able to report our financial results accurately or prevent fraud; in that case, our stockholders could lose confidence in our financial reporting, which would harm our business and could negatively impact the price of our stock.
- Our ability to compete may be adversely affected if we are unsuccessful in defending against any claims by competitors or others that we are infringing upon their intellectual property rights.
- Our ability to compete may be adversely affected if we do not adequately protect our proprietary technologies or if we lose some of our intellectual property rights through costly litigation or proceedings.
- We may not be able to enforce our intellectual property rights throughout the world.
- Confidentiality agreements with employees and others may not adequately prevent disclosures of trade secrets and other proprietary information.
- We have received funding from U.S. government agencies, which could negatively affect our IP rights.
- The U.S. renewable fuels industry is highly dependent upon certain federal and state legislation and regulation and any changes in legislation or regulation could have a material adverse effect on our results of operations, cash flows and financial condition.
- Reductions or changes to existing regulations and policies may present technical, regulatory and economic barriers, which may significantly reduce demand for renewable fuels or our ability to supply our products.
- Negative attitudes toward renewable energy projects from the U.S. government, other lawmakers and regulators, activists and others could adversely affect our business, financial condition and results of operations.
- Any claims relating to improper handling, storage or disposal of hazardous materials or noncompliance with applicable laws and regulations could be time consuming and costly and could adversely affect our business and results of operations.
- Our international activities may increase our exposure to potential liability under anti-corruption, trade protection, tax and other laws and regulations.
- We may not be able to comply with all applicable listing requirements or standards of The Nasdaq Capital Market and Nasdaq could delist our common stock.
- The market price of our common stock may be adversely affected by the future issuance and sale of additional shares of our common stock or by our announcement that such issuances and sales may occur.
- Future issuances of our common stock or instruments convertible or exercisable into our common stock may materially and adversely affect the price of our common stock and cause dilution to our existing stockholders.
- Raising capital at a subsidiary, or project, level would result in lower revenues attributable back to us.
- The estimates and assumptions on which our financial projections are based may prove to be inaccurate.
- Raising additional capital may cause dilution to our existing stockholders, restrict our operations or require us to relinquish rights to our technologies.
- We do not anticipate paying cash dividends, and accordingly, stockholders must rely on stock appreciation for any return on their investment.
- If securities or industry analysts do not publish research or reports about our business, or publish negative reports about our business, our stock price and trading volume could decline. The trading market for our common stock may be influenced by the research and reports that securities or industry analysts publish about us or our business.
- We are subject to anti-takeover provisions in our certificate of incorporation, our bylaws and under Delaware law that could delay or prevent an acquisition of the Company, even if the acquisition would be beneficial to our stockholders.
- Our certificate of incorporation provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

PART I

Items 1 and 2. Business and Properties.

Company Overview

Gevo, Inc. (Nasdaq: GEVO), a Delaware corporation founded in 2005, is a next-generation diversified energy company committed to fueling America's future with cost-effective, drop-in fuels that we believe will have a positive impact on U.S. energy security, abate carbon, and strengthen rural communities to drive economic growth. Gevo's innovative technology can be used to make a variety of renewable products, including SAF, motor fuels, chemicals, and other materials. Gevo owns and operates one of the largest dairy-based RNG facilities in the United States, turning byproducts into clean, reliable energy. Following its acquisition of the ethanol and carbon capture and sequestration ("CCS") assets of Red Trail Energy, LLC in January 2025, Gevo also operates an ethanol plant with an adjacent CCS facility. Additionally, Gevo owns the world's first production facility for specialty alcohol-to-jet ("ATJ") fuels and chemicals. Through its Verity subsidiary, Gevo offers transparency, accountability and efficiency in tracking, measuring and verifying various attributes throughout the supply chain. While Gevo has been primarily focused on its operations in the U.S., we believe Gevo technology and plant designs have the potential to be deployed in plants across the world since such designs use many types of carbohydrate feedstocks to produce hydrocarbon fuels. Each of the market areas in the U.S. that Gevo focuses on have the common need for carbon-based products and none of them are conducive to full electrification or hydrogen. We produce, sell, and trace renewable, drop-in products for these sectors, and generate carbon abatement value through our plant design and business systems. Carbon abatement value can be valorized via Renewable Identification Numbers ("RINs"), state credits, Inflation Reduction Act ("IRA") tax credits, and the value of Scope 3 greenhouse gas emissions for end customers. Gevo operates in the sustainable energy sector, focusing on innovative solutions for reducing greenhouse gas emissions and advancing low-carbon energy alternatives. The company's efforts are primarily concentrated in two key focus areas: GevoFuels and GevoRNG.

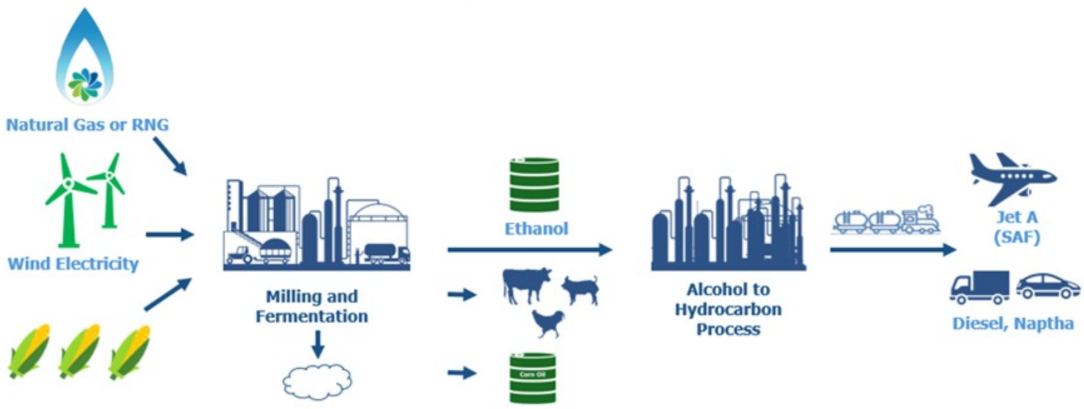
GevoFuels

The GevoFuels segment is integral to Gevo's strategy of providing sustainable, low-carbon energy solutions, focusing on developing, constructing, and operating Alcohol-to-Jet projects aimed at decarbonizing the transportation and energy sectors. The flagship Alcohol-to-Jet Project, which we refer to as "ATJ-60," is targeted to be built in Lake Preston, South Dakota. ATJ-60 is an integrated proprietary greenfield facility designed to produce approximately 60 million gallons of SAF per year using renewable energy and low-carbon feedstocks. We believe ATJ-60 will contribute to reducing greenhouse gas emissions in the aviation industry and expect it to become one of the first large-scale SAF production facilities. Our plans for Gevo's future projects include further expansion of SAF production capacity, leveraging cutting-edge technologies to meet growing low-carbon fuel demand. Gevo is also implementing a modularization strategy within this segment, enabling the development of smaller, prefabricated production units that can be replicated across future projects. This approach is expected to improve scalability, reduce capital costs, and increase operational flexibility. By scaling SAF production, Gevo aims to lead the transition to sustainable energy, enhancing both environmental and energy solutions.

GevoRNG

The GevoRNG segment focuses on converting methane emissions into RNG through anaerobic digestion. RNG is a sustainable, carbon-neutral energy source without the environmental impact of methane, a potent greenhouse gas. By capturing methane from organic waste, Gevo provides a solution that can mitigate climate change while providing a clean alternative to traditional natural gas, which can be used for electricity generation, heating, and transportation. This segment is vital to Gevo's commitment to reducing greenhouse gas emissions and advancing a low-carbon energy future. RNG is a renewable resource, produced indefinitely from organic waste, thus reducing reliance on fossil fuels. The RNG segment diversifies Gevo's revenue streams while supporting its long-term goal of delivering impactful solutions that contribute to a cost competitive, net-zero future and reduce the carbon intensity of operations.

Our Cost Effective Integrated Alcohol-to-Jet Business System



Our primary market focus, given the large demand and growing customer interest, is cost effective net-zero hydrocarbon fuels, including SAF. We believe that SAF produced from a carbohydrate-to-alcohol process is the most economically viable approach to generate value from carbon abatement. We also have commercial opportunities for other renewable hydrocarbon products, such as hydrocarbons for gasoline, racing fuel blendstocks and diesel fuel; ingredients for the chemical industry, such as ethylene and butenes for plastics and materials; and other chemicals. Global fuel consumption by commercial airlines continues to grow, with jet fuel consumption expected to rise from approximately 92 to 99 billion gallons from 2023 to 2024, respectively.

To serve these markets, we are developing commercial projects for converting renewable energy into energy-dense, liquid hydrocarbons that can be used as drop-in hydrocarbon renewable fuels, such as SAF, with the potential to be cost effective and deliver large amounts of carbon abatement, and even achieve a “net zero” greenhouse gas (“GHG”) footprint. We believe that this addresses the global growing market demand for economical, drop-in fuel products that have a low carbon footprint. We use the Argonne National Laboratory’s Greenhouse gases, Regulated Emissions, and Energy use in Transportation model (the “GREET Model”) to measure, predict and verify GHG emissions across the life cycle of our products. The “net zero” concept means Gevo expects that by using sustainably grown feedstock (e.g., low till, no-till cultivation) and renewable and substantially decarbonized energy sources, drop-in hydrocarbon fuels can be produced that have a net-zero, full life cycle footprint measured from the capture of renewable carbon through the burning of the fuel. This is because such feedstocks come from crops, which take carbon dioxide out of the atmosphere and convert it into biomass through photosynthesis. This yields vital amino acid nutrients, or protein, that must be consumed in order to sustain humans and animals, as well as vegetable oil and carbohydrates, or sugar. The plant sugar may be fermented with microorganisms to produce a clean alcohol suitable for industrial scale chemical processing into hydrocarbons. Given the overabundance of plant-derived sugar, the growing unmet demand for drop-in, renewable hydrocarbons such as SAF, and the availability of demonstrated industrial-scale technologies that can convert plant sugars to alcohols and then to hydrocarbons, we view our project as first movers in an attractive, scalable new industry connecting this overabundance of plant sugar to unmet demand for products such as SAF.

We believe that there is a growing and significant market demand for SAF production generally based on a number of factors, including:

- Air transportation is widely recognized as a hard-to-decarbonize sector by governments, airlines, and industry stakeholders. De-fossilized jet fuel, or SAF, which has a substantially lower GHG emissions footprint, is expected to be important to achieve the decarbonization of the industry. The International Air Transport Association's ("IATA") 77th Annual General Meeting approved a resolution for the global air transport industry to achieve net-zero carbon emissions by the year 2050. Most recently, IATA presented roadmaps to achieve its 2050 Fly Net Zero commitment, which include SAF providing 62 percent of the carbon mitigation needed in 2050. IATA has 317 airline members, including Alaska Airlines, American Airlines, Delta Air Lines, FedEx Express, United Airlines and UPS Airlines, who have committed to spending significant amounts to mitigate the balance of emissions from their global businesses going forward.
- Newly enacted state-based incentives for SAF in 2023 and 2024, including per-gallon tax credits in Illinois, Minnesota, Washington, and new incentives in New York, as well as federal support such as the Clean Fuel Tax Credit from the Inflation Reduction Act, demonstrate growing public policy support at all levels of government for scaling SAF production and increasing SAF use across the United States.
- The ***one****world*® alliance, a global airline alliance consisting of 13 member airlines, committed to a target of 10% SAF use across the alliance by 2030 and plans to reach net-zero emissions by 2050.

We believe that we possess the ability to convert various carbohydrate feedstocks through a fermentation process into alcohols and then transform the alcohols into renewable fuels and materials, through a combination of licensing of technology and engineering from third parties, and our own proprietary technology, know-how, and engineering. While we expect our major capital deployments to focus on the production of SAF, we recognize there are opportunities to operate in several different renewable fuels and materials markets and we will pursue those opportunities when appropriate based on customer interest, access to capital, and expected investment returns.

Our SAF production process uses carbohydrates as a feedstock. Carbohydrates are plant matter that result from photosynthesis, which is a natural process that is powered by sunlight by which carbon dioxide and water are converted to carbohydrates (*i.e.*, plant sugars). This route is fundamentally advantaged fundamentally over chemical routes because not only does photosynthesis capture carbon from the air, but it also naturally captures the electrons powered by sunlight. This means that it takes less energy to produce hydrocarbon fuels from photosynthetically produced raw materials than it does to produce what are known as "e-fuels" where natural processes are not involved. In Gevo's process, the carbohydrates are fermented to produce alcohol intermediate products (e.g., ethanol or isobutanol). The alcohol-based intermediates are then chemically processed to make renewable hydrocarbons. To achieve cost competitive drop-in fuels that also abate carbon across the whole life cycle of the products, we believe:

- carbohydrates from sustainably grown feedstocks (*e.g.*, low till, no-till) or other carbohydrate sources with a low carbon intensity ("CI") score should be used in production;
- sustainably grown crops that produce large amounts of protein for the food chain as well as carbohydrates, are economically advantaged for generating the raw materials for SAF;
- the energy (electricity and heat sources) used in production must be de-fossilized; and
- the products cannot contain fossil-based carbon.

We believe sustainably grown industrial field corn (*i.e.*, corn that is grown with precision agricultural techniques and low-till or no till cultivation to conserve nutrients, prevent water runoff, and erosion) is the best feedstock to commercialize our SAF with initially because:

- it produces a significant amount of protein and vegetable oil for nutritional products on a per acre basis while also producing an abundance of low CI carbohydrates that can be captured and used as a feedstock for fuels and chemicals;
- the protein and oil that are produced can be easily separated and sold as co-products into the food chain markets. The protein and oil revenue serves to offset the cost of the corn feedstock;

- we believe that the carbon footprint of growing corn can be negative, according to calculations completed with the GREET Model, when a full suite of climate-smart agricultural practices is employed on appropriate acres of cropland;
- we believe that corn can achieve lower CI scores when grown with climate-smart agricultural techniques than waste raw materials or wood;
- we believe that residual carbohydrates from corn are the lowest cost carbohydrates available as a renewable raw material, and this raw material production is proven and scalable; and
- field corn is already at large scale serving the feed industry which provides carbohydrates in sufficient scale to serve the SAF and other industries in a meaningful way and at this scale, growers have the potential to have a large impact on carbon reduction.

We believe that leveraging sustainable agriculture practices to address GHG emissions represents a breakthrough solution that can reduce GHGs without compromising sustainability or food supply. We also believe that it will be possible to create an incentive structure that rewards farmers to lower the CI score of their agricultural products and create a cycle of continuous improvement to their overall sustainability footprint.

Building Out Production Capacity to Meet Demand

We believe that we will be able to develop the marketplace, customers and production capacity to achieve at least 1 billion gallons of sales in the next decade. Two approaches will be required to achieve this objective. The first approach, the development of greenfield sites (*i.e.*, the development of a project on an undeveloped site), allows us to optimize production and the integration of technology. The second approach, leveraging installed alcohol production capacity, has the advantage that the fermentation capacity already exists via existing ethanol plants. Those existing ethanol plants would need to be decarbonized and hydrocarbon production capacity would need to be installed.

Greenfield Projects

Our "Alcohol-to-Jet Projects" represent a portfolio of planned facilities designed to produce liquid hydrocarbons through the utilization of renewable energy sources, our proprietary technologies, and our plant designs. These projects are aimed at advancing the development and commercialization of drop-in, economical fuels, with a focus on abating GHG emissions and contributing to the achievement of net zero carbon objectives for a growing market. The initial project, ATJ-60, is expected to be located in Lake Preston, South Dakota, and is being designed to produce approximately 65 million gallons per year (“MGPY”) of total hydrocarbon volumes, including 60 MGPY of SAF. The produced liquid hydrocarbons, when burned, are expected to be cost competitive (on a cash cost production basis) with fossil-based jet fuel, and have the potential to deliver a “net zero” GHG footprint. Along with the hydrocarbons, ATJ-60 is expected to produce approximately 1.3 billion pounds per year of high-value protein products for use in the food chain and approximately 30 million pounds per year of corn oil. Our products will be produced in three steps: the first step is milling the corn to produce the carbohydrates needed for the production of SAF while simultaneously enabling the production of protein and oil; the second step produces alcohols using carbohydrate-based fermentation; and the third step is the conversion of the alcohols into hydrocarbons.

We have substantially completed the engineering design on our ATJ-60 project and are proceeding with detailed engineering and modularization design. We are refining the project cost estimates with engineering, procurement, and construction (“EPC”) partners to identify opportunities to reduce and negotiate the cost. After which, we expect to sign a lump-sum, fixed price agreement for the EPC to build and deliver the plant. The current detailed engineering work is focused on increasing the modularization of component parts on the ATJ-60 plant design, with the goal to build the process equipment into modules at a factory, then assemble onsite. This will enable us to minimize specialized field work typical in plant construction of this type, lower the risk and costs, as well as provide better access to skilled labor. We expect that increasing the modularization of the plant design will help reduce upfront expenditures prior to securing third-party equity and debt financing for the ATJ-60 project. This approach is also anticipated to enhance the certainty of the construction schedule, which may provide greater assurance to potential financing counterparties.

We currently expect to finance the construction of ATJ-60 at the subsidiary level using a combination of Company equity, third-party capital, and non-recourse debt. The Company currently projects approximately $40 million to be spent on ATJ-60 between January 2025 and the financial close of ATJ-60. Throughout 2024, the Company spent $48.1 million. Cash distributions from future ATJ-60 earnings would be proportionate to Gevo's ownership in ATJ-60 under this expected financing structure. The use of project debt and third-party equity financing enables us to conserve capital for use on other growth projects. We plan to apply similar development and financing strategies to future Alcohol-to-Jet Projects to grow our SAF production to meet the demand for SAF.

In order to achieve full construction financing for ATJ-60, we need to secure both third-party equity and debt. On October 16, 2024, ATJ-60 reached a critical milestone of receiving conditional commitment from the U.S. Department of Energy ("DOE") for a loan guarantee facility with a capacity of approximately $1.6 billion (including capitalized interest during construction). This milestone is significant as it helps to validate ATJ-60's integrity, which is underpinned by the DOE's diligence process. The receipt of a conditional commitment from the DOE means that the credit subsidy cost has been paid, and the Federal Financing Bank has earmarked the loan funds for ATJ-60. Because the credit subsidy cost has been paid, our understanding is that the funds used to pay the credit subsidy cost are no longer subject to recission, deferral or impoundment. The focus is now on negotiating and closing the DOE loan and our project level equity financing as quickly as possible. We expect that our ATJ-60 plant start-up date will occur approximately thirty-six months after the ATJ-60 financing closes. Additionally, we are actively working to secure access to carbon capture and sequestration capabilities at the site.

We are evaluating and performing early site development work at several sites in the U.S. for other greenfield sites. These sites include several locations that are particularly advantageous in terms of potential economics, opportunities to decarbonize, and time to market. In addition, we are pursuing potential Alcohol-to-Jet Projects with several existing ethanol plant sites. Existing ethanol plants need to be decarbonized with renewable energy or de-fossilized energy and/or carbon sequestration. Gevo has developed a preferred list of potential partners and sites with decarbonization in mind and is engaged in preliminary feasibility and development discussions with several of these potential partners. We plan to give priority to existing industrial plant sites that have attractive potential economics and high predictability of timeline for decarbonization.

Leveraging Existing Alcohol Production Capacity

Based upon what we have learned as we develop and engineer ATJ-60, we believe that it should be possible, practical and financially attractive to convert existing ethanol plants to allow for the production of SAF and other renewable hydrocarbon products. In order to accomplish this conversion, three critical things are required: (i) the energy for the converted plant needs to be de-fossilized to achieve the CI scores required for the market; (ii) a hydrocarbon production plant needs to be built; and (iii) the plant needs to have access to CCS.

We believe that certain existing ethanol plants may present attractive opportunities for the development of ATJ facilities, which could be substantially modeled after our ATJ-60 Project.

Renewable Natural Gas

Our RNG and biogas projects generate incremental profit and create a long-term option to potentially supply RNG to our Alcohol-to-Jet Projects as part of our long-term strategy to decarbonize SAF and other hydrocarbon fuels.

The RNG project in Northwest Iowa (the "RNG Project") started up and began producing and injecting initial volumes of biogas in 2022, during the project's testing and ramp-up period. In 2023, the project achieved stable production levels and surpassed our annual production target of 310,000 million British thermal units ("MMBtu"). In addition, in 2024 we completed an expansion to the RNG Project to increase its annual expected output from 355,000 MMBtu to 400,000 MMBtu. Further increased production is anticipated as Gevo continues to debottleneck the process with a goal to achieve 500,000 MMBtu output per year.

Gevo's revenue in this segment primarily stems from the sale of the environmental attributes associated with its RNG Project. These include attributes available from California's Low Carbon Fuel Standard ("LCFS") program and the U.S. Environmental Protection Agency ("EPA") Renewable Fuels Standard ("RFS") program ("RFS Program") to receive renewable identification numbers ("RINs"). Gevo was granted registration approval by the EPA in 2022, allowing us to participate in the RFS Program to receive RINs.

We have been operating under a temporary pathway from California's LCFS program, which we received during the first quarter of 2023. Our application for a provisional Tier 2 pathway, representing the significantly lower carbon intensity of our RNG than was reflected under the temporary pathway, was approved by the California Air Resources Board ("CARB") in March of 2025, see Note 23, Subsequent Events. With the provisional pathway approval having been received prior to March 31, 2025, we will be able to apply the provisional pathway carbon intensity score to dispensing activities that occurred in Q4 2024, which included RNG production for the months of July and August stored and dispensed in Q4 2024, and for dispensing activities throughout 2025.

We believe the trust and reputation we have attained in the RNG industry, in combination with our understanding of the various and complex environmental attributes, gives us a competitive advantage. We intend to leverage our relationships to identify and execute new project opportunities. Typically, new development opportunities come from our existing relationships with dairy owners who value our reputation in the industry.

We exercise financial discipline in pursuing projects by targeting attractive risk-adjusted project returns, whether selling RNG into the markets or using it to lower CI scores at our Alcohol-to-Jet Projects. We will monitor biogas supply availability across our portfolio and seek to maximize our production by expanding operations when economically feasible.

Competitive Advantages

We believe that our vertically integrated set of technologies and business systems (including our extensive portfolio of several hundred patents and patent applications, trade-secrets, and proprietary production technologies) creates competitive advantage through (i) access to multiple opportunities to drive the CI score of our products down, (ii) opportunities to address needs in the chemicals, food, feed, plastics and materials markets, (iii) to drive production costs very low to maximize margins, (iv) deploy production technology that is readily scalable and robust from an operating point of view, (v) through Verity Tracking, and (vi) modular design of production facilities which can help to facilitate rapid deployment of production assets. The vertical business systems enable Gevo to capture value from selling protein and vegetable oil, capturing biogenic carbon, and generating carbon value at state and federal levels.

Carbohydrates as Feedstocks

Carbohydrate feedstocks exceed all other potential renewable carbon feedstock sources by several orders of magnitude on a worldwide basis. In the Midwest region of the U.S. corn is an ideal feedstock for multiple reasons. On a per acre basis, field corn (not food corn) is one of the most productive crops to produce protein and oil, as well as carbohydrates. The non-carbohydrate co-products from the field corn kernel represent the majority of the nutritional value of the kernel and could be delivered into the food chain. By selling the protein, oil and animal feed into the food chain markets, it would offset a portion of the cost of acquiring the corn. We believe up to 50% of the cost of corn can be offset by manufacturing valuable products for the food chain. The remaining carbohydrates are used as a feedstock for fermentation.

We believe that in the U.S. carbohydrates produced from corn are the most sustainable and lowest cost renewable carbon source that can be used as feedstock for alcohol to hydrocarbon processes to produce hydrocarbon fuels. In the future, we expect to evaluate the commercial use of carbohydrates from sources other than corn (*e.g.*, of sugar cane, molasses or other cellulosic sugars derived from wood, agricultural residues and waste) as the cost to acquire those carbohydrates becomes competitive, and the sustainability profile (and related CI scores) become acceptable. We expect our future feedstocks to be chosen on the collective basis of (i) cost, (ii) carbon and/or sustainability footprint with associated value, (iii) positive contribution to food chain where possible, and (iv) availability of the feedstock at a practical scale.

Proprietary Carbohydrate Conversion Technologies

Three technologies are required to convert carbohydrates to SAF and other renewable hydrocarbons: (i) the fermentation process to convert carbohydrates to alcohols; (ii) the chemical processing technology to make the hydrocarbon fuel products; and (iii) the technology and know-how to mitigate the fossil based GHG emissions from the integrated fermentation and fuel production plants.

We have two ways of producing alcohols via fermentation from carbohydrates: (i) ethanol, which has two carbons, and (ii) isobutanol, which has four carbons. Ethanol can be a building block for SAF, diesel fuel, naptha and chemical products. Isobutanol can be a building block for gasoline hydrocarbons, SAF and chemical products. Ethanol technology is well known and readily available. Isobutanol technology is relatively new and has yet to be scaled to the size of current ethanol production, but it offers long-term potential in enabling lower CI scores and allowing for the production of chemical products, and high value gasoline hydrocarbons.

We believe that we possess proprietary know-how to integrate alcohol production and chemical processing to make SAF and other renewable hydrocarbons that should lower the CI score of our renewable hydrocarbon products, and have filed patents on the overall process.

Alcohols can be converted to hydrocarbon products with catalytic chemical processing techniques analogous to those used in the petrochemical industry. We have been working with Axens North America, Inc. (“Axens”) to use their technology on this process since they have already scaled it up and they have licensed to many commercial production facilities. Axens brings technologies with over 60 related patents, engineering packages, proprietary catalysts and certain proprietary equipment required to convert alcohols into SAF and they will provide certain process guarantees to us.

Integration of the production systems with various renewable or de-fossilized energy sources will be essential. Our Alcohol-to-Jet plant concept depends upon a variety of decarbonization methods to ensure the operability of the plant while also reducing and eliminating the need for fossil-based energy. We have partnered with companies such as Zero6 Energy, formerly Juhl Energy, to develop the technology suite for this decarbonization.

We own and operate a development scale plant in Luverne, Minnesota (the “Luverne Facility”). This development scale plant enables us to solve the practical issues involved with scale up of new technologies and testing of new unit operations. Gevo may use the Luverne Facility in the future to prove out processes, process concepts, unit operations and for other purposes in order to optimize feedstocks and the processes used for producing hydrocarbons from alcohols. At present, operations at the Luverne Facility are limited to care and maintenance activities, as the Company has redirected its focus to the development of the Alcohol-to-Jet Projects.

Verity

Verity Holdings, LLC (“Verity”), a wholly owned subsidiary of Gevo, Inc., provides software that enables traceability and the ability to track, verify, and empirically value carbon intensity across the full carbon lifecycle. Verity provides end-to-end carbon accounting via a proprietary digital Measure, Report and Verify (“MRV”) platform. This platform specializes in attribute accounting and services aimed at maximizing the value of environmental benefits throughout the entire business system. Verity's comprehensive approach includes regulatory analysis, strategy development, life cycle analysis, compliance management, audit readiness, carbon marketing, utilization and retirement services, and trading/marketing for Scope 1, 2, and 3 emissions. By integrating advanced technological capabilities, Verity supports Gevo's mission of converting renewable energy and biogenic carbon into sustainable fuels and chemicals with a net zero or better carbon footprint.

It is critical that we can prove sustainability attributes and the CI of our products, ensuring that these values are accurate and auditable. The mission of Verity is to document CI and other sustainability attributes and apply Distributed Ledger Technology, commonly referred to as blockchain, to create a record of the products throughout the entire business system. Verity starts by calculating carbon intensity of feedstocks from data collected at the farm and field level. The feedstocks are transformed in production plants into renewable fuels and other products. Renewable electricity, biogas, renewable hydrogen and other potentially decarbonized energy sources can be used to further improve the sustainability of product production. The resulting sustainable attributes have the potential to be quantified as a digital asset and monetized in voluntary or compliance carbon markets and provide compliance needs for tax incentives while preventing double counting. The system promotes the adoption and continued practice of regenerative agricultural practices, with benefits stemming from more resilient crop production, heathier soil, and soil organic carbon sequestration.

In recent years there has been increasing regulatory and stakeholder pressure on global corporations to lower emissions. These trends are driving demand for carbon credits, giving rise to two sets of markets, the regulated compliance carbon market and the voluntary carbon market, both of which could grow meaningfully in the coming decades. Verity intends to document and account for carbon capture in conjunction with scientifically supported measurement techniques. The potential for Verity is broad and could be applicable to tracking the CI of various items beyond Gevo's internal businesses, including, but not limited to, renewable fuels, food, feed and industrial products through their respective business systems and value chains. Our robust scientific measurement, reporting, and verification plan and approach is expected to provide a high-quality credit that should meet regulated compliance and unregulated carbon markets.

In March 2023, we entered into a joint development framework agreement with Southwest Iowa Renewable Energy; in August 2023, we entered into a joint development framework agreement with a second ethanol producer in the midwestern U.S. that has over 100 million gallons of capacity; and in October 2023, we entered into an agreement with a third ethanol producer in the southwestern U.S. During 2024 and the month of January 2025, we entered into agreements with a fourth ethanol producer, Midwest Renewable Energy, LLC and also a soybean oil producer in the midwestern U.S. These agreements include commercial terms for software as a service ("SaaS") fees and profit-sharing frameworks. As we grow Verity as an externally facing business, we are working to sign up additional ethanol, biofuel, and agriculture customers. Each of these agreements will focus on implementing Verity technology and developing the market for carbon credits to help farmers and biofuel producers quantify the CI reductions for their products.

During the second quarter of 2023, we launched the Verity Tracking platform (the "Platform") with farmers in the Lake Preston, South Dakota area who participated in our 2022 grower program. In its initial release, the Platform allows the users to measure, report, verify, and view the CI scores at both the farm average and field-by-field levels. The Platform provides insights into the contributors and removers behind the CI, helping users to understand the factors that drive differences in CI performance between fields. Users can also compare their scores with the U.S. national average calculated by the GREET model.

In the third quarter of 2024, we acquired Cultivate Agricultural Intelligence, LLC ("CultivateAI"), a leading provider of agricultural data through a cloud-based, mobile SaaS platform. CultivateAI provides agricultural data to clients by leveraging high-resolution drone and satellite technology. This process begins by capturing detailed imagery of an agricultural operation. CultivateAI uses that information to build missing GIS maps and create a digital agricultural inventory, including facilities, assets, and crops. This comprehensive digital inventory generates quantifiable insights that help customers improve management practices and overall performance. CultivateAI's technology has enabled Verity to accelerate its technology and business development efforts, and overall growth.

Our Facilities and Projects

Development Scale Facility

As described above, we currently own a development scale plant, the Luverne Facility. The Luverne Facility was originally constructed in 1998 and is located on approximately 55 acres of land containing approximately 50,000 square feet of building space. In 2022, the activities at our Luverne Facility were transitioned to care and maintenance, market development, and customer education, as we shifted focus to our Alcohol-to-Jet Projects. The workforce adjustment allowed us to retain key personnel and redeploy some resources to our ATJ-60 and RNG projects to provide valuable knowledge and experience for the future strategic growth of the Company. The Luverne Facility is well equipped and positioned as a development site as it provides a unique opportunity to showcase our decarbonization and business systems and raise awareness for future partnerships, investors, and local communities, even though operations at the site have been minimized. Future operations, if any, will be tailored to support a focus on advancing our technology, testing, optimizing alternative feedstocks and yeast strains, and unit operations as well as partnership development for fuels and specialty chemicals with integrated solutions for GHG reductions. We are primarily finished with the development work needed at the Luverne Facility.

RNG Facilities

We developed Gevo's initial RNG Project in Northwest Iowa to generate RNG captured from dairy cow manure which is supplied by three dairies located in Northwest Iowa. GevoRNG has a capacity of 400,000 MMBtu of RNG per year. The RNG is sold into the California market under dispensing agreements BP Canada Energy Marketing Corp. and BP Products North America Inc. (collectively, "BP") have in place with Clean Energy Fuels Corp., the largest fueling infrastructure in the U.S. for RNG. We commenced construction of the GevoRNG project in April 2021, and in the third quarter of 2022, the GevoRNG project ramped up production of biogas, raw biogas upgrading to RNG and the injection of RNG into an interconnected natural gas pipeline.

We have four leases for land and three fuel supply agreements related to the GevoRNG project. Under these contracts, we lease land from dairy farmers on which we have built a gas upgrading unit, three anaerobic digesters, related equipment and pipelines. These leases expire at various dates between 2031 and 2050.

Development Properties

In July 2022, we purchased approximately 240 acres of land for ATJ-60 in Lake Preston, South Dakota, followed by a groundbreaking ceremony in Lake Preston in September 2022. Refer to the section entitled "Greenfield Projects" above for additional information about ATJ-60.

Headquarters

Our corporate headquarters and research and development laboratories are located in Englewood, Colorado and are leased. Our lease terminates in January 2029 and the leased space is approximately 19,241 square feet.

Competition

We face competitors in each market that we focus on, some of which are limited to individual markets, and some of which will compete with us across all of our target markets. Many of our competitors have greater financial resources, more comprehensive product lines, broader market presence, longer standing relationships with customers, longer operating histories, greater production capabilities, stronger brand recognition and greater marketing resources than we do which could make it difficult for us to compete.

Our renewable hydrocarbons, including SAF, compete with the incumbent petroleum-based fuels industry, as well as renewable fuels companies. The incumbent petroleum-based fuels industry makes the vast majority of the world's gasoline, jet and diesel fuels and blendstocks. The petroleum-based fuels industry is mature and includes a substantial base of infrastructure for the production and distribution of petroleum-derived products, however, the industry faces challenges from its dependence on petroleum. High and volatile oil prices should provide an opportunity for renewable producers relying on biobased feedstocks like corn, which in recent years have had lower price volatility than oil, to compete.

Renewable fuels companies may provide substantial competition in the hydrocarbon fuels markets. These renewable fuel competitors are numerous and include both large established companies and numerous startups. Government tax incentives for renewable fuel producers and regulations such as the Inflation Reduction Act Clean Fuel Production Credit, RFS Program, California LCFS program, and programs emerging in other states such as Illinois help provide opportunities for renewable fuels producers to compete. We believe that we have the advantage of being able to target conversion of alcohols into specific high-value molecules such as SAF, other renewable hydrocarbons and various chemical products.

Intellectual Property and Technologies

We seek protection for our intellectual property under patent, copyright, trademark and trade secret laws.

Since the Company was founded, we have submitted hundreds of patent applications in the U.S. and in various foreign jurisdictions. These patent applications are for our technologies and specific methods and products that support our business. We continue to file new patent applications, for which terms extend up to 20 years from the filing date in the U.S. and for various terms in international jurisdictions. We expect to continue to develop and build our intellectual property portfolio to address unmet technology and market needs going forward.

We have a strong proprietary technology position with more than 300 patents, as well as proprietary processes and know-how. Certain production technology to convert ethanol to hydrocarbons has been exclusively licensed to Gevo in the U.S. by Axens, and incorporates more than 60 patents, as well as proprietary production technology and know-how.

Government Regulation - Environmental Compliance

Regulation by governmental authorities in the U.S. and other countries is a significant factor in the development, manufacture and marketing of second-generation renewable fuels. In particular, renewable fuels are subject to rigorous testing and premarket approval requirements by the EPA’s Office of Transportation and Air Quality and regulatory authorities in other countries. In the U.S., various federal and, in some cases, state statutes and regulations also govern or impact the manufacturing, safety, storage and use of renewable fuels. The process of seeking required approvals and the continuing need for compliance with applicable statutes and regulations requires the expenditure of substantial resources.

We are subject to various federal, state and local environmental laws and regulations, including those relating to the discharge of materials into the air, water and ground, the generation, storage, handling, use, transportation and disposal of hazardous materials and the health and safety of our employees. These laws and regulations require us to obtain environmental permits and comply with numerous environmental restrictions as we construct and operate isobutanol assets. They may require expensive pollution control equipment or operational changes to limit actual or potential impacts to the environment. A violation of these laws, regulations or permit conditions can result in substantial fines, natural resource damage, criminal sanctions, permit revocations or facility shutdowns.

Our products benefit from the RFS Program in that our RNG is currently eligible for Renewable Identification Numbers (“RINS”) that have value based on the current RFS Program. The RFS Program could change, impacting our products, positively or negatively.

Various systems are being put in place around the world to measure CI and the reduction of GHGs, with the intent of creating a system to monetize the value of the reduction of carbon. In order to benefit from such systems, companies need to have their products qualified through a regulatory process. There is no guarantee that any benefit could be gained. In 2019, we submitted a design pathway application to the California Air Resources Board to gain approval for low-carbon intensity ethanol utilizing beef manure biogas as a process input under the LCFS, and we may also seek approval under similar programs in the future.

People and Culture

Higher Purpose

Our employees strive to make environmental and social impacts in the world. Our employees are also guided by our code of business conduct and ethics, which helps them to uphold and strengthen our standards of integrity and innovation while continuously improving our environment, health, safety and sustainability. Our world and business may change, but our core values are a constant in everything we do.

Employees

As of December 31, 2024, we had 122 employees in North America. We also retain consultants, independent contractors, and temporary and part-time workers. None of our facilities in the U.S. are covered by collective bargaining agreements. The Gevo team is made up of scientists, research and development experts, software developers, data engineers, operations, administrative and business development professionals, skilled trades and energy technicians.

	Total
Employment	
Full-time	122
Part-time	—
Total	122
Department	
Project Development	48
Research and Development	16
Production	14
General, administrative and business development	44
Total	122
Location	
Colorado	48
Iowa	13
Texas	13
Minnesota	8
South Dakota	7
Illinois	6
New Mexico	5
Washington	4
Maryland	3
Other States	15
Total	122

Health and Safety

We strive to achieve safety excellence through increased focus on leading indicators, risk reduction, health and safety management systems, and prevention to protect the public health and environmental quality in our communities, as well as the health and safety of our employees, customers and neighbors. We strive to comply with all health and safety laws and regulations that apply to our business. We provide site safety orientation for all employees and guests as well as periodic refresher training for employees at a level appropriate for their role. We have received no violations and are proud that we have never had a fatality at a Gevo facility. During 2024, we had no reportable injuries and no lost time incidents.

We are serious about maintaining the well-being of our employees and families, paying 100% of the premiums for health, dental and vision insurance for whole families. Despite the significant increases in premium costs, we continue to pay the premiums for disability and life insurance to assist in maintaining living standards when issues arise. We continue to be agile in addressing employee needs in the quickly evolving environment while being transparent across the workforce.

Available Information

Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and any amendments to those reports (including related exhibits and supplemental schedules) filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, are made available, free of charge, through our website, as soon as reasonably practicable after such reports have been filed with, or furnished to, the SEC. Our website address is www.gevo.com. Information on our website is not incorporated by reference into, and does not constitute a part of, this report.

Item 1A. Risk Factors

You should carefully consider the risk factors described below before you decide to invest in our securities. The risks described below are not the only ones facing us. Our business is also subject to the risks that affect many other companies, such as competition, technological obsolescence, labor relations, general economic conditions, geopolitical changes and international operations. Additional risks and uncertainties not presently known to us or that we currently believe are immaterial may also impair our business operations and our liquidity. The risks described below could cause our actual results to differ materially from those contained in the forward-looking statements we have made in this Report, the information incorporated herein by reference and those forward-looking statements we may make from time to time.

Risk Related to our Business and Strategy

We have a history of net losses, and we may not achieve or maintain profitability.

We incurred net losses of $82.6 million and $66.2 million during the years ended December 31, 2024 and 2023, respectively. As of December 31, 2024, we had an accumulated deficit of $804.2 million. We expect to incur losses and negative cash flows from operating activities for the foreseeable future. We currently derive revenue primarily from the sale of RNG and related environmental attributes produced at GevoRNG.

Furthermore, we expect to spend significant amounts on the further development and commercial implementation of our strategic plans and technology.

We also expect to spend significant amounts on (i) developing and financing our Alcohol-to-Jet projects and other similar growth projects, (ii) marketing, general and administrative expenses associated with our planned growth, and (iii) management of operations as a public company. As a result, we expect to continue to incur new losses for the foreseeable future. We do not expect to achieve profitability during the foreseeable future and may never achieve it. If we fail to achieve profitability, or if the time required to achieve profitability is longer than we anticipate, we may not be able to continue our business operations. Even if we do achieve profitability, we may not be able to sustain or increase profitability on a quarterly or annual basis.

We will require substantial additional financings to achieve our goals, and a failure to obtain this capital when needed or on acceptable terms could force us to delay, limit, reduce or terminate our development and commercialization efforts.

We operate in a capital-intensive industry and will continue to need substantial amounts of capital to execute on our business plans. We believe that we will continue to expend substantial resources for the foreseeable future on further growth of our business, including developing, constructing, financing and acquiring facilities necessary for the production of our products on a commercial scale. These expenditures may, among other things, include costs associated with our Alcohol-to-Jet Projects, research and development, developing biogas processing projects and wind projects, obtaining government and regulatory approvals, and negotiating offtake agreements for our products. In addition, other unanticipated costs may arise.

To date, we have funded our operations primarily through equity offerings and issuances of debt. Based on our current plans and expectations, we will require additional funding at the corporate and/or project level to achieve our goals. We currently expect to finance the construction of ATJ-60 and any other Alcohol-to-Jet Projects at the subsidiary level using third party capital. In addition, our plans and expectations may change as a result of factors currently unknown to us, and we may need additional funds sooner than expected and may seek to raise additional funds through public or private debt or equity financings. We may also choose to seek additional capital sooner than required due to favorable market conditions or strategic considerations.

Our future capital requirements will depend on many factors, including:

- the timing of and costs involved in financing and constructing our Alcohol-to-Jet Projects, including ATJ-60;
- the timing of and costs involved in obtaining permits and compliance with applicable regulations;
- the timing and costs associated with any future capital projects or expansions;

- the costs involved in maintaining the Luverne Facility;
- our ability to gain market acceptance for our products;
- our ability to negotiate financeable offtake agreements for the products we produce, and the timing and terms of those agreements, including terms related to sales price;
- our ability to negotiate sales of our products and the timing and terms of those sales, including terms related to sales price;
- our ability to establish and maintain strategic partnerships, licensing or other arrangements and the timing and terms of those arrangements; and
- the cost of preparing, filing, prosecuting, maintaining, defending and enforcing patent, trademark and other intellectual property claims, including litigation costs and the outcome of such litigation.

Additional funds may not be available when we need them, on terms that are acceptable to us, or at all. If needed funds are not available to us on a timely basis, we may be required to delay, limit, reduce or terminate:

- our Alcohol-to-Jet Projects, including ATJ-60;
- our plans to enter into agreements with strategic partners;
- our development of future capital projects or expansions;
- our efforts to prepare, file, prosecute, maintain and enforce patent, trademark and other intellectual property rights and defend against claims by others that we may be violating their intellectual property rights; and/or
- our activities in negotiating and performing under offtake agreements that may be necessary for the commercialization of our products.

Our proposed growth projects may not be completed or, if completed, may not perform as expected or achieve profitability. Our project development activities may consume a significant portion of our management's focus, and if not successful, reduce our profitability.

We plan to grow our business by building multiple production facilities, including greenfield and brownfield projects. Development projects may require us to spend significant sums for engineering, permitting, legal, financial advisory and other expenses before we determine whether a development project is feasible, economically attractive or capable of being financed.

Our development projects are typically planned to be large and complex, and we may not be able to complete them. There can be no assurance that we will be able to negotiate the required agreements, overcome any local opposition, or obtain the necessary licenses, permits and financing. Failure to achieve any of these elements may prevent the development and construction of a project. If that were to occur, we could lose all of our investment in development expenditures and may be required to write off project development assets.

We may be unable to successfully perform under current or future offtake agreements to provide our products, and we may need to renegotiate some of our offtake agreements.

We have entered into several offtake agreements pursuant to which we agreed to sell our products. Under certain of these offtake agreements, the purchasers agreed to pay for and receive, or cause to be received by a third party, or pay for even if not taken, the renewable hydrocarbon products under contract (a "take-or-pay" arrangement). The timing and volume commitment of certain of these agreements are conditioned upon, and subject to, our ability to complete the construction of a new or expanded production facility (the "Facility"). However, in order to commence construction of and complete the Facility, we must secure third-party financing. We cannot assure you that with the current offtake agreements we will be able to obtain adequate financing on favorable terms, or at all, and may need to enter into additional offtake agreements or renegotiate the terms of current offtake agreements. Furthermore, we have not demonstrated that we can meet the production levels and specifications contemplated in certain of our current offtake agreements, or future offtake agreements. If our production is slower than we expect or, we experience production delays, or if demand decreases or we encounter difficulties in successfully completing the Facility or producing our renewable hydrocarbon products to specification, our counterparties may terminate our existing offtake agreements and potential customers may be less willing to negotiate definitive offtake agreements with us, which would adversely impact our performance and results of operations.

Fluctuations in the price of corn and other feedstocks may affect our cost structure.

Our approach to the renewable fuels and chemicals markets is dependent on the price of corn and other feedstocks that will be used to produce our products. A decrease in the availability of plant feedstocks or an increase in price may have a material adverse effect on our financial condition and operating results. At certain levels, prices may make these products uneconomical to use and produce and we may be unable to pass the full amount of feedstock cost increases on to our customers, which would make it unprofitable for us to operate in these markets. In addition, passing along increased pricing to our customers could result in fewer or reduced orders or customer loss altogether. No assurance can be given that we will be able to purchase corn and other feedstocks at or near prices which would provide us with positive margins.

The price and availability of corn and other plant feedstocks may be influenced by general economic, market and regulatory factors. These factors include weather conditions, pests, global or regional growing conditions, including plant disease, farming decisions, government policies and subsidies with respect to agriculture and international trade, increasing input costs, prices for alternative crops, global political or economic issues and conflicts and shifts in global demand and supply. For example, corn prices may increase significantly in response to drought conditions in the midwestern region of the U.S. and any resulting decrease in the supply of corn could lead to the restriction of corn supplies, which in turn could cause further increases in the price of corn. The significance and relative impact of these factors on the price of plant feedstocks is difficult to predict.

Fluctuations in petroleum prices and customer demand patterns may reduce demand for renewable fuels.

Our renewable fuels may be considered an alternative to petroleum-based fuels. Therefore, if the price of oil falls, any revenues that we generate from renewable fuel products could decline and we may be unable to produce products that are a commercially viable alternative to petroleum-based fuels. In such cases, we may not be able to offer our customers an attractive price for our fuels, market adoption of our fuels could be slowed or limited and/or we may be forced to reduce the prices at which we sell our fuels in order to try to attract new customers or prevent the loss of demand from existing customers. Additionally, demand for liquid transportation fuels, including renewable fuels, may decrease due to economic conditions or other factors outside of our control, which could have a material adverse impact on our business and results of operations.

Any decline in the value of carbon credits associated with our products could have a material adverse effect on our results of operations, cash flow and financial condition.

The sale of our products is often dependent on the value of carbon credits under the RFS Program, LCFS and other similar regulatory regimes. The value of these credits fluctuates based on market forces outside of our control. There is a risk that the supply of low-carbon alternative fuels outstrips demand, resulting in the value of carbon credits declining. Any decline in the value of carbon credits associated with our products could have a material adverse effect on our results of operations, cash flow and financial condition.

We may not be successful in the commercialization of alcohol-to-SAF projects utilizing Axens technology.

Our future success on alcohol-to-SAF projects depends on, among other things, our ability to produce commercial quantities of SAF from ethanol using Axens technology. We may encounter challenges in scaling up the Axens technology and/or the technology may not work as expected, or at all on a commercial scale. In addition, the cost to construct commercial alcohol-to-SAF facilities or the production costs associated with the operation of such facilities may be higher than we project. If we encounter such difficulties in scaling or constructing alcohol-to-SAF projects, it could significantly affect our profitability and have a material adverse impact on our business and results of operations.

The technological and logistical challenges associated with producing, marketing, selling and distributing renewable hydrocarbon products are complex, and we may not be able to resolve any difficulties that arise in a timely or cost-effective manner, or at all.

We have limited experience operating, and have never built, a commercial renewable hydrocarbon facility. We believe that we understand the engineering and process characteristics necessary to successfully build the additional facilities that we are contemplating and to scale up to larger facilities. Our assumptions, however, may prove to be incorrect. Accordingly, we cannot be certain that we will be able to consistently produce renewable hydrocarbon products in an economical manner in commercial quantities. In addition, we expect to incur significant capital expenditures to build out our Alcohol-to-Jet projects and produce renewable hydrocarbon products. If we fail to build or scale up the facilities required to produce our renewable hydrocarbon products or are unable to consistently produce renewable hydrocarbon products economically on a commercial scale or in commercial volumes, our commercialization of renewable hydrocarbon products and our business, financial condition and results of operations will be materially adversely affected.

Our actual costs may be greater than expected in developing our growth projects, causing us to realize significantly lower profits or greater losses on our projects.

We generally must estimate the costs of completing a specific project to prior to the construction of the project. The actual cost of labor and materials and other important costs may vary from the costs we originally estimated. These variations may cause the gross profit of a project to materially differ from what we originally estimated. Cost overruns on our growth projects could occur due to changes in a variety of factors such as:

- failure to properly estimate costs of engineering, materials, equipment, labor or financing;
- unanticipated technical problems with the structures, materials or services;
- unanticipated project modifications;
- changes in the costs of equipment, materials, labor or contractors;
- our suppliers' or contractors' failure to perform;
- changes in laws and regulations; and
- delays caused by weather conditions.

As projects grow in size and complexity, multiple factors may contribute to reduced profit or greater losses, and depending on the size of the particular project, variations from the estimated project costs could have a material adverse effect on our business. For example, if project costs exceed our estimates, it could cause us to realize significantly lower profits or greater losses on our projects.

An impairment of our long-lived assets or goodwill could reduce our earnings or negatively impact our financial condition and results of operations.

We continually monitor our business, the business environment and the performance of our operations to determine if an event has occurred that indicates that a long-lived asset or goodwill may be impaired. If an event occurs, which is a determination that involves judgment, we may be required to utilize cash flow projections to assess our ability to recover the carrying value based on the ability to generate future cash flows. Our long-lived assets and goodwill impairment analyses are sensitive to changes in key assumptions used in our analysis, such as expected future cash flows, the degree of volatility in equity and debt markets and our unit price. If the assumptions used in our analysis are not realized, it is possible a material impairment charge may need to be recorded in the future.

We cannot accurately predict the amount and timing of any impairment of long-lived assets or goodwill. Further, as we continue to develop our strategy regarding certain of our non-core assets, we will need to continue to evaluate the carrying value of those assets. Any additional impairment charges that we may take in the future could be material to our results of operations and financial condition.

We may be subject to liabilities and losses that may not be covered by insurance.

Our employees and facilities are subject to the hazards associated with producing RNG and other products. Operating hazards can cause personal injury and loss of life, damage to, or destruction of, property, plant and equipment and environmental damage. We maintain insurance coverage in amounts, against the risks that we believe are consistent with industry practice and maintain an active safety program. However, we could sustain losses for uninsurable or uninsured risks, or in amounts in excess of existing insurance coverage. Events that result in significant personal injury or damage to our property or to property owned by third parties or other losses that are not fully covered by insurance could have a material adverse effect on our results of operations and financial position.

Insurance liabilities are difficult to assess and quantify due to unknown factors, including the severity of an injury, the determination of our liability in proportion to other parties, the number of incidents not reported and the effectiveness of our safety program. If we were to experience insurance claims or costs above our coverage limits or that are not covered by our insurance, we might be required to use working capital to satisfy these claims rather than to maintain or expand our operations. To the extent that we experience a material increase in the frequency or severity of accidents or workers' compensation claims, our operating results and financial condition could be materially and adversely affected.

We may be unable to produce renewable hydrocarbon products in accordance with customer specifications.

We may be unable to produce renewable hydrocarbon products to meet customer specifications, including those defined in ASTM D7862 "Standard Specification for Butanol for Blending with Gasoline for Use as Automotive Spark-Ignition Engine Fuel," ASTM D7566 "Standard Specifications for Aviation Turbine Fuel Containing Synthesized Hydrocarbons" or specifications to carbon intensity standards. We may need to add additional processing steps or incur capital expenditures in order to meet customer specifications which could add significant costs to our production process. If we fail to meet specific product or volume specifications contained in an offtake agreement, the customer may have the right to seek an alternate supply of renewable hydrocarbon products and/or terminate the agreement completely, and we could be required to pay shortfall fees or otherwise be subject to damages. A failure to successfully meet the specifications of our potential customers could decrease demand, hinder market adoption of our products, and harm our reputation, thus having a material adverse impact on our business and results of operations.

Our experience may not be sufficient to operate commercial-scale facilities and we may encounter substantial difficulties operating commercial plants or expanding our business.

We have limited experience operating commercial-scale RNG and renewable hydrocarbon facilities concurrently. Accordingly, we may encounter significant difficulties operating at a commercial scale once we expand our production capabilities, including at our GevoRNG and Alcohol-to-Jet Projects. The skills and knowledge gained in operating our current facilities may not be sufficient to support the successful operation of a large-scale production facility or the Facility, and we may be required to expend significant time and money to develop our capabilities in large-scale facility operation. We may also need to hire new employees or contract with third parties to help manage our operations, and our performance will suffer if we are unable to hire qualified parties or if they perform poorly. Any production delays or volume or other issues resulting from our inability to operate at a commercial scale could result in additional capital expenditures and investment, reduced sales volumes, loss of customers, harm to our reputation and could have a material adverse impact on our financial condition and results of operations.

In addition, integrating new facilities with our existing operations may prove difficult. Rapid growth, resulting from our operation of, or other involvement with, renewable hydrocarbon facilities or otherwise, may impose a significant burden on our administrative and operational resources. To effectively manage our growth and execute our expansion plans, we will need to expand our administrative and operational resources substantially and attract, train, manage and retain qualified management, technicians and other personnel. We may be unable to do so. Failure to meet the operational challenges of developing and managing increased production, or failure to otherwise manage our growth, may have a material adverse effect on our business, financial condition and results of operations.

Mergers, acquisitions and other strategic investments may not be successful in achieving intended benefits, cost savings and synergies and may disrupt current operations.

From time to time, we may complete acquisitions of companies and certain businesses or assets of companies, and we may not realize the expected benefits from such acquisitions because of integration difficulties or other challenges. For example, on January 31, 2025, we closed on the previously announced acquisition of Red Trail Energy, LLC ("Red Trail") to purchase substantially all of the assets, and assume certain liabilities, of Red Trail (the "Transaction"). The integration process of any newly acquired business, such as the Transaction, may be complex, costly and time-consuming. The potential difficulties of integrating the operations of an acquired business and realizing our expectations for an acquisition, including the benefits that may be realized, include, among other things:

- failure of the business to perform as planned following the acquisition or achieve anticipated revenue, cash flow or profitability targets;
- unexpected costs or difficulties in completing the acquisition or integration of acquired companies or assets, including as a result of regulatory challenges;
- higher than expected costs, lower than expected cost savings or synergies and/or a need to allocate resources to manage unexpected operating difficulties;
- difficulties assimilating the operations and personnel of acquired companies into our operations;
- diversion of the attention and resources of management or other disruptions to current operations;
- unanticipated changes in applicable laws and regulations;
- risks inherent in our acquired companies' and businesses' industry and operations;
- unanticipated issues in conforming our acquired companies' and businesses' standards, processes, procedures and internal controls with our operations;
- failures or delays in receiving the necessary approvals by the relevant regulators and authorities;
- retaining key customers, suppliers and employees;
- retaining and obtaining required regulatory approvals, licenses and permits;
- operating risks inherent in the acquired business and our business; and
- other unanticipated issues, expenses and liabilities.

Our failure to successfully complete the integration of any acquired business, including as a result of regulatory challenges and any adverse consequences associated with future acquisition activities, could have an adverse effect on our business, financial condition and operating results. Even if the integration of any acquired business is successfully completed, the full expected benefits and synergies of the acquisition may not be realized. Additional unanticipated costs, which could be material, may also be incurred in the integration of our business and the acquired business. Additionally, the full benefits of an acquisition may not be realized if the combined business does not perform as expected or demand for the combined company's services does not meet our expectations. If any of the above risks occur, our business, financial condition, results of operations and cash flows may be materially and adversely impacted, we may fail to meet the expectations of investors or analysts, and our stock price may decline as a result.

If we lose key personnel, including key management personnel, or are unable to attract and retain additional personnel, it could delay our product development programs and harm our research and development efforts, make it more difficult to pursue partnerships or develop our own products or otherwise have a material adverse effect on our business.

Our business is complex and we intend to target a variety of markets. Therefore, it is critical that our management team and employee workforce are knowledgeable in the areas in which we operate. The departure, illness or absence of any key members of our management, including our named executive officers, or the failure to attract or retain other key employees who possess the requisite expertise for the conduct of our business, could prevent us from developing and commercializing our products for our target markets and entering into partnerships or licensing arrangements to execute our business strategy, as could the loss of any key scientific staff, or the failure to attract or retain other key scientific employees. We may not be able to attract or retain qualified employees in the future due to the intense competition for qualified personnel among biotechnology and other technology-based businesses, particularly in the advanced renewable fuels area, or due to the limited availability of personnel with the qualifications or experience necessary for our renewable chemicals and advanced renewable fuels business. If we are not able to attract and retain the necessary personnel to accomplish our business objectives, we may experience staffing constraints that will adversely affect our ability to meet the demands of our partners and customers in a timely fashion or to support our internal research and development programs and to grow our business. In particular, our product and process development programs are dependent on our ability to attract and retain highly skilled scientists. Competition for experienced scientists and other technical personnel from numerous companies and academic and other research institutions may limit our ability to do so on acceptable terms. All of our employees are at-will employees, meaning that either the employee or we may terminate their employment at any time.

We may face substantial competition from companies with greater resources and financial strength, which could adversely affect our performance and growth.

We may face substantial competition in the markets for renewable hydrocarbon products. Our competitors include companies in the incumbent petroleum-based industry as well as those in the nascent renewable fuels industry. The incumbent petroleum-based industry benefits from a large established infrastructure, production capability and business relationships. The incumbents' greater resources and financial strength provide significant competitive advantages that we may not be able to overcome in a timely manner. Academic and government institutions may also develop technologies which will compete with us.

Our ability to compete successfully will depend on our ability to develop proprietary products that reach the market in a timely manner and are technologically superior to and/or are less expensive than other products on the market. Many of our competitors have substantially greater production, financial, research and development, personnel and marketing resources than we do. In addition, certain of our competitors may also benefit from local government subsidies and other incentives that are not available to us. As a result, our competitors may be able to develop competing and/or superior technologies and processes, and compete more aggressively and sustain that competition over a longer period of time than we could. Our technologies and products may be rendered obsolete or uneconomical by technological advances or entirely different approaches developed by one or more of our competitors. As more companies develop new intellectual property in our markets, the possibility of a competitor acquiring patent or other rights that may limit our products or potential products increases, which could lead to litigation. Furthermore, to secure purchase agreements from certain customers, we may be required to enter into exclusive supply contracts, which could limit our ability to further expand our sales to new customers. Likewise, major potential customers may be locked into long-term, exclusive agreements with our competitors, which could inhibit our ability to compete for their business.

Our limited resources relative to many of our competitors may cause us to fail to anticipate or respond adequately to new developments and other competitive pressures. This failure could reduce our competitiveness and market share, adversely affect our results of operations and financial position and prevent us from obtaining or maintaining profitability.

Our business and operations would suffer in the event of IT system failures or a cyber-attack.

Our business is dependent on proprietary technologies, processes and information that we have developed, much of which is stored on our computer systems. We also have entered into agreements with third parties for hardware, software, telecommunications and other information technology ("IT") services in connection with our operations. Our operations depend, in part, on how well we and our vendors protect networks, equipment, IT systems and software against damage from a number of threats, including, but not limited to, cable cuts, damage to physical plants, natural disasters, intentional damage and destruction, fire, power loss, hacking, computer viruses, vandalism, theft, malware, ransomware and phishing attacks. Any of these and other events could result in IT system failures, delays, a material disruption of our business or increases in capital expenses. Our operations also depend on the timely maintenance, upgrade and replacement of networks, equipment and IT systems and software, as well as preemptive expenses to mitigate the risks of failures.

Furthermore, the importance of such information technology systems and networks and systems has increased due to many of our employees working remotely. Additionally, if one of our service providers were to fail and we were unable to find a suitable replacement in a timely manner, we could be unable to properly administer our outsourced functions.

As cyber threats continue to evolve, we may be required to expend significant additional resources to continue to modify or enhance our protective measures or to investigate and remediate any information security vulnerabilities. While we have implemented security resources to protect our data security and information technology systems, such measures may not prevent such events. Significant disruption to our IT system or breaches of data security could have a material adverse effect on our business, financial condition and results of operations.

We may engage in hedging transactions, which could adversely impact our business.

In the future, we may engage in hedging transactions to offset some of the effects of volatility in commodity prices. Hedging activities may cause us to suffer losses, such as if we purchase a position in a declining market or sell a position in a rising market. Furthermore, hedging would expose us to the risk that we may have under- or over-estimated our need for a specific commodity or that the other party to a hedging contract may default on its obligation. If there are significant swings in commodity prices, or if we purchase more corn for future delivery than we can process, we may have to pay to terminate a futures contract, resell unneeded corn inventory at a loss or produce our products at a loss, all of which would have a material adverse effect on our financial performance. We may vary the hedging strategies we undertake, which could leave us more vulnerable to increases in commodity prices or decreases in the prices of our products. Future losses from hedging activities and changes in hedging strategy could have a material adverse effect on our operations.

As our products have not previously been used as a commercial fuel in significant amounts, their use subjects us to product liability risks.

SAF has not been used as a commercial fuel in large quantities or for a long period of time. Research regarding SAF and its distribution infrastructure is ongoing. Although SAF has been tested on some engines, there is a risk that SAF may damage engines or otherwise fail to perform as expected. If SAF degrades the performance or reduces the life-cycle of engines, or cause them to fail to meet emissions standards, market acceptance could be slowed or stopped, and we could be subject to product liability claims. A significant product liability lawsuit could substantially impair our production efforts and could have a material adverse effect on our business, reputation, financial condition and results of operations.

We may not be able to use some or all of our net operating loss carry-forwards to offset future income.

We have net operating loss carryforwards due to prior period losses generated before January 1, 2018 which if not utilized will begin to expire at various times over the next 20 years. If we are unable to generate sufficient taxable income to utilize our net operating loss carryforwards, these carryforwards could expire unused and be unavailable to offset future income tax liabilities.

In addition, under Section 382 of the Internal Revenue Code of 1986, as amended (the "Code"), a corporation that undergoes an "ownership change" (generally defined as a greater than 50% change (by value) in its equity ownership over a three-year period) is subject to limitation on its ability to utilize its pre-change net operating loss carry-forwards, or net operating losses, to offset future taxable income. We undertook a detailed study of our net operating loss carryforwards through December 31, 2024 to determine whether such amounts are likely to be limited by Section 382 of the Code. As a result of this analysis, we currently believe any Section 382 of the Code limitations will significantly impact our ability to offset income with available net operating loss carryforwards. We have experienced more than one ownership change in prior years, and the issuance of shares in connection with our initial public offering itself triggered an ownership change. In addition, future changes in our stock ownership, which may be outside of our control, may trigger an ownership change, as may future equity offerings or acquisitions that have equity as a component of the purchase price.

Competitiveness of our products for fuel use (including RNG) depends in part on government economic incentives for renewable energy projects or other related policies that could change.

We depend, in part, on international, federal, state and local government incentives, including but not limited to RINs, LCFS credits in California, Clean Fuel Program credits in Oregon, Renewable Energy Credits ("RECs"), rebates, tax credits and other incentives to end users, distributors, system integrators and manufacturers of renewable energy projects, that promote the use of renewable energy. These government economic incentives could be reduced or eliminated altogether, or the categories of renewable energy qualifying for such government economic incentives could be changed. These renewable energy program incentives are subject to regulatory oversight and could be administratively or legislatively changed in a manner that could have a material adverse effect on our operations. Reductions in, changes to, or eliminations or expirations of governmental incentives could result in decreased demand for, and lower revenues from, our projects and products. Further, our ability to generate revenue from the various government economic incentives depends on our strict compliance with the applicable federal and state programs, which are complex and can involve a significant degree of judgment. If the agencies that administer and enforce these programs disagree with our judgments, otherwise determine that we are not in compliance, conduct reviews of our activities or make changes to the programs, then our ability to generate revenue from the economic incentives could be temporarily restricted pending completion of reviews or as a penalty, permanently limited or lost entirely, and we could also be subject to fines or other sanctions.

In addition, we may be required to register our projects or qualify our products with the federal government, various states or other countries. Delays in obtaining registration or qualification of our projects or products could delay future revenues and could adversely affect our cash flows. Further, we typically make a large investment in our projects prior to receiving registration and/or qualification. Failure of our projects or products to qualify for government economic incentives could have a material adverse effect on our business.

In order to benefit from RINs and LCFS credits, our RNG projects are required to be registered and are subject to regulatory audit.

We are required to register an RNG project with the EPA and relevant state regulatory agencies. Further, we qualify our RINs through a voluntary Quality Assurance Plan. By registering our RNG project with the EPA's voluntary Quality Assurance Plan, we are subject to quarterly third-party audits and semi-annual on-site visits of our projects to validate generated RINs and overall compliance with the RFS program. We are also subject to a separate third party's annual attestation review. The Quality Assurance Plan provides a process for RIN owners to follow, for an affirmative defense to civil liability, if used or transferred Quality Assurance Plan verified RINs were invalidly generated. A project's failure to comply could result in remedial action by the EPA, including penalties, fines, retirement of RINs, or termination of the project's registration, any of which could adversely affect our business, financial condition and results of operations.

Our RNG operations, and any future digester projects may not be able to achieve the operating results we expect from these projects.

Our RNG project is dependent on the LCFS credits and RINs produced at the dairy farms that make up part of our RNG project. In the event that CARB reduces the CI score that it applies to waste conversion projects, such as dairy digesters, the number of LCFS credits for RNG generated at our RNG project will decline. Additionally, revenue from LCFS credits also depends on the price per LCFS credit, which is driven by various market forces, including the supply of and demand for LCFS credits, which in turn depends on the demand for traditional transportation fuel and the supply of renewable fuel from other renewable energy sources, and mandated CI targets, which determine the number of LCFS credits required to offset LCFS deficits, and which increase over time. A significant decline in the value of LCFS credits could require us to incur an impairment charge on our RNG project and could adversely affect our business, financial condition and results of operations.

If we fail to maintain an effective system of internal controls, we might not be able to report our financial results accurately or prevent fraud; in that case, our stockholders could lose confidence in our financial reporting, which would harm our business and could negatively impact the price of our stock.

Effective internal controls are necessary for us to provide reliable financial reports and prevent fraud. In addition, Section 404 of the Sarbanes-Oxley Act of 2002 ("Section 404") requires us to evaluate and report on our internal control over financial reporting and have our principal executive officer and principal financial officer certify as to the accuracy and completeness of our financial reports. The process of maintaining our internal controls and complying with Section 404 is expensive and time consuming, and requires significant attention of management. We cannot be certain that these measures will ensure that we maintain adequate controls over our financial processes and reporting in the future. Even if we conclude that our internal control over financial reporting provides reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles, because of their inherent limitations, our internal controls over financial reporting may not prevent or detect fraud or misstatements. Failure to maintain required controls or implement new or additional controls as circumstances warrant, or difficulties encountered in maintaining or implementing controls, could harm our results of operations or cause us to fail to meet our reporting obligations.

Our management has concluded that the Company's disclosure controls and procedures were not effective as of December 31, 2024 because of a material weakness relating to not having a sufficient complement of personnel with the necessary technical expertise and accounting knowledge to appropriately address complex and non-routine transactions. Notwithstanding the material weakness that existed as of December 31, 2024, management has concluded that the consolidated financial statements included in this report present fairly, in all material respects, the financial position, results of operations and cash flows of the Company in accordance with accounting principles generally accepted in the United States of America ("GAAP"). Management is currently addressing this material weakness in internal control over financial reporting and is committed to remediating it as expeditiously as possible. Management believes that there are no material inaccuracies or omissions of material fact in the Company's financial statements and, to the best of its knowledge, believes that the consolidated financial statements for the year ended December 31, 2024 fairly present in all material respects the Company's financial position, results of operations, and cash flows in accordance with GAAP.

However, if our remedial measures are insufficient to address the material weakness, or if we, or our independent registered public accounting firm, discover an additional material weakness, the disclosure of that fact, even if quickly remedied, could reduce the market's confidence in our financial statements and harm our stock price.

Risks Related to Intellectual Property

Our ability to compete may be adversely affected if we are unsuccessful in defending against any claims by competitors or others that we are infringing upon their intellectual property rights.

The various bioindustrial markets in which we operate or plan to operate are subject to frequent and extensive litigation regarding patents and other intellectual property rights. In addition, many companies in intellectual property-dependent industries, including the renewable energy industry, have employed intellectual property litigation as a means to gain an advantage over their competitors. As a result, we may be required to defend against claims of intellectual property infringement that may be asserted by our competitors against us and, if the outcome of any such litigation is adverse to us, it may affect our financial condition and our ability to compete effectively.

Litigation, interferences, opposition proceedings or other intellectual property proceedings inside and outside of the U.S. may divert management time from focusing on business operations, could cause us to spend significant amounts of money and may have no guarantee of success. Any future intellectual property litigation could also force us to do one or more of the following:

- stop selling, incorporating, manufacturing or using our products that use the subject intellectual property;
- obtain from a third party asserting its intellectual property rights, a license to sell or use the relevant technology, which license may not be available on reasonable terms, or at all;
- redesign those products or processes that use any allegedly infringing or misappropriated technology, which may result in significant cost or delay to us, or which redesign could be technically infeasible;
- pay attorneys' fees and expenses; or
- pay damages, including the possibility of treble damages in a patent case if a court finds us to have willfully infringed certain intellectual property rights.

We are aware of a significant number of patents and patent applications relating to aspects of our technologies filed by, and issued to, third parties. We cannot assure you that we will ultimately prevail if any of this third-party intellectual property is asserted against us.

Our ability to compete may be adversely affected if we do not adequately protect our proprietary technologies or if we lose some of our intellectual property rights through costly litigation or proceedings.

Our success will depend in part on our ability to obtain patents and maintain adequate protection of our intellectual property covering our technologies and products and potential products in the U.S. and other countries. We have adopted a strategy of seeking patent protection in the U.S. and in certain foreign countries with respect to certain of the technologies used in or relating to our products and processes. We own rights to hundreds of issued patents and filed patent applications in the U.S. and in various foreign jurisdictions. When and if issued, patents would expire at the end of their term and any patent would only provide us commercial advantage for a limited period of time, if at all. Our patent applications are directed to our enabling technologies and to our methods and products which support our business in the advanced renewable fuels and renewable chemicals markets. We intend to continue to apply for patents relating to our technologies, methods and products as we deem appropriate.

Only some of the patent applications that we have filed in the U.S. or in any foreign jurisdictions, and only certain of the patent applications filed by third parties in which we own rights, have been issued. A filed patent application does not guarantee a patent will issue and a patent issuing does not guarantee its validity, nor does it give us the right to practice the patented technology or commercialize the patented product. Third parties may have or obtain rights to "blocking patents" that could be used to prevent us from commercializing our products or practicing our technology. The scope and validity of patents and success in prosecuting patent applications involve complex legal and factual questions and, therefore, issuance, coverage and validity cannot be predicted with any certainty. Patents issuing from our filed applications may be challenged, invalidated or circumvented. Moreover, third parties could practice our inventions in secret and in territories where we do not have patent protection. Such third parties may then try to sell or import products made using our inventions in and into the U.S. or other territories and we may be unable to prove that such products were made using our inventions. Additional uncertainty may result from implementation of the Leahy-Smith America Invents Act, enacted in September 2011, as well as other potential patent reform legislation passed by the U.S. Congress and from legal precedent handed down by the Federal Circuit Court and the U.S. Supreme Court, as they determine legal issues concerning the scope, validity and construction of patent claims. Because patent applications in the U.S. and many foreign jurisdictions are typically not published until 18 months after filing, or in some cases not at all, and because publication of discoveries in the scientific literature often lags behind the actual discoveries, there is additional uncertainty as to the validity of any patents that may issue and the potential for "blocking patents" coming into force at some future date. Accordingly, we cannot ensure that any of our currently filed or future patent applications will result in issued patents, or even if issued, predict the scope of the claims that may issue in our and other companies' patents. Any proceedings challenging our patents may result in the claims being amended or canceled. If the claims are amended or canceled, the scope of our patent claims may be narrowed, which may reduce the scope of protection afforded by our patent portfolio. Given that the degree of future protection for our proprietary rights is uncertain, we cannot ensure that (i) we were the first to make the inventions covered by each of our filed applications, (ii) we were the first to file patent applications for these inventions, (iii) the proprietary technologies we develop will be patentable, (iv) any patents issued will be broad enough in scope to provide commercial advantage and prevent circumvention, and (v) competitors and other parties do not have or will not obtain patent protection that will block our development and commercialization activities.

These concerns apply equally to patents we have licensed, which may likewise be challenged, invalidated or circumvented, and the licensed technologies may be obstructed from commercialization by competitors' "blocking patents." In addition, we generally do not control the patent prosecution and maintenance of subject matter that we license from others. Generally, the licensors are primarily or wholly responsible for the patent prosecution and maintenance activities pertaining to the patent applications and patents we license, while we may only be afforded opportunities to comment on such activities. Accordingly, we are unable to exercise the same degree of control over licensed intellectual property as we exercise over our own intellectual property and we face the risk that our licensors will not prosecute or maintain it as effectively as we would like.

In addition, unauthorized parties may attempt to copy or otherwise obtain and use our products or technology. Monitoring unauthorized use of our intellectual property is difficult, particularly where, as here, the end products reaching the market generally do not reveal the processes used in their manufacture, and particularly in certain foreign countries where the local laws may not protect our proprietary rights as fully as in the U.S., so we cannot be certain that the steps we have taken in obtaining intellectual property and other proprietary rights will prevent unauthorized use of our technology. If competitors are able to use our technology without our authorization, our ability to compete effectively could be adversely affected and our business could be harmed. Moreover, competitors and other parties such as universities may independently develop and obtain patents for technologies that are similar to or superior to our technologies. If that happens, the potential competitive advantages provided by our intellectual property may be adversely affected. We may then need to license these competing technologies, and we may not be able to obtain licenses on reasonable terms, if at all, which could cause material harm to our business. Accordingly, litigation may be necessary for us to assert claims of infringement, enforce patents we own or license, protect trade secrets or determine the enforceability, scope and validity of the intellectual property rights of others.

Our commercial success also depends in part on not infringing patents and proprietary rights of third parties, and not breaching any licenses or other agreements that we have entered into with regard to our technologies, products and business. We cannot be certain that patents have not or will not be issued to third parties that could block our ability to obtain patents or to operate our business as we would like, or at all. There may be patents in some countries that, if valid, may block our ability to commercialize products in those countries if we are unsuccessful in circumventing or acquiring rights to these patents. There may also be claims in patent applications filed in some countries that, if granted and valid, may also block our ability to commercialize products or processes in these countries if we are unable to circumvent or license them.

As is commonplace in the biotechnology industries, some of our directors, employees and consultants are or have been employed at, or associated with, companies and universities that compete with us or have or will develop similar technologies and related intellectual property. While employed at these companies, these employees, directors and consultants may have been exposed to or involved in research and technology similar to the areas of research and technology in which we are engaged. Though we have not received such a complaint, we may be subject to allegations that we, our directors, employees or consultants have inadvertently or otherwise used, misappropriated or disclosed alleged trade secrets or confidential or proprietary information of those companies. Litigation may be necessary to defend against such allegations and the outcome of any such litigation would be uncertain.

Under some of our research agreements, our partners share joint rights in certain intellectual property we develop. Such provisions may limit our ability to gain commercial benefit from some of the intellectual property we develop and may lead to costly or time-consuming disputes with parties with whom we have commercial relationships over rights to certain innovations.

If any other party has filed patent applications or obtained patents that claim inventions also claimed by us, we may have to participate in interference, derivation or other proceedings declared by the USPTO to determine priority of invention and, thus, the right to the patents for these inventions in the U.S. These proceedings could result in substantial cost to us even if the outcome is favorable. Even if successful, such a proceeding may result in the loss of certain claims. Even successful outcomes of such proceedings could result in significant legal fees and other expenses, diversion of management time and efforts and disruption in our business. Uncertainties resulting from initiation and continuation of any patent or related litigation could harm our ability to compete and have an adverse impact on our financial condition.

We may not be able to enforce our intellectual property rights throughout the world.

The laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the U.S. Many companies have encountered significant problems in protecting and enforcing intellectual property rights in certain foreign jurisdictions, and, particularly with any future international partners, we may face new and increased risks and challenges in protecting and enforcing our intellectual property rights abroad. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents and other intellectual property protection, particularly those relating to bioindustrial technologies. This could make it difficult for us to stop the infringement of our patents or misappropriation of our other intellectual property rights. Proceedings to enforce our patents and other proprietary rights in foreign jurisdictions could result in substantial costs and divert our efforts and attention from other aspects of our business. Accordingly, our efforts to enforce our intellectual property rights in such countries may be inadequate to obtain or maintain a commercial advantage from the intellectual property that we develop, which could negatively impact our results of operations and financial condition.

Confidentiality agreements with employees and others may not adequately prevent disclosures of trade secrets and other proprietary information.

We rely in part on trade secret protection to protect our confidential and proprietary information and processes. However, trade secrets are difficult to protect. We have taken measures to protect our trade secrets and proprietary information, but these measures may not be effective. We require new employees and consultants to execute confidentiality agreements upon the commencement of an employment or consulting arrangement with us. These agreements generally require that all confidential information developed by the individual or made known to the individual by us during the course of the individual's relationship with us be kept confidential and not disclosed to third parties. These agreements also generally provide that know-how and inventions conceived by the individual in the course of rendering services to us shall be our exclusive property. Nevertheless, these agreements may not be enforceable, our proprietary information may still be disclosed, third parties could reverse engineer our biocatalysts and others may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to our trade secrets. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain trade secret protection could adversely affect our competitive business position. In addition, an unauthorized breach in our information technology systems may expose our trade secrets and other proprietary information to unauthorized parties. Any exposure of our trade secrets or other proprietary information could harm our competitive position and have an adverse impact on our financial condition.

We have received funding from U.S. government agencies, which could negatively affect our intellectual property rights.

Some of our research has been funded by grants from U.S. government agencies. When new technologies are developed with U.S. government funding, the government obtains certain rights in any resulting patents and technical data, generally including, at a minimum, a nonexclusive license authorizing the government to use the invention or technical data for noncommercial purposes. U.S. government funding must be disclosed in any resulting patent applications, and our rights in such inventions will normally be subject to government license rights, periodic progress reporting, foreign manufacturing restrictions and march-in rights. March-in rights refer to the right of the U.S. government, under certain limited circumstances, to require us to grant a license to technology developed under a government grant to a responsible applicant or, if we refuse, to grant such a license itself. March-in rights can be triggered if the government determines that we have failed to work sufficiently towards achieving practical application of a technology or if action is necessary to alleviate health or safety needs, to meet requirements of federal regulations or to give preference to U.S. industry. If we breach the terms of our grants, the government may gain rights to the intellectual property developed in our related research. The government's rights in our intellectual property may lessen its commercial value, which could adversely affect our performance.

Risks Related to Legal and Regulatory

The U.S. renewable fuels industry is highly dependent upon certain federal and state legislation and regulation and any changes in legislation or regulation could have a material adverse effect on our results of operations, cash flows and financial condition.

The EPA has implemented the RFS Program pursuant to the Energy Policy Act of 2005 (the "Energy Policy Act") and the Energy Independence and Security Act of 2007. The RFS Program sets annual quotas for the quantity of renewable fuels that must be blended into motor fuels consumed in the U.S. The domestic market for renewable fuels is significantly impacted by federal mandates under the RFS Program for volumes of renewable fuels required to be blended with gasoline. Future demand for renewable fuels will be largely dependent upon incentives to blend renewable fuels into motor fuels, including the price of renewable fuels relative to the price of gasoline, the relative octane value of the renewable fuel, constraints in the ability of vehicles to use higher renewable fuel blends, the RFS Program and other applicable environmental requirements. Any significant increase in production capacity above the RFS Program minimum requirements may have an adverse impact on renewable fuel prices. Any change in government policies regarding the RFS Program could have a material adverse effect on our business and the results of our operations.

Waivers of the RFS minimum levels of renewable fuels included in motor fuels or of the requirements by obligated parties to comply with the regulations could have a material adverse effect on our results of operations. Under the Energy Policy Act, the U.S. Department of Energy, in consultation with the Secretary of Agriculture and the Secretary of Energy, may waive the renewable fuels mandate with respect to one or more states if the Administrator of the EPA determines that implementing the requirements would severely harm the economy or the environment of a state, a region or the nation, or that there is inadequate supply to meet the requirement. Additionally, the EPA has exercised the authority to waive the requirements of the RFS minimum levels for certain small refiners. Any waiver of the RFS minimum levels with respect to one or more states would reduce demand for renewable fuels and could cause our results of operations to decline and our financial condition to suffer. Further activity by the EPA to waive the requirements for small refiners could cause softening of pricing in the industry and cause our results of operations to similarly decline.

A critical state program is California's LCFS program, which is designed to reduce GHG emissions associated with transportation fuels used in California by ensuring that the fuel sold in California meets declining targets for such emissions. The regulation quantifies life-cycle GHG emissions by assigning a CI score to each transportation fuel based on that fuel's life-cycle assessment. Each petroleum fuel provider, generally the fuel's producer or importer (the "Regulated Party"), is required to ensure that the overall CI score for its fuel pool meets the annual CI target for a given year. A Regulated Party's fuel pool can include gasoline, diesel and their blend stocks and substitutes. This obligation is tracked through credits and deficits. Fuels with a CI score lower than the annual standard earn a credit, and fuels that are higher than the standard result in a deficit. Several other states also have or are considering adopting this model. Oregon's Clean Fuels Program, enacted in 2009 and implemented in 2016, operates using a credit system similar to the California LCFS program. Any changes to California's LCFS program or failure of other states to implement similar programs could have a material adverse effect on our business and the results of our operations.

Reductions or changes to existing regulations and policies may present technical, regulatory and economic barriers, which may significantly reduce demand for renewable fuels or our ability to supply our products.

The market for renewable fuels is heavily influenced by foreign, federal, state and local government laws, regulations and policies. Changes in these laws, regulations and policies or how these laws, regulations and policies are implemented and enforced could cause the demand for renewable fuels to decline, deter investment in the research and development of renewable fuels and adversely affect our business..

Concerns associated with renewable fuels, including land usage, national security interests and food crop usage, continue to receive legislative, industry and public attention. This attention could result in future legislation, regulation and/or administrative action that could adversely affect our business. Any inability to address these requirements and any regulatory or policy changes could have a material adverse effect on our business, financial condition and results of operations.

Additionally, our renewable hydrocarbon plants may emit GHG. Any changes in state or federal emissions regulations, including the passage of cap-and-trade legislation or a carbon tax, could limit our production of renewable hydrocarbon products and increase our operating costs, which could have a material adverse effect on our business, financial condition and results of operations. The results of U.S. elections could lead to changes in federal or state laws and regulations that could have a material adverse effect on our business, prospects, financial condition and results of operations.

Negative attitudes toward renewable energy projects from the U.S. government, other lawmakers and regulators, activists and others could adversely affect our business, financial condition and results of operations.

Parties with an interest in other energy sources, including lawmakers, regulators, policymakers, environmental and advocacy organizations or other activists may invest significant time and money in efforts to delay, repeal or otherwise negatively influence regulations and programs that promote renewable energy. Many of these parties have substantially greater resources and influence than we have. Further, changes in U.S. federal, state or local political, social or economic conditions, including a lack of legislative focus on these programs and regulations, could result in their modification, delayed adoption or repeal. Any failure to adopt, delay in implementing, expiration, repeal or modification of these programs and regulations, or the adoption of any programs or regulations that encourage the use of other energy sources over renewable energy, could adversely affect our business, financial condition and results of operations.

Any claims relating to improper handling, storage or disposal of hazardous materials or noncompliance with applicable laws and regulations could be time consuming and costly and could adversely affect our business and results of operations.

Our research and development processes involve the use of hazardous materials, including chemical, radioactive and biological materials. Our operations also produce hazardous waste. We cannot eliminate entirely the risk of accidental contamination or discharge and any resultant injury from these materials. Federal, state and local laws and regulations govern the use, manufacture, storage, handling and disposal of, and human exposure to, these materials. We may be sued for any injury or contamination that results from our use or the use by third parties of these materials, and our liability may exceed our total assets. Although we believe that our activities conform in all material respects with environmental laws, there can be no assurance that violations of environmental, health and safety laws will not occur in the future as a result of human error, accident, equipment failure or other causes. Compliance with applicable environmental laws and regulations may be expensive, and the failure to comply with past, present or future laws could result in the imposition of fines, third-party property damage, product liability and personal injury claims, investigation and remediation costs, the suspension of production or a cessation of operations, and our liability may exceed our total assets. Liability under environmental laws can be joint and several and without regard to comparative fault. Environmental laws could become more stringent over time, imposing greater compliance costs and increasing risks and penalties associated with violations, which could impair our research, development or production efforts and harm our business.

Our international activities may increase our exposure to potential liability under anti-corruption, trade protection, tax and other laws and regulations.

In the course of our relationships with international partners, we may become subject to certain foreign tax, environmental and health and safety regulations that did not previously apply to us or our products. Such regulations may be unclear, not consistently applied and subject to sudden change. Implementation of compliance policies could result in additional operating costs, and our failure to comply with such laws, even inadvertently, could result in significant fines and/or penalties.

Additionally, the Foreign Corrupt Practices Act and other anti-corruption laws and regulations ("Anti-Corruption Laws") prohibit corrupt payments by our employees, vendors or agents. Even with implementation of policies, training and internal controls designed to reduce the risk of corrupt payments, our employees, vendors or agents may violate our policies. Our international partnerships may significantly increase our exposure to potential liability. Our failure to comply with Anti-Corruption Laws could result in significant fines and penalties, criminal sanctions against us, our officers or our employees, prohibitions on the conduct of our business, and damage to our reputation.

Risks Related to Owning Our Securities

We may not be able to comply with all applicable listing requirements or standards of The Nasdaq Capital Market and Nasdaq could delist our common stock.

Our common stock is listed on The Nasdaq Capital Market, and in order to maintain that listing, we must satisfy applicable Nasdaq continued listing requirements. The inability to comply with applicable listing requirements or standards of The Nasdaq Stock Market LLC ("Nasdaq") could result in the delisting of our common stock, which could have a material adverse effect on our financial condition and could cause the value of our common stock to decline. Delisting of our common stock could also adversely affect our ability to raise additional financing, could significantly affect the ability of our investors to trade our securities and could negatively affect the value and liquidity of our common stock. Delisting could also have other negative results, including the potential loss of confidence by employees and fewer business development opportunities.

The market price of our common stock may be adversely affected by the future issuance and sale of additional shares of our common stock or by our announcement that such issuances and sales may occur.

We cannot predict the size of future issuances or sales of shares of our common stock in connection with future acquisitions or capital raising activities, or the effect, if any, that such issuances or sales may have on the market price of our common stock. The issuance and sale of substantial amounts of shares of our common stock, or the announcement that such issuances and sales may occur, could adversely affect the market price of our common stock.

Future issuances of our common stock or instruments convertible or exercisable into our common stock may materially and adversely affect the price of our common stock and cause dilution to our existing stockholders.

Historically, we have raised capital by issuing common stock and warrants in public offerings because no other reasonable sources of capital were available. These public offerings of common stock and warrants have materially and adversely affected the prevailing market prices of our common stock and caused significant dilution to our stockholders. We have also historically raised capital or refinanced outstanding debt through the issuance of convertible notes.

We may need to raise capital through these public offerings of common stock, warrants and convertible debt in the future.

We may obtain additional funds through public or private debt or equity financings, subject to certain limitations in the agreements governing our indebtedness. If we issue additional shares of common stock or instruments convertible into common stock, it may materially and adversely affect the price of our common stock.

Raising capital at a subsidiary, or project, level would result in lower revenues attributable back to us.

We operate in a capital-intensive business and in order to construct our facilities, we need to raise large amounts of capital. In order to finance the construction of ATJ-60 and any other Alcohol-to-Jet Projects, we currently expect to raise capital at the subsidiary level using third party capital. By raising capital at a project level, any equity in that project that is sold to a third party would result in lower ownership of that project by us. Thus, we would only be entitled to the revenues and expenses that are proportionate to our level of ownership in the project. If we are required to sell a large portion of the equity in our projects to third parties, it may have a material adverse effect on our business, financial condition and operating results.

Our stock price may be volatile, and your investment in our securities could suffer a decline in value.

The market price of shares of our common stock has experienced significant price and volume fluctuations. We cannot predict whether the price of our common stock will rise or fall. A variety of factors may have a significant effect on our stock price, including:

- actual or anticipated fluctuations in our liquidity, financial condition and operating results;
- the position of our cash and cash equivalents;
- the capital costs required to construct our Alcohol-to-Jet Projects;
- our ability to obtain certain regulatory permits or approvals for our production facilities, including our Alcohol-to-Jet Projects;
- actual or anticipated changes in our growth rate relative to our competitors;
- actual or anticipated fluctuations in our competitors' operating results or changes in their growth rate;
- announcements of technological innovations by us, our partners or our competitors;
- announcements by us, our partners or our competitors of significant acquisitions, strategic partnerships, joint ventures or capital commitments;
- the entry into, modification or termination of licensing arrangements, marketing arrangements, and/or research, development, commercialization, supply, off-take or distribution arrangements;
- our ability to consistently produce commercial quantities of our products;
- additions or losses of customers or partners;
- our ability to obtain certain regulatory approvals for the use of our products in various fuels and chemicals markets;
- commodity prices, including oil, ethanol and corn prices;
- additions or departures of key management or scientific personnel;
- competition from existing products or new products that may emerge;
- issuance of new or updated research reports by securities or industry analysts;
- fluctuations in the valuation of companies perceived by investors to be comparable to us;
- litigation involving us, our general industry or both;
- disputes or other developments related to proprietary rights, including patents, litigation matters and our ability to obtain patent protection for our technologies;
- announcements or expectations of additional financing efforts or the pursuit of strategic alternatives;
- changes in existing laws, regulations and policies applicable to our business and products, and the adoption of or failure to adopt carbon emissions regulation;
- sales of our common stock or equity-linked securities, such as warrants, by us or our stockholders;
- share price and volume fluctuations attributable to inconsistent trading volume levels of our shares;
- general market conditions in our industry; and

- general economic and market conditions.

Furthermore, the stock markets have experienced extreme price and volume fluctuations that have affected and continue to affect the market prices of equity securities of many companies. These fluctuations often have been unrelated or disproportionate to the operating performance of those companies. These broad market and industry fluctuations, as well as general economic, political and market conditions such as recessions, interest rate changes or international currency fluctuations, may negatively impact the market price of shares of our common stock, regardless of our operating performance, and cause the value of your investment to decline.

Additionally, in the past, companies that have experienced volatility in the market price of their stock have been subject to securities class action litigation or other derivative shareholder lawsuits. We may be the target of this type of litigation in the future. Securities litigation against us could result in substantial costs and divert our management's attention from other business concerns, which could seriously harm our business regardless of the outcome.

The price of our common stock could also be affected by possible sales of common stock by investors who view our warrants as a more attractive means of equity participation in us and by hedging or engaging in arbitrage activity involving our common stock. The hedging or arbitrage could, in turn, affect the trading prices of our warrants, if any trading market becomes established, or any common stock that holders receive upon exercise of such warrants.

Sales of a substantial number of shares of our common stock or securities linked to our common stock, such as our warrants (should an established market for such securities then exist), in the public market could occur at any time. These sales, or the perception in the market that such sales may occur, could reduce the market price of our common stock.

In addition, certain holders of our outstanding common stock have rights, subject to certain conditions, to require us to file registration statements covering their shares and to include their shares in registration statements that we may file for ourselves or other stockholders.

The estimates and assumptions on which our financial projections are based may prove to be inaccurate.

Our financial projections, including any projected investment returns on projects, sales or earnings guidance or outlook that we may provide from time to time, are dependent on estimates and assumptions related to, among other things, industry growth, product and plant development, estimated capital expenses for growth development projects, market share projections, product pricing and sale, customer interest in our products, availability of government incentives, tax rates, accruals for estimated liabilities, and our ability to raise sufficient funds or generate sufficient cash flow to continue operations and/or expand our production capabilities. Our financial projections are based on historical experience and on various other estimates and assumptions that we believe to be reasonable under the circumstances and at the time they are made, and our actual results may differ materially from our financial projections.

Raising additional capital may cause dilution to our existing stockholders, restrict our operations or require us to relinquish rights to our technologies.

We may seek additional capital through a combination of public and private equity offerings, debt financings, strategic partnerships and licensing arrangements. To the extent that we raise additional capital through the sale or issuance of equity, warrants or convertible debt securities, the ownership interest of our existing shareholders will be diluted, and the terms of such securities may include liquidation or other preferences that adversely affect your rights as a stockholder. If we raise capital through debt financing, it may involve agreements that include covenants further limiting or restricting our ability to take certain actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through strategic partnerships or licensing agreements with third parties, we may have to relinquish valuable rights to our technologies or grant licenses on terms that are not favorable to us. If we are unable to raise additional funds when needed, we may be required to delay, limit, reduce or terminate our development and commercialization efforts.

We do not anticipate paying cash dividends, and accordingly, stockholders must rely on stock appreciation for any return on their investment.

We have never paid cash dividends on our common stock and we do not expect to pay cash dividends on our common stock at any time in the foreseeable future. The future payment of dividends directly depends upon our future earnings, capital requirements, financial requirements and other factors that our board of directors will consider. As a result, only appreciation of the price of our common stock, which may never occur, will provide a return to stockholders. Investors seeking cash dividends should not invest in our common stock.

If securities or industry analysts do not publish research or reports about our business, or publish negative reports about our business, our stock price and trading volume could decline. The trading market for our common stock will be influenced by the research and reports that securities or industry analysts publish about us or our business.

We do not have any control over securities or industry analysts. If one or more of the analysts who cover us downgrade our common stock or change their opinion of our common stock, our common stock price would likely decline which in turn would likely cause a decline in the value of our warrants. If one or more of these analysts cease coverage of us or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our common stock price and the price of our warrants to decline or the trading volume of our common stock to decline.

We are subject to anti-takeover provisions in our certificate of incorporation, our bylaws and under Delaware law that could delay or prevent an acquisition of the Company, even if the acquisition would be beneficial to our stockholders.

Provisions in our certificate of incorporation and our bylaws may delay or prevent an acquisition of the Company. Among other things, our certificate of incorporation and bylaws provide for a board of directors that is divided into three classes with staggered three-year terms, provide that all stockholder action must be effected at a duly called meeting of the stockholders and not by a consent in writing, and further provide that only our board of directors may call a special meeting of the stockholders. These provisions may also frustrate or prevent any attempts by our stockholders to replace or remove our current management by making it more difficult for stockholders to replace members of our board of directors, who are responsible for appointing the members of our management team. Furthermore, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the Delaware General Corporation Law (the "DGCL"), which prohibits, with some exceptions, stockholders owning in excess of 15% of our outstanding voting stock from merging or combining with us. Finally, our charter documents establish advance notice requirements for nominations for election to our board of directors and for proposing matters that can be acted upon at stockholder meetings. Although we believe these provisions together provide an opportunity to receive higher bids by requiring potential acquirers to negotiate with our board of directors, they would apply even if an offer to acquire the Company may be considered beneficial by some stockholders.

Our certificate of incorporation provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for substantially all disputes between us and our stockholders, which could limit our stockholders' ability to obtain a favorable judicial forum for disputes with us or our directors, officers or employees.

Our certificate of incorporation provides that the Court of Chancery of the State of Delaware shall, unless we consent in writing to the selection of an alternative forum, be the sole and exclusive forum for (i) any derivative action or proceeding brought on behalf of the Company, (ii) any action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the Company to the Company or its stockholders, (iii) any action asserting a claim arising pursuant to any provision of the Delaware General Corporation Law, or (iv) any action asserting a claim governed by the internal affairs doctrine, in each case subject to said Court of Chancery having personal jurisdiction over the indispensable parties named as defendants therein.

The exclusive forum provision may limit a stockholder's ability to bring a claim in a judicial forum that it finds favorable for disputes with us or our directors, officers, employees or agents, which may discourage such lawsuits against us and our directors, officers, employees and agents. Stockholders who do bring a claim in the Court of Chancery could face additional litigation costs in pursuing any such claim, particularly if they do not reside in or near the State of Delaware. The Court of Chancery may also reach different judgments or results than would other courts, including courts where a stockholder considering an action may be located or would otherwise choose to bring the action, and such judgments or results may be more favorable to us than to our stockholders. Alternatively, if a court were to find the choice of forum provision contained in our certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could adversely affect our business and financial condition. Notwithstanding the foregoing, the exclusive forum provision shall not preclude or contract the scope of exclusive federal or concurrent jurisdiction for actions brought under the Exchange Act or the Securities Act, or the respective rules and regulations promulgated thereunder.

Any person or entity purchasing or otherwise acquiring any interest in any of our securities shall be deemed to have notice of and consented to these provisions. This exclusive forum provision may limit a stockholder's ability to bring a claim in a judicial forum of its choosing for disputes with us or our directors, officers or other employees, which may discourage lawsuits against us and our directors, officers and other employees.

If a court were to find the exclusive forum provision contained in our certificate of incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business, results of operations and financial condition. Even if we are successful in defending against these claims, litigation could result in substantial costs and be a distraction to management and other employees.

Item 1B. Unresolved Staff Comments

None.

Item 1C. Cybersecurity

We have an information security program designed to identify, protect, detect and respond to and manage reasonably foreseeable cybersecurity risks and threats. To protect our information systems from cybersecurity threats, we use various security tools that help prevent, identify, escalate, investigate, resolve and recover from identified vulnerabilities and security incidents in a timely manner. These include, but are not limited to, internal reporting, monitoring and detection tools.

We regularly assess risks from cybersecurity and technology threats and monitor our information systems for potential vulnerabilities. To evaluate and prioritize risks, we rely on industry-standard models such as widely adopted risk quantification frameworks like NIST, which help us to identify, measure and prioritize cybersecurity and technology risks and develop related security controls and safeguards. We conduct regular reviews and tests of our information security program and also leverage other exercises (*e.g.*, penetration and vulnerability testing) to evaluate the effectiveness of our information security program and improve our security measures and planning.

While we have not, as of the date of this Form 10-K, experienced a cybersecurity threat or incident that resulted in a material adverse impact to our business or operations, there can be no guarantee that we will not experience such an incident in the future. Such incidents, whether or not successful, could result in our incurring significant costs related to, for example, rebuilding our internal systems, implementing additional threat protection measures, defending against litigation, responding to regulatory inquiries or actions, paying damages, providing customers with incentives to maintain a business relationship with us, or taking other remedial steps with respect to third parties, as well as incurring significant reputational harm. We also recognize that the dynamic and evolving nature of cybersecurity threats requires a proactive and adaptive approach to our defenses, continuously assessing and enhancing our tools and strategies.

Our Chief People and IT Officer oversees our information security program, which provides greater alignment of IT initiative with enterprise-wide risk management strategies. This dual focus on technology and organizational resilience leverages her expertise in managing complex, interconnected risks at the nexus of people and systems. Team members who support our information security program have relevant educational and industry experience. The team provides regular reports to senior management on various cybersecurity threats, assessments and findings.

The Board oversees our enterprise risk assessment, where key risks within the company are assessed, including security and technology risks and cybersecurity threats. The Audit Committee oversees our cybersecurity risk, receives regular reports from our Chief People and IT Officer on various cybersecurity matters, including risk assessments, mitigation strategies, areas of emerging risks, incidents and industry trends, other areas of importance and provides further reporting on these topics to the Board.

Item 3. Legal Proceedings

From time to time, we have been and may again become involved in legal proceedings arising in the ordinary course of our business. We are not presently a party to any litigation that we believe to be material and we are not aware of any pending or threatened litigation against us that we believe could have a material adverse effect on our business, operating results, financial condition or cash flows.

Item 4. Mine Safety Disclosures

Not Applicable.

PART II

Item 5. Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information

The Company's common stock is listed and traded on The Nasdaq Capital Market under the symbol "GEVO".

Holders of Record

As of January 31, 2025, there were approximately 136 holders of record of our common stock. We believe that the number of beneficial owners is substantially greater than the number of record holders because a large portion of our common stock is held of record through brokerage firms in "street name."

Dividends

No cash dividends have been paid on our common stock to date, nor do we anticipate paying dividends in the foreseeable future. Any future determination to declare cash dividends on our common stock will be made at the discretion of our Board of Directors, subject to compliance and limitations under our debt arrangements in effect at such time.

Recent Sales of Unregistered Securities; Use of Proceeds from Registered Securities

None.

Purchases of Equity Securities by the Issuer

On May 30, 2023, the Board authorized a stock repurchase program, under which the Company may repurchase up to $25 million of its common stock. The primary goal of the repurchase program is to allow the Company to opportunistically repurchase shares, while maintaining its ability to fund development projects. Under the stock repurchase program, the Company may repurchase shares from time to time in the open market or through privately negotiated transactions. The timing, volume and nature of stock repurchases, if any, will be in the Company's sole discretion and will be dependent on market conditions, applicable securities laws, and other factors. The stock repurchase program may be suspended or discontinued at any time and does not have an expiration date.

We did not repurchase shares under the stock repurchase program during the three months ended December 31,2024. We repurchased 7.2 million shares of common stock for $4.7 million under the stock repurchase program during the year ended December 31, 2024. At an average price per share equal to $0.66. We did not repurchase shares under the stock repurchase program during the year ended December 31, 2023. As of December 31, 2024, approximately $20.3 million remained available under the stock repurchase program.

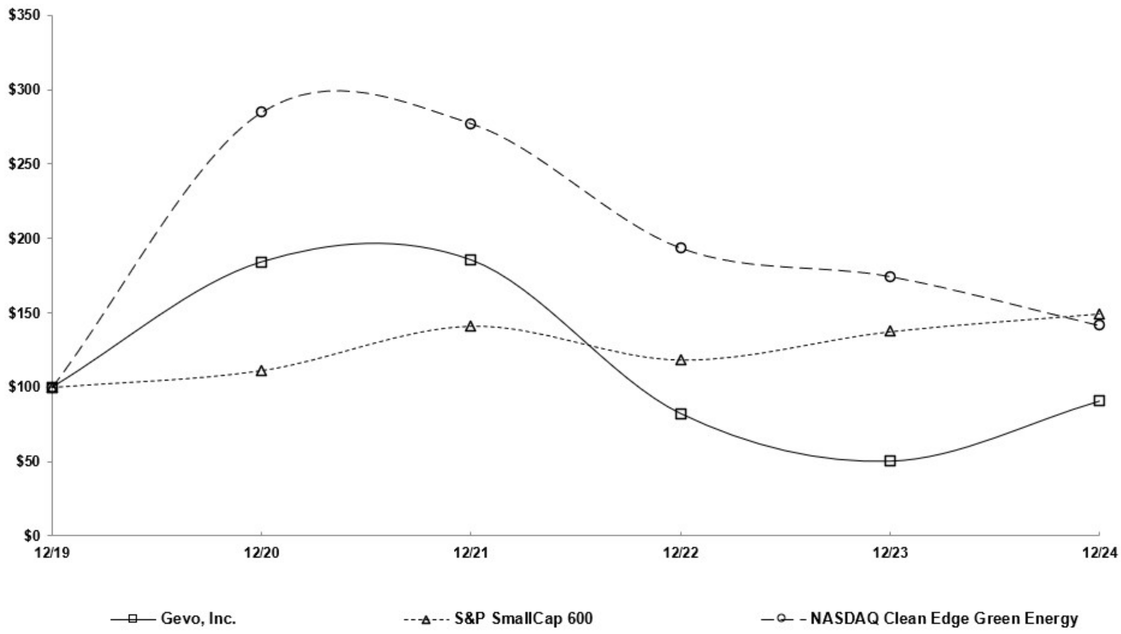
Performance Graph

The following information is not deemed to be "soliciting material" or to be "filed" with the SEC or subject to Regulation 14A or 14C under the Exchange Act or to the liabilities of Section 18 of the Exchange Act, and will not be deemed to be incorporated by reference into any filing of the Company under the Securities Act of 1933, as amended (the "Securities Act"), or the Exchange Act, except to the extent the Company specifically incorporates it by reference into such a filing.

The following line graph compares the cumulative total shareowner return on our common stock against the cumulative total return of the S&P Smallcap 600 Index and the NASDAQ Clean Edge Green Energy Index for the each of the five years ended December 31, 2024. The graph assumes a $100 investment in our common stock and each index at December 31, 2018.

COMPARISON OF 5 YEAR CUMULATIVE TOTAL RETURN

Among Gevo, Inc., The S&P Smallcap 600 Index
and the NASDAQ Clean Edge Green Energy Index



	December 31, 2019	December 31, 2020	December 31, 2021	December 31, 2022	December 31, 2023	December 31, 2024
Gevo, Inc.	$ 100.00	$ 183.98	$ 185.28	$ 82.25	$ 50.22	$ 90.48
S&P Smallcap 600	100.00	111.29	141.13	118.41	137.42	149.37
NASDAQ Clean Edge Green Energy	100.00	284.83	277.30	193.70	174.51	141.58

The information in the graph will not be considered solicitation material, nor will it be filed with the SEC or incorporated by reference into any future filing under the Securities Act or the Exchange Act, unless we specifically incorporate it by reference into our filing.

Item 6. [Reserved]

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

The following discussion and analysis of our financial condition and results of operations should be read in conjunction with our audited financial statements and related notes appearing elsewhere in this Annual Report on Form 10-K (this "Annual Report"). Some of the information contained in this discussion and analysis and set forth elsewhere in this Annual Report, including information with respect to our plans and strategy for our business, includes forward-looking statements that involve risks and uncertainties. You should review the section titled "Risk Factors" in Part I, Item 1A of this Annual Report for a discussion of important factors that could cause actual results to differ materially from the results described in or implied by the forward-looking statements contained in the following discussion and analysis.

Company Overview

We are a growth-oriented carbon abatement company that focuses on hard to decarbonize market sectors such as jet fuel, certain specialty fuels, on-road fuels, chemicals and materials, and certain products for the food chain such as protein and feeds made as co-products from our processes. Each of the market areas that Gevo focuses on have the common need for carbon-based products and are not conducive to full electrification or hydrogen. We produce and sell renewable, drop-in products for these sectors, and generate carbon abatement value through our plant design and business systems. Carbon abatement value can be valorized via Renewable Identification Numbers ("RINs"), state credits, Inflation Reduction Act ("IRA") tax credits, and the value of Scope 3 greenhouse gas emissions for end customers. Gevo is primarily a project development, investment, and technology company, which also holds certain operating assets with the intent of generating cash flow.

Our primary market focus, given the large demand and growing customer interest, is net zero hydrocarbon fuels, including SAF. We believe that SAF produced from a carbohydrate-to-alcohol process is the most economically viable approach to generate value from carbon abatement. We also have commercial opportunities for other renewable hydrocarbon products, such as RNG; hydrocarbons for gasoline and racing fuel blendstocks and diesel fuel; ingredients for the chemical industry, such as ethylene and butenes for plastics and materials; and other chemicals.

Global fuel consumption by commercial airlines continues to grow, with jet fuel consumption expected to rise from approximately 92 to 99 billion gallons from 2023 to 2024, respectively.

To serve these markets, we are developing commercial projects for converting renewable energy into energy-dense, liquid hydrocarbons that can be used as renewable fuels, such as SAF, with the potential to achieve a cost competitive "net zero" greenhouse gas ("GHG") footprint. We believe that this addresses the global need of economically reducing GHG emissions with "drop in" sustainable alternatives to petroleum fuels. We use the Argonne National Laboratory's Greenhouse gases, Regulated Emissions, and Energy use in Transportation model (the "GREET Model") to measure, predict and verify GHG emissions across the life cycle of our products. The "net zero" concept means Gevo expects that by using sustainably grown feedstock (e.g., low till, no-till cultivation) and renewable and substantially decarbonized energy sources, drop-in hydrocarbon fuels can be produced that have a net zero, full life cycle footprint measured from the capture of renewable carbon through the burning of the fuel. This is because such feedstocks come from crops, which take carbon dioxide out of the atmosphere and convert it into biomass through photosynthesis. This yields vital amino acid nutrients, or protein, that humans and animals can consume, as well as vegetable oil and carbohydrates, or sugar. The plant sugar may be fermented with microorganisms to produce a clean alcohol suitable for industrial scale chemical processing into hydrocarbons. Given the overabundance of plant-derived sugar, the growing unmet demand for drop-in, renewable hydrocarbons such as SAF, and the availability of demonstrated industrial-scale technologies that can convert plant sugars to alcohols and then to hydrocarbons, we view our project as first movers in an attractive, scalable new industry connecting this overabundance of plant sugar to unmet demand for products such as SAF.

Project Updates

Alcohol-to-Jet Projects. Our concept of "Alcohol-to-Jet Projects" is a series of planned facilities to produce energy dense liquid hydrocarbons using renewable energy and our proprietary technology. Our initial Alcohol-to-Jet Project, which we refer to as "ATJ-60", is expected to be located in Lake Preston, South Dakota, and is being designed to produce approximately 65 million gallons per year ("MGPY") of total hydrocarbon volumes, including 60 MGPY of SAF. The liquid hydrocarbons, when burned, are expected to have a "net zero" GHG footprint. Along with the hydrocarbons, ATJ-60 is expected to produce approximately 1.3 billion pounds per year of high-value protein products for use in the food chain and approximately 30 million pounds per year of corn oil. Our products will be produced in three steps: the first step is milling the corn to produce the carbohydrates needed for the production of SAF while simultaneously enabling the production of protein and oil; the second step produces alcohols using carbohydrate-based fermentation; and the third step is the conversion of the alcohols into hydrocarbons.

We work with several technology, design and equipment partners, most notably Fluid Quip Technologies ("FQT"), Axens North America, Inc. ("Axens"), and PRAJ Industries Limited ("Praj"). FQT and Axens provide area operation designs which have been incorporated into Gevo's proprietary overall design of low carbon intensity ("CI") carbohydrate-to-hydrocarbon plants, such as our ATJ-60 plant. Praj is working with us on the proprietary design and construction of prefabricated process modules for our plants. Our partners are working with us on proprietary process designs that have the potential to lower capital and future operating costs. The advantage of utilizing FQT and Axens for our operation and related process designs, which are proven in other applications, is that we believe we have chosen technology which is substantially de-risked.

We have substantially completed the engineering design on our ATJ-60 project and are proceeding with detailed engineering and modularization design. We are refining the project cost estimates with engineering, procurement, and construction ("EPC") partners to identify opportunities to reduce and negotiate the cost. After which, we expect to sign a lump-sum, fixed price agreement for the EPC to build and deliver the plant. The current detailed engineering work is focused on increasing the modularization of component parts on the ATJ-60 plant design, with the goal to build the process equipment into modules at a factory, then assemble onsite. This will enable us to minimize specialized field work typical in plant construction of this type, lower the risk and costs, as well as provide better access to skilled labor. Increasing the modularization of the plant design is expected to reduce our spend in advance of securing third-party equity and debt financing for ATJ-60 and increase the certainty of the construction schedule for those counterparties.

We currently expect to finance the construction of ATJ-60 at the subsidiary level using a combination of Company equity, third-party capital, and non-recourse debt. The Company previously projected a range of $90.0 – $125.0 million to be spent on ATJ-60 between January 2024 and the financial close of ATJ-60. Year to date 2024, the Company expects the remaining spend until the financial close of ATJ-60 to fall below the previously estimated range. Cash distributions from future ATJ-60 earnings would be proportionate to Gevo's ownership in ATJ-60 under this expected financing structure. The use of project debt and third-party equity allows us to conserve capital for use on other growth projects. We expect to apply similar development and financing strategies to future Alcohol-to-Jet Projects to grow our SAF production to meet the demand for SAF.

In order to achieve full construction financing for ATJ-60, we need to secure third-party equity and debt. On October 16th, 2024, ATJ-60 reached a critical milestone of receiving conditional commitment from the DOE for a loan guarantee facility with a capacity of approximately $1.6 billion (including capitalized interest during construction). This milestone is significant as it helps to validate ATJ-60's integrity, which is underpinned by the DOE's diligence process. The focus is now on negotiating and closing this DOE loan and our project level equity financing as quickly as possible. We expect that our ATJ-60 plant start-up date will occur approximately thirty-six months after the ATJ-60 financing closes, the timing of which is uncertain. We are also working to secure access to carbon capture and sequestration at the site.

We are evaluating and performing early site development work at several sites in the U.S. for other greenfield sites. These sites include several locations that are particularly advantageous in terms of potential economics, opportunities to decarbonize, and time to market. In addition, we are pursuing potential Alcohol-to-Jet Projects with several existing ethanol plant sites. Existing ethanol plants need to be decarbonized with renewable energy or de-fossilized energy and/or carbon sequestration. Gevo has developed a preferred list of potential partners and sites with decarbonization in mind and is engaged in preliminary feasibility and development discussions with several of these potential partners. We plan to give priority to existing industrial plant sites that have attractive potential economics and high predictability of timeline for decarbonization.

Red Trail Energy Asset Purchase Agreement. On September 10, 2024, the Company and certain of its wholly owned subsidiaries (the "Buyers") entered into an Asset Purchase Agreement (the "Red Trail Purchase Agreement") with Red Trail Energy, LLC, a North Dakota limited liability company ("Seller"). Pursuant to the Red Trail Purchase Agreement, Buyers acquired substantially all of the assets, and assumed certain liabilities, of Seller on January 31, 2025 (the "Transaction"). The purchase price was $210,000,000, subject to customary adjustments, including a working capital adjustment (the "Purchase Price"). The Purchase Price was funded by a mixture of Company cash on hand and debt financing.

In connection with the Red Trail Purchase Agreement, the Company and Seller entered into an escrow agreement pursuant to which the Company (i) deposited $10,000,000 in earnest money, see Note 11, Deposits and Other Assets, which was applied against the Purchase Price, (ii) deposited $1,260,000 of the Purchase Price for the purposes of securing the post-closing indemnification obligations of Seller, and (iii) deposited $5,000,000 of the Purchase Price at closing for purposes of securing any Purchase Price adjustments. In addition, Buyers obtained a representation and warranty insurance policy to provide coverage for certain breaches of representations and warranties of the Seller.

Renewable Natural Gas Project. The RNG project in Northwest Iowa (the "RNG Project") started up and began producing and injecting initial volumes of biogas in 2022, during the project's testing and ramp-up period. In 2023, the project achieved stable production levels and surpassed our annual production target of 310,000 million British thermal units ("MMBtu"). In addition, in 2024 we completed an expansion to the RNG Project to increase its annual expected output from 355,000 MMBtu to 400,000 MMBtu.

Gevo's RNG revenue primarily stems from the RNG Project's sales of the environmental attributes associated with RNG. These include attributes available from California's Low Carbon Fuel Standard ("LCFS") program and the U.S. Environmental Protection Agency ("EPA") Renewable Fuels Standard ("RFS") program ("RFS Program") to receive renewable identification numbers ("RINs"). Gevo was granted registration approval by the EPA in 2022, allowing us to participate in the RFS Program to receive RINs.

We have operated under a temporary pathway from California's LCFS program, which we received during the first quarter of 2023. We continued to realize sales for our environmental attributes under the temporary pathway for LCFS credits and RINs in 2024. In March of 2025, the California Air Resources Board ("CARB") approved our application for a provisional Tier 2 pathway, representing the significantly lower carbon intensity of our RNG than was reflected under the temporary pathway, see Note 23, Subsequent Events. With the provisional pathway approval having been received prior to March 31, 2025, we will be able to apply the provisional pathway carbon intensity score to dispensing activities that occurred in Q4 2024, which also included RNG production for the months of July and August stored and dispensed in Q4 2024, and for dispensing activities throughout 2025.

Verity. Verity Holdings, LLC ("Verity"), a wholly owned subsidiary of Gevo, Inc., is at the forefront of creating the ability to track, verify, and empirically value carbon intensity across the full carbon lifecycle. Verity provides end-to-end carbon accounting via a proprietary digital Measure, Report and Verify ("MRV") platform. This platform specializes in carbon accounting and services aimed at maximizing the value of environmental benefits throughout the entire business system. Verity's comprehensive approach includes regulatory analysis, strategy development, life cycle analysis, compliance management, audit readiness, carbon marketing, utilization and retirement services, and trading/marketing for Scope 1, 2, and 3 emissions. By integrating advanced technological capabilities, Verity supports Gevo's mission of converting renewable energy and biogenic carbon into sustainable fuels and chemicals with a net zero or better carbon footprint.

Key Verity project highlights include:

- Development of Verity began as a value-added service for our SAF production, and was then expanded to support external customers;
- Five ethanol producers currently contracted, with additional producers in the pipeline;
- 100% farmer retention in the grower program, which comprises more than 200,000 acres;
- Completed its first privately-sponsored grower's program for a biofuel client in the midwestern U.S.;
- Established agreements with two soybean processors to track the environmental attributes of soybeans, including soybean oil and renewable diesel;
- Acquired Cultivate Agricultural Intelligence ("CulitvateAI"), a cloud-based, mobile software-as-a-service ("SaaS") platform that helps stakeholders make informed, data-driven decisions with real-time analytics. Currently we are integrating CultivateAI's platform with Verity's attribute tracking solutions to deliver advanced solutions for carbon abatement across industries such as in food, feed, fuels and industrial markets; and
- Capital light, fee-based, industry agnostic business model.

It is critical that we prove the CI of Gevo's products, ensuring that these values are accurate and auditable. The mission of Verity is to document CI and other sustainability attributes and apply Distributed Ledger Technology, commonly referred to as blockchain, to create a record of the products throughout the entire business system. Verity starts by calculating carbon intensity of feedstocks from data collected at the farm and field level. We plan to track these feedstocks through production at our plants where we intend to use a mix of renewable electricity, biogas, renewable hydrogen and other potentially decarbonized energy sources in production. The aggregated CI data supports a finished renewable fuel with a net CI reduction which can be quantified as a digital asset and monetized in voluntary or compliance carbon markets, and used to meet compliance requirements for tax incentives while preventing double-counting. We believe that in the future, regenerative agricultural practices have the potential to sequester large quantities of soil organic carbon while improving soil health.

There is increasing regulatory and stakeholder pressure on global corporations to lower emissions. These trends are driving demand for carbon credits, giving rise to two sets of markets, the regulated compliance carbon market and the unregulated voluntary carbon market, both of which could grow meaningfully in the coming decades. Verity intends to document and account for carbon capture in conjunction with scientifically supported measurement techniques. The potential for Verity is broad and could be applicable to tracking the CI of various items beyond Gevo's internal businesses, including, but not limited to, renewable fuels, food, feed and industrial products through their respective business systems and value chains. Our robust scientific measurement, reporting, and verification plan and approach is expected to provide a high-quality credit that should meet regulated compliance and unregulated carbon markets.

Contracts. In March 2023, we entered into a joint development framework agreement with Southwest Iowa Renewable Energy; in August 2023, we entered into a joint development framework agreement with a second ethanol producer in the midwestern U.S. that has over 100 million gallons of capacity; and in October 2023, we entered into an agreement with a third ethanol producer in the southwestern U.S. These agreements include commercial terms and profit-sharing frameworks. As we grow Verity as an externally facing business, we are working to sign up additional ethanol and biofuel customers. Each of these agreements will focus on implementing Verity technology and developing the market for carbon credits to help farmers and biofuel producers quantify the CI reductions for their products.

During the second quarter of 2023, we launched the Verity Tracking platform (the "Platform") with farmers in the Lake Preston, South Dakota area who participated in our 2022 grower program. In its initial release, the Platform allows the users to measure, report, verify, and view the CI scores at both the farm average and field-by-field levels. The Platform provides insights into the contributors and removers behind the CI, helping users to understand the factors that drive differences in CI performance between fields. Users can also compare their scores with the U.S. national average calculated by the GREET model.

In the third and fourth quarters of 2024, Verity entered into agreements with two additional ethanol plants, extending our reach in the U.S. ethanol market. Verity also added two soybean processing facilities to assist in tracking environmental aspects of soybean oil and renewable diesel, enabling them to expand into new markets

Acquisition of CultivateAI. In the third quarter of 2024, Gevo acquired Cultivate Agricultural Intelligence, LLC ("CultivateAI"), a leading provider of agricultural data through a cloud-based, mobile SaaS platform. CultivateAI is a proven business with a track record of repeatable revenue. The business provides agricultural data to clients through a SaaS platform, leveraging high-resolution drone and satellite technology. This process begins by capturing detailed imagery of an agricultural operation. CultivateAI uses that information to build missing GIS maps and create a digital agricultural inventory, including facilities, assets, and crops. This comprehensive digital inventory generates quantifiable insights that help customers improve management practices and overall performance. CultivateAI's technology has enabled Verity to accelerate its technology and business development efforts, and overall growth.

U.S. Department of Agriculture. In September 2023, we received a grant from the U.S. Department of Agriculture ("USDA") through its Partnerships for Climate-Smart Commodities grant for Gevo's Climate-Smart Farm-to-Flight Program (the "USDA Grant"). The USDA Grant was awarded for up to $46.3 million, of which $30.0 million is anticipated being reimbursed to Gevo from the USDA Grant, contingent on Gevo's spend of up to $43.3 million and other third-party spend of up to $3.0 million. The project expects to create critical structural climate-smart market incentives for corn with a low carbon intensity ("CI") score as well as to accelerate the production of SAF to reduce dependency on fossil-based fuels. In addition, this program will help provide support and incentive payments for farmers to produce, measure, report and verify low CI corn using climate smart agricultural practices, as well as accelerate development of the low-CI corn supply chain for low-carbon ethanol and SAF.

During the year ended December 31, 2024, the Company incurred $6.5 million of costs under the USDA Grant, which are included in Project development costs in the Consolidated Statement of Operations. During the year ended December 31, 2024, the Company recognized $4.5 million of amounts received, included in Project development costs in the Consolidated Statement of Operations, which represent reimbursements for prior periods. The Company expects to be reimbursed for all expended eligible costs not yet reimbursed by the USDA Grant in future periods.

Ethanol to Olefins and the LG Chem Agreement. In April 2023, we entered into a joint development agreement with LG Chem, Ltd. ("LG Chem") a leading global chemical company to develop bio-propylene for renewable chemicals using our Ethanol-to-Olefins ("ETO") technology. Gevo's proprietary ETO technology can target carbon neutral or carbon negative drop-in replacements for traditional petroleum-based building blocks called olefins, including bio-propylene, which can be used for renewable chemicals or fuels including sustainable aviation fuel. These plant-based, renewable olefins would be derived from atmospheric CO2 captured through photosynthesis and are expected to deliver the same performance in final products on the market today. The market opportunities for these building blocks include low-carbon polypropylene, polyethylene and similar chemical products whose market size for low-carbon solutions is $400.0 – $500.0 billion. We also believe ETO will reduce the capital and operating cost in future alcohol-to-jet SAF production facilities.

Under the terms of the agreement with LG Chem, we will provide the core enabling technology we have developed for renewable olefins to be produced from low-carbon ethanol and will collaborate with LG Chem to accelerate the pilot research, technical scale-up, and commercialization of bio-propylene. LG Chem is expected to bear all scale-up costs for chemicals and make certain payments to Gevo. In the second quarter of 2023, we received $1.1 million, which is net of foreign taxes withheld of $0.2 million, and in the second quarter of 2024 received $0.7 million, which is net of foreign taxes withheld of $0.1 million. We expect to receive an additional $0.4 million through 2025 to help defray costs associated with the joint development efforts. In addition, LG Chem agreed to make certain payments to us upon commencement of commercialization as follows:

- $5.0 million upon commencement of commercialization, to be paid ratably over a period of five years.
- 1% royalty on Net Sales for the first production facility beginning six years from commercial operation.
- 1% royalty on Net Sales for all subsequent production facilities upon commencement of operations.

We also achieved the following recent milestones on our ETO technology:

- In the first quarter of 2024, we successfully launched an ETO pilot plant at a third-party facility in Crosby, Texas, which has delivered the results required to move to the next phase of scale-up in our agreement with LG Chem

- We achieved the second milestone under the joint development agreement with LG Chem in April 2024. As a result, we have received, project-to-date, $2.1 million in payments under the agreement.
- In the third quarter of 2024, we successfully completed the first phase of developing our ETO pilot plant at a third-party facility. The data is being used for process design and further scale-up planning.
- In December 2024, we extended our joint development agreement with LG Chem to accelerate the commercialization of bio-propylene using Gevo's ethanol-to-olefins technology, aiming to deliver cost-effective, bio-based renewable fuels and chemicals.

Shell Purchase Contract. On August 16, 2024, we entered into a Purchase Contract (the "Shell Agreement") with Shell Global Solutions Deutschland GmbH ("Shell"), pursuant to which Gevo agreed to supply to Shell (a) hydrocarbon-based performance racing blend stock ("2GFuel"); and (b) other products if and as may be mutually agreed from time to time. The 2GFuel must meet certain quality specifications set forth in the Shell Agreement.

Luverne Facility. In 2022, the activities at our Luverne Facility were transitioned to care and maintenance, market development, and customer education, as we shifted focus to our Net Zero Projects. The workforce adjustment which resulted allowed us to retain key personnel and redeploy some resources to our ATJ-60 and RNG projects to provide valuable knowledge and experience for the future strategic growth of the Company. The Luverne Facility is well equipped and positioned as a development site as it provides a unique opportunity to showcase our decarbonization and business systems and raise awareness with future partnerships, investors, and local communities, even though operations at the site have been minimized. Future operations, if any, will be tailored to support a focus on advancing our technology, testing, optimizing alternative feedstocks and yeast strains, and unit operations as well as partnership development for fuels and specialty chemicals with integrated solutions for GHG reductions. We continue to evaluate incentive opportunities recently introduced by the Inflation Reduction Act, which may positively impact the future economics of our operation at Luverne.

Investment Tax Credit Sales. On September 18, 2024, we sold approximately $15.3 million in Investment Tax Credits ("ITCs") to an undisclosed corporate buyer. This transaction monetized IRA Investment Tax Credits generated from the commercialization of the RNG Project by Gevo NW Iowa RNG, LLC and provided net cash proceeds of approximately $14.0 million to us after transaction fees. Due to a recalculation of the RNG Project's available ITCs, the amounts in this paragraph have been adjusted from the previously disclosed amounts of approximately $20 million in ITC sales and approximately $17.0 million net cash proceeds to us.

Key Operating Metrics

Total operating revenues reflect both sales of RNG and sales of related environmental attributes. As a result, our revenues are primarily affected by unit production of RNG, production of environmental attributes, and the prices at which we monetize such production. The following table summarizes the key operating metrics described above, recorded on the RNG segment, which metrics we use to measure performance:

(in thousands, unless otherwise indicated)	Year Ended December 31, 2024	Year Ended December 31, 2023	Change	Change %
Operating revenues				
Renewable natural gas	$ 691	$ 659	$ 32	5 %
Environmental attributes - RINs	11,661	9,888	1,773	18 %
Environmental attributes - LCFS	3,444	4,910	(1,466)	(30)%
Total operating revenues	$ 15,796	$ 15,457	$ 339	
Cost of production	$ 11,600	$ 11,481	$ 119	1 %
RNG metrics (MMBtu)				
RNG production volumes	367	314	53	17 %
Plus: prior period RNG volumes dispensed in current period	34	116	(82)	(71)%
Less: RNG production volumes not dispensed	(18)	(34)	16	(47)%
Total RNG volumes available for RIN and LCFS generation (1)	383	396	(13)	(3)%
RIN metrics				
RIN generation (2)	4,486	4,639	(153)	(3)%
Less: RINs sold	(4,486)	(4,639)	153	(3)%
RIN inventory	—	—	—	
RNG volumes not dispensed for RINs (MMBtu) (3)	18	34	(16)	(47)%
Average realized RIN price (4)	$ 2.60	$ 2.13	$ 0.47	22 %
LCFS metrics				
LCFS generation (5)	68	76	(8)	(11)%
Less: LCFS sold	(68)	(76)	8	(11)%
LCFS inventory	—	—	—	
RNG volumes not dispensed for LCFS (MMBtu)	18	34	(16)	(47)%
Average realized LCFS price (4)	$ 51.01	$ 64.79	$ (13.78)	(21)%

(1) Represents gas production which has not been dispensed to generate RINs and LCFS.
(2) RINs are generally generated in the month following the gas being dispensed.
(3) One MMBtu of RNG has approximately the same energy content as 11.727 gallons of ethanol and thus may generate 11.727 RINs under the RFS Program.
(4) Realized prices for environmental attributes are net of third-party commissions and thus do not correspond directly to index prices.
(5) LCFS credits are generally generated in the calendar quarter following the gas being dispensed.

Results of Operations

The following discussion of our financial condition and results of operations should be read in conjunction with our Consolidated Financial Statements and the notes to those Consolidated Financial Statements appearing in this Annual Report. This discussion contains forward-looking statements that involve significant risks and uncertainties. As a result of many factors, such as those set forth under “Risk Factors” in Part I, Item 1A of this Annual Report, our actual results may differ materially from those anticipated in these forward-looking statements.

This section of this Report discusses year-to-year comparisons between 2024 and 2023. The complete Management’s Discussion and Analysis of Financial Condition and Results of Operations for year-to-year comparisons between 2023 and 2022 and other discussions of 2022 items can be found within Part II, Item 7, of our Annual Report on Form 10-K for the year ended December 31, 2023, filed with the SEC on March 7, 2024, which is available free of charge on the SEC’s website at www.sec.gov and our corporate website at www.gevo.com.

Comparison of the Years Ended December 31, 2024 and 2023
(in thousands)

	Year Ended December 31,			
	2024	2023	Change ($)	Change (%)
Total operating revenues	$ 16,915	$ 17,200	$ (285)	(2)%
Operating expenses:				
Cost of production	12,002	11,991	11	0 %
Depreciation and amortization	18,298	19,007	(709)	(4)%
Research and development expense	5,576	6,637	(1,061)	(16)%
General and administrative expense	45,798	42,628	3,170	7 %
Project development costs	18,166	14,732	3,434	23 %
Acquisition related costs	4,932	—	4,932	100 %
Facility idling costs	2,967	4,040	(1,073)	(27)%
Total operating expenses	107,739	99,035	8,704	9 %
Loss from operations	(90,824)	(81,835)	(8,989)	11 %
Other income (expense)				
Interest expense	(3,879)	(2,161)	(1,718)	80 %
Interest and investment income	15,740	19,090	(3,350)	(18)%
Other income (expense), net	323	(1,309)	1,632	(125)%
Total other income, net	12,184	15,620	(3,436)	(22)%
Net loss	$ (78,640)	$ (66,215)	$ (12,425)	19 %

Operating revenue. During the year ended December 31, 2024, operating revenue decreased $0.3 million compared to the year ended December 31, 2023, primarily due to lower sales of environmental attributes from our RNG project. This is due to a buildup of environmental attribute inventory in anticipation of receiving the final pathway approval under the LCFS Program, which we expect to result in a lower CI score. The approval is anticipated in the first quarter of 2025. During the year ended December 31, 2024, we sold 366,557 MMBtu of RNG from our RNG project, resulting in biogas commodity sales of $0.7 million and environmental attribute sales of $15.1 million, see Key Operating Metrics above. Additionally, we recognized $0.8 million of licensing and development revenue from the agreement with LG Chem as well as $0.3 million from the sale of isooctane and software services during the year ended December 31, 2024.

Cost of production. Cost of production remained consistent during the year ended December 31, 2024, compared to the year ended December 31, 2023.

Depreciation and amortization. Depreciation and amortization, which includes depreciation and amortization which was allocated to inventory and is included in depreciation and amortization upon the sale of the associated inventory, decreased $0.7 million during the year ended December 31, 2024, compared to the year ended December 31, 2023, primarily due to the timing of sales of environmental attribute inventory.

Research and development expense. Research and development expense decreased $1.1 million during the year ended December 31, 2024, compared to the year ended December 31, 2023, primarily due to a reduction of consulting expenses and personnel related costs during the year ended December 31, 2024.

General and administrative expense. General and administrative expense increased $3.2 million during the year ended December 31, 2024, compared to the year ended December 31, 2023, primarily due to increases in personnel costs related to the hiring of highly qualified and skilled professionals, and professional consulting fees, partially offset by a decrease in stock-based compensation.

Project development costs. Project development costs are related to our future Alcohol-to-Jet Projects and Verity and consist primarily of employee expenses, preliminary engineering costs, and technical consulting costs. Project development costs increased $3.4 million during the year ended December 31, 2024, compared to the year ended December 31, 2023, primarily due to patent related costs, increases in personnel costs, and consulting fees.

Acquisition related costs. Certain acquisition costs incurred related to the Red Trail Purchase Agreement during the year ended December 31, 2024.

Facility idling costs. Facility idling costs are related to care and maintenance of our Luverne Facility. Facility idling costs decreased by $1.1 million for the year ended December 31, 2024, compared to the year ended December 31, 2023.

Loss from operations. The Company's loss from operations increased by $9.0 million during the year ended December 31, 2024, compared to the year ended December 31, 2023, primarily due to the increase in costs related to acquisitions, general and administrative expenses, and project development costs.

Interest expense. Interest expense increased by $1.7 million during the year ended December 31, 2024, compared to the year ended December 31, 2023, and was primarily comprised of interest on the Remarketed Bonds.

Interest and investment income. Interest and investment income decreased $3.4 million during the year ended December 31, 2024, compared to the year ended December 31, 2023, primarily due to the usage of cash for our capital projects and operating costs, resulting in a lower balance of cash equivalent investments during the year ended December 31, 2024.

Other income. Other income increased $1.6 million during the year ended December 31, 2024, compared to the year ended December 31, 2023, primarily due our termination of the expediting procurement agreement with a local utility which resulted in a one-time charge of $1.6 million in 2023.

Sources of Our Revenues

Our current and historic revenues are primarily derived from: (i) the sale of RNG commodities and the related environmental attributes; (ii) licensing and development sales; (iii) hydrocarbon sales consisting primarily of the sale of isooctane derived from our isobutanol and SAF; (iv) software services; and (v) the sale of isobutanol and related products.

Principal Components of Our Cost Structure

Cost of Production. Our cost of production consists primarily of costs directly associated with the production of RNG and other renewable hydrocarbon products, including isobutanol, SAF, and isooctane. Such costs include direct materials, direct labor, other operating costs and certain plant overhead costs. Direct materials include feedstock, denaturant and process chemicals. Direct labor includes compensation (including stock-based compensation) of personnel directly involved in production operations. Other operating costs include utilities and natural gas and wind power usage.

Research and Development. Our research and development expense consists of costs incurred to identify, develop and test our technologies for the production of renewable hydrocarbon products and the development of downstream applications thereof. Research and development expense includes personnel costs (including stock-based compensation), consultants and related contract research, facility costs, supplies, license fees paid to third parties for use of their intellectual property and patent rights and other overhead expenses incurred to support our research and development programs.

General and Administrative. General and administrative expense consists of personnel costs (including stock-based compensation), consulting and service provider expenses (including patent counsel-related costs), legal fees, marketing costs, insurance costs, occupancy-related costs, travel and relocation expenses and hiring expenses. Our corporate personnel, consisting of subject matter experts, including chemists, engineers, and sustainability experts, dedicate the majority of their time and efforts for the development of our growth projects. Costs incurred have not yet been allocated to the specific growth projects on the face of our financial statements.

Project Development Costs. Project development costs consist of consulting, preliminary engineering costs, personnel expenses (including stock-based compensation) and research and development expenses to support the business activities of our Alcohol-to-Jet Projects.

Depreciation and Amortization. Depreciation and amortization relates to property, plant and equipment associated with the production of RNG and other renewable hydrocarbon products, including isobutanol, SAF, and isooctane, as well as that used in product development.

Liquidity and Capital Resources

As of December 31, 2024, we had cash and cash equivalents of $189.4 million and current restricted cash of $69.6 million, totaling $259.0 million in cash, cash equivalents, and restricted cash. Our cash equivalents consist of investments in U.S. government money market funds. We expect to use our cash, cash equivalents, and restricted cash for the following purposes: (i) identification, development, engineering, licensing, acquisition and construction of production facilities and the Company’s Alcohol-to-Jet Projects; (ii) in combination with project level debt, the acquisition of Red Trail Energy; (iii) potential investment in RNG projects; (iv) operating activities at the Company’s corporate headquarters in Colorado, including research and development work; (v) exploration of strategic alternatives and additional financing, including project financing; and (vi) debt service obligations associated with any future borrowings. We believe that as a result of our cash and cash equivalents balances and the performance of our current and expected operations, we will be able to meet our obligations and other potential cash requirements during the next 12 months from the date of this report.

Since our inception in 2005, we have devoted most of our cash resources to the development and commercialization of routes to efficiently produce fuels and chemicals from carbohydrates, such as renewable feedstock, using alcohols (isobutanol and ethanol) as intermediates. We have incurred losses since inception, have a significant accumulated deficit, and expect to incur losses for the foreseeable future. Historically we have financed our operations primarily with proceeds from the issuance of equity, warrants, borrowings under debt facilities, and interest income. Our current sources of cash include sales of RNG, environmental attributes, and licensing fees. We may also fund future operations through additional private and/or public offerings of equity or debt securities. In addition, we may seek additional capital, on acceptable terms, through arrangements with strategic partners or from other sources. Notwithstanding, there can be no assurance that we will be able to raise additional funds or achieve or sustain profitability or positive cash flows from operations.

Our transition to profitability is dependent upon, among other things, the successful development and commercialization of our projects, the development, licensing, acquisition and construction of commercial level production facilities to support our offtake agreements, the achievement of a level of revenues adequate to support the Company’s cost structure, and the ability to raise capital to finance the development, licensing, acquisition, and construction of additional production facilities.

The following table sets forth the major sources and uses of cash for each of the periods set forth below (in thousands):

	Year Ended December 31, 2024	Year Ended December 31, 2023
Net cash used in operating activities	$ (57,383)	$ (53,719)
Net cash (used in) provided by investing activities	$ (51,819)	$ 114,129
Net cash used in financing activities	$ (7,362)	$ (189)

Operating Activities

Our primary uses of cash from operating activities are personnel-related expenses, and research and development-related expenses, including costs incurred under development agreements, costs of licensing of technology, legal-related costs, and expenses for the development and commercialization of routes to efficiently produce fuels and chemicals from renewable feedstock carbohydrates using alcohols (isobutanol and ethanol) as an intermediate.

During the year ended December 31, 2024, net cash used in operating activities was $57.4 million compared to $53.7 million for the year ended December 31, 2023. Non-cash charges primarily consisted of stock-based compensation expense of $14.7 million and depreciation and amortization of $18.3 million. The net cash outflow from changes in operating assets and liabilities decreased $10.1 million, primarily due to a decrease in cash outflows of $6.6 million related to prepaid expenses and other current assets, deposits and other assets, $2.6 million related to increases in accounts receivable as well as $2.4 million related to accounts payable and accrued liabilities. These were partially offset by $1.4 million of increased costs associated with the sale of environmental attribute inventory.

Investing Activities

During the year ended December 31, 2024, we had $51.8 million in cash used in investing activities, comprised of $51.1 million of investments in our capital projects, including $45.4 million in GevoFuels, $3.9 million in the RNG Project, and $1.8 million in Verity platform development. In addition, there was a $10.0 million payment of earnest money in connection with the Red Trail Purchase Agreement and $6.0 million paid for the acquisition of CultivateAI. These were partially offset by $15.3 million proceeds from the sale of investment tax credits from the RNG Project.

We have substantially completed the engineering design on our ATJ-60 project and are proceeding with detailed engineering and modularization design. We are refining the project cost estimates with EPC partners to identify opportunities to reduce and negotiate the cost. We currently expect to finance the construction of ATJ-60 at the subsidiary level using a combination of Company equity and third-party capital, to include non-recourse debt. The Company previously projected a range of $90.0 – $125.0 million to be spent on ATJ-60 between January 2024 and the financial close of ATJ-60. Year to date 2024, the Company expects the remaining spend until the financial close of ATJ-60 to fall below the previously estimated range. Cash distributions from future ATJ-60 earnings would be proportionate to Gevo's ownership in ATJ-60 under this expected financing structure. The use of project debt and third-party equity allows us to conserve capital for use on other growth projects. We expect to apply similar development and financing strategies to future Alcohol-to-Jet Projects to grow our SAF production to meet the demand for SAF.

Gevo is in the process of identifying and performing early site development work for additional Alcohol-to-Jet production locations. These potential sites include greenfield and brownfield (i.e., at an existing ethanol plant) locations that are advantageous in terms of potential economics, opportunities to decarbonize, and time to market. Early development work at the Red Trail Energy site is currently underway.

During the year ended December 31, 2023, we had $114.1 million in cash provided by investing activities, of which $168.6 million related to proceeds from sales and maturities of marketable securities, partially offset by $54.5 million of investments in our capital projects, including $28.2 million in ATJ-60, $6.4 million in the RNG Project, and $19.9 million in other projects.

Financing Activities

During the year ended December 31, 2024, we had $7.4 million of net cash used in financing activities, due to payments for repurchases of the Company's common stock, debt issuance costs, finance lease liabilities, and equipment loans, partially offset by proceeds from the exercise of warrants.

We currently expect to finance the construction of ATJ-60 at the subsidiary level using a combination of our own, third-party, and debt capital. The Company expects to retain an equity interest in the project and may invest equity in the project using the proceeds from the reimbursement of the Company's ATJ-60 development expenditures. Cash distributions from future ATJ-60 earnings would be proportionate to Gevo's ownership in ATJ-60 under this expected financing structure which would allow us to conserve and redeploy our capital on other growth projects, including our Alcohol-to-Jet 2 project. We expect to apply similar development and financing strategies to future Alcohol-to-Jet Projects to enable growth of SAF production to meet demand for SAF.

During the year ended December 31, 2023, we had $0.2 million of net cash used in financing activities, due to payments for equipment loans and finance lease liabilities.

Critical Accounting Estimates

Our Consolidated Financial Statements are based on the application of U.S. GAAP, which requires us to make estimates and assumptions about future events that affect the amounts reported in our Consolidated Financial Statements and the accompanying notes. Future events and their effects cannot be determined with certainty; therefore, the determination of estimates requires the exercise of judgment. We believe our judgments related to these accounting estimates are appropriate. However, if different assumptions or conditions were to prevail, the results could be materially different from the amounts recorded.

Impairment of long-lived assets - We evaluate property, plant and equipment, operating lease right-of-use assets and other finite-lived assets for impairment when facts and circumstances indicate that the carrying values of such assets may not be recoverable.

If it is determined that a triggering event has occurred, we prepare a quantitative evaluation based on undiscounted cash flow projections expected to be realized over the remaining useful life of the primary asset. The carrying amount is not recoverable if it exceeds the sum of undiscounted cash flows expected to result from the use and eventual disposition of the asset. If the carrying value is not recoverable, the impairment loss is measured as the excess of the asset's carrying value over its fair value.

We estimate fair value measurements to record impairment to certain long-lived assets and to determine fair value disclosures in accordance with Accounting Standards Codification ("ASC") 360 and 820. These significant estimates, judgments, inputs, and assumptions include, when applicable, the selection of an appropriate valuation method depending on the nature of the respective asset, such as the income approach, the market or sales comparison approach. The fair value of our operating asset groups is estimated using a discounted cash flow model as quoted market prices are not available. For other long-lived assets, fair value is determined using an approach that is appropriate based on the relevant facts and circumstances, which may include discounted cash flows or comparable transactions analyses.

Determining whether impairment indicators exist, estimating the undiscounted cash flows and fair value of the Company's long lived assets for impairment testing requires significant judgment. The assumptions used to assess impairment consider historical trends, macroeconomic and industry conditions, and projections consistent with the Company's operating strategy. Our undiscounted cash flow forecasts contain uncertainties because they require management to make assumptions and to apply judgment in estimating future cash flows including forecasting projected revenues and margins based on the future sales volumes, future commodity prices, operating costs, forecasting useful lives of the assets, assessing the probability of different outcomes, and with respect to asset fair values selecting an appropriate discount rate to estimate the present value of those projected cash flows. The discount rate is selected based on the return we believe a market participant would require, that appropriately reflects the risks associated with the cash flows when determining a purchase price for the asset groups.

Recent Accounting Pronouncements

See Note 2, Summary of Significant Accounting Policies, in Item 8. “Financial Statements and Supplemental Data,” of this Report, for a discussion of recent accounting pronouncements.

Item 7A. Quantitative and Qualitative Disclosures about Market Risk

We are exposed to market risks related to environmental attribute pricing, commodity pricing, interest rate, credit risk with our contract counterparties, and equity price risks. We currently have no foreign exchange risk and do not use derivative financial instruments as part of an overall strategy to manage market risk; however, we may consider such arrangements in the future as we evaluate our business and financial strategy.

Environmental Attribute and Commodity Pricing Risk

We attempt to negotiate the best prices for our environmental attributes and to competitively price our products to reflect the fluctuations in market prices. Reductions in the market prices of environmental attributes may have a material adverse effect on our revenues and profits as they directly reduce our revenues. We have prepared a sensitivity analysis to estimate our exposure to market risk with respect to RIN and LCFS prices. Our analysis, which may differ from actual results, based on our actual 2024 RINs and LCFS sold of approximately $2.60 and $51.01 respectively. The estimated annual impact of a hypothetical 10% decrease in the average realized price per RIN and per LCFS credit would have a negative effect on our operating profit of approximately $1.2 million and $0.3 million, respectively.

The price of RNG changes in relation to the market prices of wholesale gas. Pricing for wholesale gas is volatile and we expect this volatility to continue in the future. Further, volatility of wholesale gas also creates volatility in the prices of environmental attributes. We have prepared a sensitivity analysis to estimate our exposure to market risk with respect to the market price of wholesale gas. Our analysis. which may differ from actual results, was based on our actual 2024 gas production sold pursuant to contracts that do not provide for a fixed or floor price of approximately $1.89/MMBtu. The estimated annual impact of a hypothetical 10% decrease in the market price of wholesale gas would not have a material impact on our financial condition or results of operations.

Interest Rate Risk

We are exposed to market risk related to changes in interest rates. Our primary exposure to market risk is interest rate sensitivity, which is affected by changes in the general level of U.S. interest rates, particularly because our investments, including cash equivalents, are invested in U.S. treasury or government money market funds. Our analysis. which may differ from actual results, was based on our actual 2024 effective interest rate earned on our cash and cash equivalents. The estimated annual impact of a hypothetical 0.25% decrease in market interest rates would have a negative impact on our interest income of approximately $0.5 million.

Credit Risk

We are subject to credit risk due to the concentration of our RNG receivables with a limited number of significant customers. This concentration increases our exposure to credit risk on our receivables, since the financial insolvency of these customers could have a significant impact on our results of operations.

Equity Price Risk

We have in the past, and may in the future, seek to acquire additional funding through the sale of common stock and other equity. The price of our common stock has been volatile in the past and may also be volatile in the future. As a result, there is a risk that we may not be able to sell our common stock at an acceptable price should the need for new equity funding arise.

Item 8. Financial Statements and Supplementary Data

Index to Gevo, Inc. Consolidated Financial Statements

	Page
Report of Independent Registered Public Accounting Firm (PCAOB ID Number 34)	54
Report of Independent Registered Public Accounting Firm (PCAOB ID Number 248)	56
Consolidated Balance Sheets	57
Consolidated Statements of Operations	58
Consolidated Statements of Comprehensive Income (Loss)	59
Consolidated Statements of Stockholders' Equity	60
Consolidated Statements of Cash Flows	61
Notes to Consolidated Financial Statements	63

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of Gevo, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Gevo, Inc. and subsidiaries (the "Company") as of December 31, 2024, the related consolidated statements of operations, comprehensive income (loss), stockholders' equity, and cash flows, for the year ended December 31, 2024, and the related notes (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2024, and the results of its operations and its cash flows for the period ended December 31, 2024, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audit, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audit included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audit provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Impairment of Long-Lived Assets – NW Iowa RNG Asset Group – Refer to Notes 2 and 9 to the financial statements

Critical Audit Matter Description

The Company evaluates the recoverability of the recorded amount of long-lived assets including property, plant and equipment when events or changes in circumstances indicate that their carrying amount may not be recoverable. Identifiable cash flows are identified at the asset group level. The carrying amount of a long-lived asset is considered to be impaired if it exceeds the sum of the undiscounted cash flows expected to result from the use and eventual disposition of the asset group. If the Company determines that an asset is impaired, it measures the impairment to be recognized as the amount by which the recorded amount of the asset exceeds its fair value.

We have identified management's evaluation for potential impairment indicators related to the Company's NW Iowa RNG asset group as a critical audit matter because of the significant judgments made by management to estimate the undiscounted cashflows utilized in the assessment for impairment indicators, including assumptions about expected future production volumes, revenues and operating costs. This required a high degree of auditor judgment and an increased extent of effort, when performing audit procedures to evaluate whether management appropriately identified and evaluated potential impairment indicators, and when evaluating the reasonableness of management's estimates and assumptions.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the identification and evaluation of potential impairment indicators for the NW Iowa RNG asset group included the following, among others:

- Evaluating the Company's process for identifying qualitative and quantitative impairment indicators of the NW Iowa RNG asset group and whether the Company appropriately considered such indicators
- Evaluating the reasonableness of the information in the Company's forecasted undiscounted cash flows used in their assessment of impairment indicators by:
    - Reviewing internal communications to the Board of Directors and press releases
    - Comparing management's estimate of production volumes to the capacity of the facility and historical production volumes
    - Understanding management's estimate of production and operating costs and comparing those costs to historical actuals
    - We evaluated management's estimated future sales prices of environmental attributes and natural gas by:
        - Understanding the methodology used by management for developing future prices and comparing the estimated prices to an independently determined range of prices
        - Comparing management's estimates to published forward pricing indices and third-party industry sources

/s/ Deloitte & Touche LLP
Denver, Colorado
March 27, 2025

We have served as the Company's auditor since 2024.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Board of Directors and Stockholders

Gevo, Inc.

Opinion on the financial statements

We have audited the accompanying consolidated balance sheet of Gevo, Inc. (a Delaware corporation) and subsidiaries (the "Company") as of December 31, 2023, and the related consolidated statements of operations, comprehensive income (loss), stockholders' equity, and cash flows for the year ended December 31, 2023, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2023, and the results of its operations and its cash flows for the year ended December 31, 2023, in conformity with accounting principles generally accepted in the United States of America.

Basis for opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audit. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audit we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audit included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audit also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audit provides a reasonable basis for our opinion.

/s/ Grant Thornton LLP

We have served as the Company's auditor from 2015 to 2024.

Denver, Colorado

March 7, 2024 (except for Note 22, as to which the date is March 27, 2025)

GEVO, INC.
CONSOLIDATED BALANCE SHEETS
(In thousands, except share and per share amounts)

	Note	December 31, 2024	December 31, 2023
Assets			
Current assets			
Cash and cash equivalents		$ 189,389	$ 298,349
Restricted cash	5	1,489	77,248
Trade accounts receivable, net		2,411	2,623
Inventories	8	4,502	3,809
Prepaid expenses and other current assets	6	5,920	4,353
Total current assets		203,711	386,382
Property, plant and equipment, net	9, 22	221,642	211,563
Restricted cash	5	68,155	—
Operating right-of-use assets	7	1,064	1,324
Finance right-of-use assets	7	1,877	210
Intangible assets, net	10, 20	8,129	6,524
Goodwill	20	3,740	—
Deposits and other assets	11	75,623	44,319
Total assets		$ 583,941	$ 650,322
Liabilities			
Current liabilities			
Accounts payable and accrued liabilities	12, 22	$ 22,006	$ 22,752
Operating lease liabilities	7	333	532
Finance lease liabilities	7	2,001	45
Loans payable	13	21	130
2021 Bonds payable, net	13	—	67,967
Total current liabilities		24,361	91,426
Remarketed Bonds payable, net	13	67,109	—
Loans payable	13	—	21
Operating lease liabilities	7	966	1,299
Finance lease liabilities	7	187	187
Other long-term liabilities	20	1,830	—
Total liabilities		94,453	92,933
Commitments and Contingencies	17		
Stockholders' Equity			
Common stock, $0.01 par value per share; 500,000,000 shares authorized; 239,176,293 and 240,499,833 shares issued and outstanding at December 31, 2024, and December 31, 2023, respectively.		2,392	2,405
Additional paid-in capital		1,287,333	1,276,581
Accumulated deficit		(800,237)	(721,597)
Total stockholders' equity		489,488	557,389
Total liabilities and stockholders' equity		$ 583,941	$ 650,322

See the accompanying Notes to the Consolidated Financial Statements.

GEVO, INC.
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except share and per share amounts)

	Note	Year Ended December 31, 2024	Year Ended December 31, 2023
Total operating revenues	3, 22	$ 16,915	$ 17,200
Operating expenses:			
Cost of production	14	12,002	11,991
Depreciation and amortization	9, 10	18,298	19,007
Research and development expense	14	5,576	6,637
General and administrative expense		45,798	42,628
Project development costs	14	18,166	14,732
Acquisition related costs	23	4,932	—
Facility idling costs		2,967	4,040
Total operating expenses		107,739	99,035
Loss from operations		(90,824)	(81,835)
Other income (expense)			
Interest expense		(3,879)	(2,161)
Interest and investment income	5, 18	15,740	19,090
Other income (expense), net		323	(1,309)
Total other income, net		12,184	15,620
Net loss		$ (78,640)	$ (66,215)
Net loss per share - basic and diluted	4	$ (0.34)	$ (0.28)
Weighted-average number of common shares outstanding - basic and diluted	4	231,674,716	238,687,621

See the accompanying Notes to the Consolidated Financial Statements.

GEVO, INC.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME (LOSS)
(in thousands)

		Year Ended December 31,	
	Note	2024	2023
Net loss		$ (78,640)	$ (66,215)
Other comprehensive income:			
Unrealized gain on available-for-sale securities		—	1,040
Comprehensive loss		$ (78,640)	$ (65,175)

See the accompanying Notes to the Consolidated Financial Statements.

GEVO, INC.
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(In thousands, except share amounts)

	Note	Common Stock Shares	Common Stock Amount	Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Stockholders' Equity
Balance, December 31, 2022		237,166,625	$ 2,372	$ 1,259,527	$ (1,040)	$ (655,382)	$ 605,477
Non-cash stock-based compensation	14	—	—	17,087	—	—	17,087
Stock-based awards and related share issuances, net	19	3,333,208	33	(33)	—	—	—
Other comprehensive income		—	—	—	1,040	—	1,040
Net loss		—	—	—	—	(66,215)	(66,215)
Balance, December 31, 2023		240,499,833	$ 2,405	$ 1,276,581	$ —	$ (721,597)	$ 557,389
Non-cash stock-based compensation	14	—	—	14,847	—	—	14,847
Stock-based awards and related share issuances, net	19	5,784,668	58	495	—	—	553
Repurchase of common stock	19	(7,190,006)	(72)	(4,638)	—	—	(4,710)
Issuance of common stock upon exercise of warrants	19	81,798	1	48	—	—	49
Net loss		—	—	—	—	(78,640)	(78,640)
Balance, December 31, 2024		239,176,293	$ 2,392	$ 1,287,333	$ —	$ (800,237)	$ 489,488

See the accompanying Notes to the Consolidated Financial Statements.

GEVO, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)

	Note	Year Ended December 31, 2024	2023
Operating Activities			
Net loss		$ (78,640)	$ (66,215)
Adjustments to reconcile net loss to net cash used in operating activities:			
Stock-based compensation	14	14,733	17,087
Depreciation and amortization	9, 10	18,298	19,007
Amortization of marketable securities discount		—	(102)
Other noncash expense		2,497	908
Changes in operating assets and liabilities, net of effects of acquisition:			
Accounts receivable		417	(2,147)
Inventories	8	(706)	670
Prepaid expenses and other current assets, deposits and other assets	6, 11	(19,050)	(25,620)
Accounts payable, accrued expenses and non-current liabilities	12	5,068	2,693
Net cash used in operating activities		(57,383)	(53,719)
Investing Activities			
Acquisitions of property, plant and equipment	9, 22	(51,085)	(54,455)
Proceeds from sale of investment tax credit	1	15,336	—
Payment of earnest money deposit	11	(10,000)	—
Acquisition of CultivateAI, net of cash acquired	20	(6,070)	—
Proceeds from maturity of marketable securities		—	168,550
Proceeds from sale of property, plant and equipment		—	34
Net cash (used in) provided by investing activities		(51,819)	114,129
Financing Activities			
Proceeds from issuance of Remarketed Bonds	13	68,155	—
Extinguishment of 2021 Bonds	13	(68,155)	—
Payment of debt offering costs	13	(1,665)	—
Proceeds from the exercise of warrants	19	49	—
Payment of loans payable	13	(130)	(167)
Payment of finance lease liabilities	7	(906)	(22)
Repurchases of common stock	19	(4,710)	—
Net cash used in financing activities		(7,362)	(189)
Net (decrease) increase in cash and cash equivalents		(116,564)	60,221
Cash, cash equivalents and restricted cash at beginning of period		375,597	315,376
Cash, cash equivalents and restricted cash at end of period		$ 259,033	$ 375,597

See the accompanying Notes to the Consolidated Financial Statements.

GEVO, INC.
CONSOLIDATED STATEMENTS OF CASH FLOWS—(Continued)
(In thousands)

Schedule of cash, cash equivalents and restricted cash	**Year Ended December 31, 2024**	**2023**
Cash and cash equivalents	$ 189,389	$ 298,349
Restricted cash (current)	1,489	77,248
Restricted cash (non-current)	68,155	—
Total cash, cash equivalents and restricted cash	$ 259,033	$ 375,597

Supplemental disclosures of cash and non-cash investing and financing transactions	**Year Ended December 31, 2024**	**2023**
Cash paid for interest	$ 1,619	$ 1,029
Non-cash purchase of property, plant and equipment	$ 2,595	$ 8,174
Non-cash 401(k) match expense	$ 614	$ —
Right-of-use asset purchased with financing leases	$ 2,731	$ —
Right-of-use asset purchased with operating lease	$ 32	$ 199

See the accompanying Notes to the Consolidated Financial Statements.

GEVO, INC.
Notes to Consolidated Financial Statements

1. Nature of Business, Financial Condition and Basis of Presentation

Nature of business. Gevo, Inc. (Nasdaq: GEVO) ("Gevo", "we", "us", "our", or the "Company," which, unless otherwise indicated, refers to Gevo, Inc. and its subsidiaries), a Delaware corporation founded in 2005, is a growth-oriented, carbon abatement company with the mission of solving greenhouse gas ("GHG") emissions for those sectors of the transportation industry that are not amenable to electrification or hydrogen.

Gevo is a next-generation diversified energy company committed to fueling America's future with cost-effective, drop-in fuels that contribute to energy security, abate carbon, and strengthen rural communities to drive economic growth. Gevo's innovative technology can be used to make a variety of renewable products, including SAF, motor fuels, chemicals, and other materials. Gevo's business model includes developing, financing, and operating production facilities that create jobs and revitalize communities. Gevo owns and operates one of the largest dairy-based renewable natural gas ("RNG") facilities in the United States, turning by-products into clean, reliable energy. We also operate an ethanol plant with an adjacent CCS facility, further solidifying America's leadership in energy innovation. Additionally, Gevo owns the world's first production facility for specialty ATJ fuels and chemicals. Through its Verity subsidiary, Gevo provides transparency, accountability and efficiency in tracking, measuring and verifying various attributes throughout the supply chain. By strengthening rural economies, Gevo is working to secure a self-sufficient future and to make sure value is brought to the market. Each of the market areas in which Gevo focuses have in common the need for carbon-based products and are not conducive to full electrification or hydrogen. We produce, sell, and trace renewable, drop-in products for these sectors, and generate carbon abatement value through our plant design and business systems. Carbon abatement value can be valorized via Renewable Identification Numbers ("RINs"), state credits, Inflation Reduction Act ("IRA") tax credits, and the value of Scope 3 greenhouse gas emissions for end customers. Gevo operates in the sustainable energy sector, focusing on innovative solutions for reducing greenhouse gas emissions and advancing low-carbon energy alternatives. The company's efforts are primarily concentrated in two key focus areas: GevoFuels and Gevo RNG.

Alcohol-to-Jet Projects

In early 2021, we announced our proprietary "Alcohol-to-Jet Projects" that we are developing and engineering as a series of planned facilities to produce energy dense liquid hydrocarbons using renewable energy and our proprietary technology. Our Alcohol-to-Jet Projects will convert renewable energy (e.g., photosynthetic, wind, and RNG) from a variety of sources into energy dense liquid hydrocarbons that, when burned in traditional engines, has the potential to achieve net zero GHG emissions across the whole lifecycle of the liquid fuel: from the way carbon is captured from the atmosphere, processed to make liquid fuel products, and burned as a fuel for planes, cars, trucks, and ships. Gevo owns our Alcohol-to-Jet plant designs and the overall Gevo net zero process (i.e., the process to enable carbon-negative olefins, and hydrocarbon fuels with an anticipated net zero or better carbon footprint measured across the lifecycle of the whole processes). The proprietary Gevo Alcohol-to-Jet processes and plant designs are based upon the conversion of carbohydrates to alcohols, followed by the conversion of the alcohols to olefins (i.e., building blocks for chemicals, plastics, and fuels), and then the conversion of the olefins into fuels, all optimized and integrated to achieve a net zero carbon footprint. Our partners in developing and executing the Net Zero projects have included Fluid Quip Technologies, LLC, PRAJ Industries Limited ("PRAJ"), Zero6 Clean Energy Assets, Inc. ("Zero6"), McDermott International Ltd., and Fagen, Inc. Gevo owns the overall proprietary plant designs, engineering details, integration technologies, and has filed patents on several process improvements.

Our initial Alcohol-to-Jet Project, Alcohol-to-Jet 60 ("ATJ-60", is expected to be located in Lake Preston, South Dakota, and is being currently designed to produce approximately 65 million gallons per year ("MGPY") of total hydrocarbon volumes, including 60 MGPY of SAF. Along with the hydrocarbons, ATJ-60 is being currently designed to produce approximately 1.3 billion pounds per year of high-value protein products for use in the food chain and approximately 30 million pounds per year of corn oil. Our products will be produced in three steps: the first step is milling the corn and the production of protein, oil, and carbohydrates, the second step produces alcohols using fermentation and the third step is the conversion of the alcohols into hydrocarbons.

We are also developing other commercial production projects for SAF at other locations in the United States where we expect to use our Alcohol-to-Jet plant designs based on work done for ATJ-60 at Lake Preston. Gevo expects to play the role of project developer, plant designer, technology licensor, and investor, based on traditional developer business models where the developer gets a partial ownership stake for developing the project. We may also co-invest in projects to increase our equity ownership in those projects.

Renewable Natural Gas Project

Gevo's RNG facilities in Northwest Iowa ("NW Iowa RNG"), recorded in the Renewable Natural Gas segment, produce RNG captured from dairy cow manure supplied by three local dairies. Animal manure can be digested anaerobically to produce biogas, which is then upgraded to pipeline quality gas referred to as RNG. In addition, in 2024 we completed an expansion to the RNG Project to increase its annual expected output from 355,000 MMBtu to 400,000 MMBtu. We sell our RNG to the California market through an agreement with BP Canada Energy Marketing Corp. and BP Products North America Inc. (collectively, "BP"). In addition, we generate and sell Low Carbon Fuel Standard ("LCFS") credits as well as D3 Renewable Identification Numbers ("RINs") through the production of RNG (collectively, "environmental attributes").

Luverne Facility

Gevo's development plant in Luverne, Minnesota (the "Luverne Facility") is currently being used for market development and customer education, but is not currently operating as a production plant. The Luverne Facility was originally constructed in 1998 and is located on approximately 55 acres of land, which contains approximately 50,000 square feet of building space. Gevo may use the Luverne Facility in the future to prove our processes, process concepts, unit operations and for other purposes to optimize feedstocks and the processes used for producing hydrocarbons from alcohols.

2. Summary of Significant Accounting Policies

Principles of Consolidation. The Consolidated Financial Statements of Gevo include the accounts of its wholly owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation.

Basis of Presentation. The Consolidated Financial Statements of the Company have been prepared pursuant to the rules and regulations of the U.S. Securities and Exchange Commission (the "SEC") and accounting principles generally accepted in the U.S. ("U.S. GAAP"). These statements reflect all normal and recurring adjustments which, in the opinion of management, are necessary to present fairly the financial position, results of operations and cash flows of the Company.

Use of Estimates. The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ materially from those estimates.

Estimates are subject to uncertainties due to the levels of subjectivity and judgment necessary to account for highly uncertain matters or the susceptibility of such matters to change and affect items such as valuing identified intangible assets; evaluating impairments of long-lived assets and goodwill; establishing estimated useful lives for long-lived assets; acquisition accounting; estimating revenues, expenses for services received but for which no invoice has been received and capital expenditures; recognizing share-based compensation expense; and determining liabilities, if any, for legal contingencies.

GEVO, INC.
Notes to Consolidated Financial Statements (Continued)

Concentrations of Credit Risk and Major Customers. The Company's financial instruments that are exposed to concentrations of credit risk consist of cash and cash equivalents in excess of the federally insured limits. The Company's cash and cash equivalents are deposited with high credit-quality financial institutions and are primarily in demand deposit accounts and money market funds. As of December 31, 2024, and 2023, one customer accounted for 86% and 100% of trade accounts receivable, net, and 93% and 90% of total revenue, respectively.

Cash, Cash Equivalents and Restricted Cash. The Company maintains its cash and cash equivalents in highly liquid interest-bearing money market accounts or non-interest-bearing demand accounts. The Company considers all highly liquid investments purchased with a maturity of three months or less at the date of acquisition to be cash equivalents. Restricted cash is classified as current or non-current based on the terms of the underlying agreements and represents cash held as deposits and cash collateral for financial letters of credit.

Trade Accounts Receivable, net. The Company records receivables for products shipped but for which payment has not yet been received. The Company records an allowance for credit losses for amounts not expected to be collected. The Company estimates the allowance based on expected credit losses.

Inventories. Inventory is recorded at net realizable value. Isobutanol inventory cost consists of the applicable share of raw material, direct labor and manufacturing overhead. Work in process inventory includes unfinished SAF, isooctane and isooctene inventory. Spare Parts inventory consists of the parts required to maintain the Company's Luverne Facility and is recorded at cost. For each reporting period, the Company reviews the value of inventories on hand to estimate the recoverability through future sales. The Company reduces its inventories with adjustments for lower of cost or net realizable value, with cost determined by the average cost method.

Environmental Attribute Inventory. The Company generates D3 Renewable Identification Numbers ("RINs") and Low Carbon Fuel Standard ("LCFS") credits (collectively, "environmental attributes") through the production of RNG used for transportation purposes as prescribed under the Renewable Fuels Standard program ("RFS"). Environmental attribute inventory is included as a component of "Inventories" on the Consolidated Balance Sheets. The Company intends to actively market and sell environmental attributes and as such records them as inventory. Accordingly, the Company allocates the costs of production based on the relative sales value of all revenue items for the NW Iowa RNG operations. The value of the environmental attributes is reviewed for potential write-downs based on the net realizable value methodology. Revenue is recognized on these environmental attributes when there is an agreement in place to monetize the credits at an agreed upon price with a customer based upon defined third party market prices and a transfer of control has occurred.

Property, Plant and Equipment. Property, plant and equipment are recorded at cost less accumulated depreciation and amortization. Leasehold improvements are amortized over the term of the lease agreement or the service lives of the improvements, whichever is shorter. Assets under construction are depreciated when they are placed into service. Maintenance and repairs are charged to expense as incurred and expenditures for major improvements are capitalized.

Construction in Progress. Construction in progress represents expenditures necessary to bring an asset, project, new facilities or equipment to the condition and location necessary for its intended use and are capitalized and recorded at cost. Once completed and ready for its intended use, the asset is transferred to property, plant and equipment to be depreciated or amortized.

Depreciation and Amortization. Capitalized costs are depreciated or amortized using the straight-line method at rates sufficient to depreciate such costs over the shorter of estimated productive lives of such assets or the useful life of the individual assets. The estimates of productive lives may change, possibly in the near term, resulting in changes to depreciation and amortization rates in future reporting periods.

Impairment of Long-Lived Assets. The Company evaluates the recoverability of the recorded amount of long-lived assets, including property, plant and equipment, licenses, patents, operating lease right-of-use assets, and finance lease right-of-use assets when events or changes in circumstances indicate that their carrying amount may not be recoverable. The carrying amount of a long-lived asset is considered to be impaired if it exceeds the sum of the undiscounted cash flows expected to result from the use and eventual disposition of the assets. If the Company determines that an asset is impaired, it measures the impairment to be recognized as the amount by which the recorded amount of the asset exceeds its fair value. No impairment losses on tangible and intangible assets were recorded for the years ended December 31, 2024, and 2023.

Leases, Right-of-Use Assets and Related Liabilities. The Company enters into various arrangements which constitute a lease as defined by Accounting Standards Codification ("ASC") 842, Leases, as part of its ongoing business activities and operations. Leases represent a contract or part of a contract that conveys the right to control the use of identified property, plant or equipment (an identified asset) for a period of time in exchange for consideration. Such contracts result in both (a) right-of-use assets, which represent the Company's right to use an underlying asset for the term of the contract; and (b) a corresponding lease liability which represents the Company's obligation to make the lease payments arising from the contract. The Company has elected not to recognize a right-of-use asset and lease liability for any lease with an original lease term of 12 months or less. Lease expense for such leases is recognized on a straight-line basis over the lease term.

A lease is classified as a finance lease when one or more of the following criteria are met: (i) the lease transfers ownership of the asset by the end of the lease term, (ii) the lease contains an option to purchase the asset that is reasonably certain to be exercised, (iii) the lease term is for a major part of the remaining useful life of the asset, (iv) the present value of the lease payments equals or exceeds substantially all of the fair value of the asset, or (v) the asset is of such a specialized nature that it is expected to have no alternative use to the lessor at the end of the lease term. If a lease does not meet any of these criteria, the lease is classified as an operating lease.

Lease liabilities are initially measured at the lease commencement date based on the present value of lease payments over the lease term, discounted using an estimate of the Company's incremental borrowing rate for a collateralized loan with the same term and payment as the lease. Right-of-use assets are measured based on the amount of the lease liability adjusted for any lease payments made to the lessor at or before the lease commencement date less any lease incentives received. All right-of-use assets are evaluated for impairment in accordance with accounting standards applicable to long-lived assets.

Renewal options are included in the calculation of our right-of-use assets and lease liabilities when the Company determines that the option is reasonably certain of exercise based on an analysis of the relevant facts and circumstances. Certain of the Company's leases require variable lease payments that do not depend on an index or rate and such payments are excluded from the calculation of the right-of-use asset and lease liability and are recognized as variable lease cost when incurred.

Lease cost for operating leases consists of the fixed lease payments recognized on a straight-line basis over the lease term plus variable lease payments as incurred. Lease cost for finance leases consists of amortization of the right-of-use assets on a straight-line basis over the lease term, interest expense on the lease liability and variable lease payments as incurred.

The Company has elected the practical expedient to account for the lease and non-lease components as a single lease component for its corporate office lease asset class.

GEVO, INC.
Notes to Consolidated Financial Statements (Continued)

Intangible assets. Intangible assets consist of patents, developed technology, a customer-related intangible, and trade names. Costs related to patents, including legal fees, customer-related intangible, and trade names are capitalized and amortized over the estimated useful lives using the straight-line method. Amortization expense is recorded in "Depreciation and amortization" in the Operating expenses section of the Consolidated Statements of Operations. For intangibles purchased in acquisitions, the useful life is determined by valuation estimates of remaining economic life. The Company periodically evaluates the amortization period and carrying value of its intangible assets to determine whether any events or circumstances warrant revised estimated useful life or reduction in value.

Capitalized Software Costs. The Company capitalizes significant costs incurred in the development of software for internal use, including the costs of the software, materials, consultants, and payroll and payroll related costs for employees incurred in developing internal use computer software. Planning costs incurred prior to the development of software and costs not qualifying for capitalization are charged to expense. The Company amortizes capitalized software over a period of five years, which is the expected useful life of the software.

Goodwill. Goodwill is not amortized but is tested for impairment annually or whenever indications of impairment exist. Impairment exists when the carrying amount of a reporting unit exceeds its estimated fair value, resulting in an impairment charge for this excess, with the maximum charge limited to the carrying value of goodwill allocated to that reporting unit. Our annual impairment testing date is August 1st. Gevo can elect to qualitatively assess goodwill for impairment if it is more likely than not that the fair value of a reporting unit exceeds its carrying value. A qualitative assessment considers macroeconomic and other industry-specific factors, such as trends in short-term and long-term interest rates and the ability to access capital, and Company specific factors such as market capitalization in excess of net assets, trends in revenue generating activities, and merger or acquisition activity.

If the Company elects to bypass qualitatively assessing goodwill, or it is not more likely than not that the fair value of a reporting unit exceeds its carrying value, management estimates the fair values of each of the Company's reporting units (defined as the Company's businesses for which financial information is available and reviewed regularly by management) and compares it to their carrying values. The estimated fair values of the reporting units are established using an income approach based on a discounted cash flow model that includes significant assumptions about the future operating results and cash flows of each reporting unit, a market approach which compares each reporting unit to comparable companies in their respective industries, as well as a market capitalization analysis.

Borrowing Costs. The borrowing costs that are directly attributable to the acquisition and construction of an asset that needs a substantially long period of time for its intended use to begin are capitalized and recorded as part of the cost of the asset when expenditures for the asset and borrowing costs have been incurred, and the activities relating to the acquisition and construction that are necessary to prepare the asset for its intended use have commenced. The capitalization of borrowing costs ceases when the asset under acquisition or construction becomes ready for its intended use and the borrowing costs incurred thereafter are recognized in profit or loss for the current period. The capitalization of borrowing costs is suspended during periods in which the acquisition or construction of an asset is interrupted abnormally and the interruption lasts for more than three months, until the acquisition or construction is resumed.

Debt Issuance Costs and Debt Discounts/Premiums. Debt issuance costs are costs with third parties incurred in connection with the Company's debt financings that have been capitalized and are being amortized over the stated maturity period or estimated life of the related debt using the effective interest method. Debt issuance costs are presented as a direct reduction of the carrying amount of the related debt. Debt discounts, including fees paid to lenders, and debt premiums are amortized over the life of the related debt using the effective interest method. Debt discounts and premiums are presented as a reduction and increase, respectively, in the carrying amount of the related debt. Amortization of debt issuance costs, discounts and premiums is included in interest expense.

Warrants. Warrants are classified as a component of permanent equity when they are freestanding financial instruments that are legally detachable and separately exercisable from the shares of common stock with which they were issued, are immediately exercisable, do not embody an obligation for the Company to repurchase its shares, permit the holders to receive a fixed number of shares of common stock upon exercise and do not provide any guarantee of value or return.

Variable Interest Entities. The Company enters into agreements with special purpose entities ("SPEs"), some of which are variable interest entities ("VIEs"), in the ordinary course of business. A legal entity is considered a VIE if it has either a total equity investment that is insufficient to finance its operations without additional subordinated financial support or whose equity holders lack the characteristics of a controlling financial interest. The Company's variable interests arise from contractual or other monetary interests in the entity. The typical condition for a controlling financial interest ownership is holding a majority of the voting interests of an entity; however, a controlling financial interest may also exist in entities, such as VIEs, through arrangements that do not involve controlling voting interests.

The Company consolidates a VIE if it is deemed to be the primary beneficiary. The Company determines it is the primary beneficiary if it has the power to direct the activities that most significantly impact the VIEs' economic performance and has the obligation to absorb losses or has the right to receive benefits of the VIE that could potentially be significant to the VIE. The Company evaluates its relationships with its VIEs on an ongoing basis to determine whether it is the primary beneficiary. See Footnote 21 below for further information.

Revenue Recognition. The Company recognizes revenue in accordance with ASC 606, Revenue from Contracts with Customers ("ASC 606"). Revenue from the Company's point in time product sales is recognized when products are transferred, or services are invoiced and control transferred. The Company has presented the disclosures required by ASC 606, see Note 3, Revenues from Contracts with Customers and Other Revenue.

Cost of Production. Cost of production includes costs incurred in operations for the production of RNG and isobutanol, as well as costs for direct materials, direct labor and certain plant overhead costs, and plant utilities including natural gas and wind power. Direct materials consist of manure feedstock and process chemicals. Direct labor includes compensation of personnel directly involved in production operations.

Research and Development. Research and development costs are expensed as incurred. The Company's research and development costs consist of expenses incurred to identify, develop, and test its technologies for the production of isobutanol and the development of downstream applications thereof. Research and development expense includes personnel costs (including stock-based compensation), consultants and related contract research, facility costs, supplies, license fees and milestone payments paid to third parties for use of their intellectual property and patent rights and other direct and allocated expenses incurred to support the Company's overall research and development programs.

General and Administrative. General and administrative expenses are expensed as incurred. The Company's general and administrative costs consist of personnel costs (including stock-based compensation), consulting and service provider expenses (including patent counsel-related costs), legal fees, marketing costs, insurance costs, occupancy-related costs, travel and relocation expenses and hiring expenses. Our corporate personnel, consisting of subject matter experts, including chemists, engineers, and sustainability experts, dedicate the majority of their time and efforts for the development of our projects.

Project Development Costs. Project development costs consist of consulting, preliminary engineering costs, and personnel costs, including stock-based compensation.

Stock-Based Compensation. The Company's stock-based compensation expense includes expenses associated with share-based awards granted to employees and board members. Our stock-based compensation is classified as either an equity award or a liability award in accordance with U.S. GAAP. The fair value of an equity-classified award is determined at the grant date and is amortized on a straight-line basis over the requisite service period. The fair value of a liability-classified award is determined on a quarterly basis through the final vesting date and is amortized based on the current fair value of the award and the percentage of vesting period incurred to date.

The Company accounts for stock-based employee compensation plans under the fair value recognition and measurement provisions in accordance with applicable accounting standards, which require all stock-based payments to employees, including grants of stock options and restricted stock awards, to be measured based on the grant date fair value of the awards. The grant date fair value for stock option awards is estimated using the Black-Scholes option pricing model and the grant date fair value for restricted stock awards is based upon the closing price of the Company's common stock on the date of grant. The Company recognizes compensation costs for share-based payment awards granted to employees net of actual forfeitures and recognizes stock-based compensation expense on a straight-line basis over the requisite service period of the award, which is currently the vesting term of up to three years.

Governmental Grants. There is no U.S. GAAP that explicitly covers accounting for government "grants" to for-profit entities, with the exception of certain agricultural subsidies. In the absence of authoritative U.S. GAAP guidance, the Company considered the application of other authoritative accounting guidance by analogy and concluded that the guidance outlined in International Accounting Standard 20 – Accounting for Government Grants and Disclosures of Government Assistance (“IAS 20”) was the most appropriate analogy for the purpose of recording and classifying the federal funds received by the Company. Under IAS 20, once it is reasonably assured that the entity will comply with the conditions of the grant, the grant money should be recognized on a systematic basis over the periods in which the entity recognizes the related expenses or losses for which the grant money is intended to compensate.

The Company recognizes grants once both of the following conditions are met: (1) the Company is able to comply with the relevant conditions of the grant and (2) the grant is received. Further, IAS 20 permits for the recognition in earnings either (1) separately under a general heading such as other income, or (2) as a reduction of the related expenses. The Company records such grants either as a reduction of the related expense, a reduction of the cost of the related asset, or as other income depending upon the nature of the grant.

Income Tax. The liability method is used in accounting for income taxes. Deferred tax assets and liabilities are recorded for temporary differences between the tax basis of assets and liabilities and their reported amounts in the consolidated financial statements using the statutory tax rates in effect for the year in which the differences are expected to reverse. The effect on deferred tax assets and liabilities of a change in tax laws or rates is recorded in the results of operations in the period that includes the enactment date under the law.

We establish valuation allowances for deferred tax assets based on a more likely than not standard. Deferred income tax assets are evaluated annually to determine if valuation allowances are required or should be adjusted. The ability to realize deferred tax assets depends on the ability to generate sufficient taxable income within the carryback or carryforward periods provided for in the tax law for each applicable tax jurisdiction. The assessment regarding whether a valuation allowance is required or should be adjusted also considers all available positive and negative evidence factors. It is difficult to conclude a valuation allowance is not required when there is significant objective and verifiable negative evidence, such as cumulative losses in recent years. We utilize a rolling three years of actual and current year results as the primary measure of cumulative losses in recent years.

We record uncertain tax positions on the basis of a two-step process whereby we determine whether it is more likely than not that the tax positions will be sustained based on the technical merits of the position, and for those tax positions that meet the more likely than not criteria, we recognize the largest amount of tax benefit that is greater than 50% likely to be realized upon ultimate settlement with the related tax authority. We record interest and penalties on uncertain tax positions in Income tax expense.

Investment Tax Credit

On August 16, 2022, the Inflation Reduction Act (“IRA’) was signed into law. The IRA includes significant extensions, expansions, and enhancements of numerous energy-related tax credits and also creates new credits in multiple categories. The law provides an election to transfer (i.e., sell) certain credits to another taxpayer in an effort to monetize them. The Company might achieve a better economic benefit by selling the credit in situations where sufficient taxable income is not available to use all or a portion of the income tax credit or in which using such credits might take multiple tax years.

The scope of Accounting Standards Codification (“ASC”) 740: Income Taxes (“ASC 740”) does not directly address how to account for transferable tax credits, however multiple acceptable views to account for transferable credits exists, including accounting for the entire credit outside of income taxes in the Condensed Consolidated Statements of Operations, analogous treatment to governmental grants under IAS 20.

GEVO, INC.
Notes to Consolidated Financial Statements (Continued)

The Company’s capital investment in the RNG project generated a tax credit under Section 48 of the Internal Revenue Code of 1986, as amended (the “IRC”), which provides an energy tax credit for investments in renewable energy property. Our activities in the renewable energy space may continue to generate eligible transferable tax credits in the future that we may seek monetization for. The Company has elected to apply a policy similar to the accounting method described in IAS 20 and recorded the transferable tax credit as a credit against the related asset, thus, reducing the amount of depreciation expense to be recognized over the remaining useful life of the associated asset.

On September 18, 2024, we sold approximately $15.3 million in Investment Tax Credits (“ITCs”) to a corporate buyer. This transaction monetized IRA Investment Tax Credits generated from the commercialization of the RNG Project by Gevo NW Iowa RNG, LLC and provided net cash proceeds of approximately $14.0 million to us after transaction fees. As of December 31, 2024, the Company recorded $15.3 million as a reduction to Property, plant, and equipment, net on the Consolidated Balance Sheet.

USDA Grant

In September 2023, we received a grant from the U.S. Department of Agriculture (“USDA”) through its Partnerships for Climate-Smart Commodities grant for Gevo’s Climate-Smart Farm-to-Flight Program (the “USDA Grant”). The USDA Grant was awarded for up to $46.3 million, of which $30.0 million is anticipated being reimbursed to Gevo from the USDA Grant, contingent on Gevo’s spend of up to $43.3 million and other third-party spend of up to $3.0 million. The project expects to create critical structural climate-smart market incentives for corn with a low carbon intensity (“CI”) score as well as to accelerate the production of SAF to reduce dependency on fossil-based fuels. In addition, this program will help provide support and incentive payments for farmers to produce, measure, report and verify low CI corn using climate smart agricultural practices, as well as accelerate development of the low-CI corn supply chain for low-carbon ethanol and SAF.

During the year ended December 31, 2024, the Company incurred $6.8 million of costs under the USDA Grant, which are included in Project development costs in the Condensed Consolidated Statement of Operations. During the year ended December 31, 2024, the Company recognized $4.6 million of grant reimbursements, as a reduction to Project development costs in the Condensed Consolidated Statement of Operations, which represents reimbursements for prior period costs. The Company expects to be reimbursed for all remaining costs not yet reimbursed by the USDA under the grant in future periods.

Income Taxes. In preparing the Consolidated Financial Statements, the Company estimates the actual amount of taxes currently payable or receivable as well as deferred tax assets and liabilities attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases. Deferred tax assets and liabilities are measured using currently enacted tax rates in effect in the years in which those temporary differences are expected to reverse. Deferred tax assets are be reduced by a valuation allowance if, based on the weight of available evidence, it is more likely than not that some portion or all of the deferred tax assets will not be realized. Changes in deferred tax assets and liabilities generally have a direct impact on earnings in the period of the changes. Where applicable tax laws and regulations are either unclear or subject to varying interpretations, it is possible that changes in these estimates could occur that materially affect the amounts of deferred income tax assets and liabilities recorded in the Consolidated Financial Statements.

Each period, we evaluate the likelihood of whether or not some portion or all of each deferred tax asset will be realized and provide a valuation allowance for those deferred tax assets for which it is more likely than *not* that the related benefits will *not* be realized. When evaluating our valuation allowance, we consider historic and future expected levels of taxable income, the pattern and timing of reversals of taxable temporary timing differences that give rise to deferred tax liabilities, and tax planning initiatives. Levels of future taxable income are affected by, among other things, production costs, interest rates, and federal and local legislation. If we determine that all or a portion of the deferred tax assets will not be realized, a valuation allowance will be recorded with a charge to income tax expense. Conversely, if we determine that we will ultimately be able to realize all or a portion of the related benefits for which a valuation allowance has been provided, all or a portion of the related valuation allowance will be reduced with a credit to income tax expense.

In addition, the calculation of income tax expense involves significant management estimation and judgment involving a number of assumptions. In determining these amounts, management interprets tax legislation in each of the jurisdictions in which we operate and makes estimates of the expected timing of the reversal of future tax assets and liabilities. We also make assumptions about future earnings, tax planning strategies and the extent to which potential future tax benefits will be used. We are also subject to assessments by various taxation authorities which may interpret tax legislation differently, which could affect the final amount or the timing of tax payments.

The Company may from time to time be assessed interest or penalties by major tax jurisdictions, although there have been no such assessments historically with any material impact to its financial results. The Company would recognize interest and penalties related to unrecognized tax benefits within the income tax expense line in the accompanying Consolidated Statements of Operations. Accrued interest and penalties would be included within the related tax liability line in the Consolidated Balance Sheets.

Recently Issued, Not Yet Adopted Accounting Pronouncements

Income Taxes. In December 2023, the FASB issued ASU 2023-09, "Income Taxes (Topic 740): Improvements to Income Tax Disclosures". ASU 2023-09 is intended to enhance the transparency and decision usefulness of income tax disclosures. The amendments in ASU 2023-09 address investor requests for enhanced income tax information primarily through changes to the rate reconciliation and income taxes paid information. Early adoption is permitted. A public entity should apply the amendments in ASU 2023-09 prospectively to all annual periods beginning after December 15, 2024. The Company is currently evaluating the impact of this standard on our consolidated financial statements and related disclosures.

Income Statement Disclosures. In November 2024, the FASB issued ASU No. 2024-03, Income Statement—Reporting Comprehensive Income—Expense Disaggregation Disclosures (Subtopic 220-40) ("ASU 2024-03"). ASU 2024-03 will require companies to disaggregate, within the notes to the financial statements, certain expenses presented on the face of the financial statements to enhance transparency and help investors better understand an entity's performance. The amendment will specifically require that an entity disclose the amounts related to purchases of inventory, employee compensation, depreciation and intangible asset amortization. Entities will also be required to provide a qualitative description of the amounts remaining in relevant expense captions that are not separately disaggregated quantitatively, disclose the total amount of selling expenses and, in annual reporting periods, provide a definition of what constitutes selling expenses. The amendments in ASU 2024-03 are effective for fiscal years beginning after December 15, 2026, and interim periods within fiscal years beginning after December 15, 2027, with early adoption permitted. The Company is currently evaluating the impact of the adoption of ASU 2024-03 on the Company’s financial statement disclosures.

Recently Adopted Accounting Pronouncements

Segment Reporting. In November 2023, the FASB issued ASU 2023-07, Segment Reporting (Topic 280): Improvements to Reportable Segment Disclosures (“ASU 2023-07”). ASU 2023-07 would enhance disclosures for significant segment expenses for all public entities required to report segment information in accordance with ASC 280. ASC 280 requires a public entity to report for each reportable segment a measure of segment profit or loss that its chief operating decision maker (“CODM”) uses to assess segment performance and to make decisions about resource allocations. The amendments in ASU 2023-07 improve financial reporting by requiring disclosure of incremental segment information on an annual and interim basis for all public entities to enable investors to develop more useful financial analyses. Currently, Topic 280 requires that a public entity disclose certain information about its reportable segments. For example, a public entity is required to report a measure of segment profit or loss that the CODM uses to assess segment performance and make decisions about allocating resources. ASC 280 also requires other specified segment items and amounts such as depreciation, amortization and depletion expense to be disclosed under certain circumstances. The amendments in ASU 2023-07 do not change or remove those disclosure requirements. The amendments in ASU 2023-07 also do not change how a public entity identifies its operating segments, aggregates those operating segments, or applies the quantitative thresholds to determine its reportable segments. The amendments in ASU 2023-07 are effective for fiscal years beginning after December 15, 2023, and interim periods within fiscal years beginning after December 15, 2024. Early adoption is permitted. A public entity should apply the amendments in ASU 2023-07 retrospectively to all prior periods presented in the financial statements. The Company adopted this guidance in the fourth quarter of 2024. The requirements of this ASU are disclosure-related and did not have an impact on the Company's consolidated financial statements and results of operations. See Note 22, Segments, for the updated segment disclosures

3. Revenues from Contracts with Customers and Other Revenue

RNG and Environmental Attribute Revenue

The Company's revenues are primarily comprised of the sale of RNG and related environmental attributes produced at the NW Iowa RNG facility under long-term contracts with customers. Revenue is recognized at a point in time when the Company transfers the product to its customer. The customer obtains control of the product upon RNG delivery into gas pipeline system, whereas the title and control for the environmental attributes are transferred to the customer subsequent to the issuance of such attributes by the relevant regulatory agency. The Company generally has multiple performance obligations in our arrangements with customers. The Company's performance obligation related to the sales of RNG and related environmental attributes are satisfied at a point in time upon delivery to the customer. Revenue is measured as the amount of consideration the Company expects to receive in exchange for transferring its products. There is no variable consideration present in the Company's performance obligations. Consideration for each transaction is based upon quoted market prices at the time of delivery. All material contracts have payment terms of between one to three months and there are no return or refund rights.

Licensing and Development Revenue

The Company's licensing and development revenue is related to a joint development agreement with LG Chem, Ltd. ("LG Chem") to develop bio-propylene for renewable chemicals using Gevo's Ethanol-to-Olefins ("ETO") technology. As the contractually promised intellectual properties ("IP") are not individually distinct, the Company combined each individual IP noted in the contract into a bundle of IP ("IP Rights") that is distinct and accounted for all of the IP Rights promised in the contract as a single performance obligation. The IP Rights granted were "functional IP rights" that have significant standalone functionality. The Company's subsequent activities do not substantively change that functionality and do not significantly affect the utility of the IP to which the licensee has rights. The Company has no further obligation with respect to the grant of IP Rights, including no expressed or implied obligation to maintain or upgrade the technology, or provide future support or services. The earnings process is complete when the licensee obtains control of the IP and revenue is recognized upon the achievement of certain project milestones, when collectability is probable and all other revenue recognition criteria have been met.

Other Revenue

The Company recorded limited revenues from the sale of isooctane and software services during the years ended December 31, 2024 and 2023. The isooctane was sold on a free-on-board shipping point basis (recognized at a point in time), were independent transactions, did not provide post-sale support or promises to deliver future goods, and were single performance obligations.

The following tables display the Company's revenue by major source based on product type (in thousands):

Major Goods/Service Line	Year Ended December 31, 2024	2023
Renewable natural gas	$ 691	$ 659
Environmental attributes	15,105	14,798
Licensing and development revenue	800	1,300
Other revenue	319	443
Total operating revenue	$ 16,915	$ 17,200

Contract Assets and Trade Receivables. As of December 31, 2024, and 2023, there were no contract assets or liabilities as all customer amounts owed to the Company are unconditional and the Company does not receive payment in advance for its products. Accordingly, amounts owed by customers are included in “Trade accounts receivable, net” on the Company’s Consolidated Balance Sheets. In addition, due to the nature of the Company’s contracts, there are no costs incurred or to be paid in the future that qualify for asset recognition as a cost to fulfill or obtain a contract. No allowance for credit losses was recorded for each of the years ended December 31, 2024, and 2023.

4. Net Loss per Share

Basic net loss per share is calculated based on the weighted average number of common shares outstanding for the period. Diluted net loss per share is calculated based on the assumption that stock options and other dilutive securities outstanding, which have an exercise price less than the average market price of the Company’s common shares during the period, would have been exercised on the later of the beginning of the period or the date granted, and that the funds obtained from the exercise were used to purchase common shares at the average market price during the period. None of the Company’s stock options or other dilutive securities are considered to be dilutive in periods with net losses.

The effect of the Company’s dilutive securities is calculated using the treasury stock method and only those instruments that result in a reduction in net income per common share are included in the calculation. Diluted net loss per share excluded common stock equivalents because the effect of their inclusion would be anti-dilutive or would decrease the reported net loss per share. When a loss from continuing operations exists, all dilutive securities and potentially dilutive securities are anti-dilutive and therefore 1,744,646 shares are excluded from the computation of diluted earnings per share.

Basic and diluted net loss per share is calculated as follows (net loss in thousands):

	Year Ended December 31, 2024	Year Ended December 31, 2023
Net loss	$ (78,640)	$ (66,215)
Basic weighted-average shares outstanding	231,674,716	238,687,621
Net loss per share - basic and diluted	$ (0.34)	$ (0.28)

5. Restricted Cash

As of December 31, 2024, current and non-current restricted cash of $69.6 million consists of amounts held as collateral for letters of credit to provide financing support for the Company’s Remarketed Bonds (as defined in Note 13, Debt).

The Company entered into an irrevocable direct pay letter of credit (the “Bond Letter of Credit”) with Citibank N.A (“Citibank”) in April 2021, to support the 2021 Bonds for the development and construction of NW Iowa RNG. See Note 13, Debt, for additional information on the 2021 Bonds. The Bond Letter of Credit has a 0.5% annual fee and would have expired April 4, 2024 (but was terminated earlier and replaced with the New Bond Letter of Credit on April 1, 2024, as described below). The Company deposited $71.2 million with Citibank as restricted cash to secure any amounts drawn under the Bond Letter of Credit. As of December 31, 2024, no amounts have been drawn under the Bond Letter of Credit.

In September 2022, the Company entered into a Pledge and Assignment agreement with Citibank to provide credit support in the form of a letter of credit (the “Power Letter of Credit”) from Citibank to a local electric utility company in order to induce the utility company to design and construct the power transmission and distribution facilities that will serve ATJ-60. The Company deposited $6.6 million of restricted cash in an account with Citibank to collateralize the Power Letter of Credit, which had a 0.3% annual fee and would have expired September 30, 2024 (unless terminated earlier). As of December 31, 2024, no amounts had been drawn under the Power Letter of Credit. In January 2024, Citibank was notified by the local electric utility company to close the letter of credit, as the Company has discontinued its relationship with the local utility and fulfilled all obligations under the Power Letter of Credit.

In April 2024, the Company entered into an irrevocable direct pay letter of credit (the "New Bond Letter of Credit") with Citibank to support the Remarketed Bonds. See Note 13, Debt, for additional information on the Remarketed Bonds. The New Bond Letter of Credit has a 0.75% annual fee and expires April 6, 2026 (unless terminated earlier). The Company maintained $69.6 million of the existing collateral with Citibank as restricted cash to secure any amounts drawn under the New Bond Letter of Credit, with $0.3 million of the balance as of March 31, 2024, returned to the Company in the second quarter of 2024. As of December 31, 2024, no amounts have been drawn under the New Bond Letter of Credit.

The Company is entitled to receive interest income on the restricted cash, and recorded interest income of $3.4 million and $3.4 million for the years ended December 31, 2024, and 2023, respectively, included in "Other income, net" in the Consolidated Statements of Operations.

6. Prepaid and Other Current Assets

The following table sets forth the components of the Company's prepaid and other current assets (in thousands) as of:

	December 31, 2024	December 31, 2023
Prepaid insurance	$ 1,520	$ 568
Interest receivable	730	1,331
Prepaid feedstock	1,097	1,097
Other current assets	2,573	1,357
Total prepaid expenses and other current assets	$ 5,920	$ 4,353

7. Leases, Right-of-Use Assets and Related Liabilities

The Company is party to an operating lease for the Company's office and research facility in Englewood, Colorado, which expires in January 2029, and an operating lease for additional office space in Albuquerque, New Mexico, which expires in 2025. The Company's office facility lease contains an option to extend the lease, which management does not reasonably expect to exercise, so they are not included in the length of the terms. The additional office space lease does not contain an option to extend.

The Company has four finance leases for land, one for a processing facility, and one for a piece of operating equipment. The land leases are for NW Iowa RNG. The Company leases land from dairy farmers on which it has built three anaerobic digesters, and a gas upgrade facility to condition raw biogas from cow manure provided by the farmers. These leases expire at various dates between 2031 and 2050. The Company accounts for lease components separately from non-lease components for the Company's dairy lease asset class. The total consideration in the lease agreement is allocated to the lease and non-lease components based on their relative standalone selling prices. These leases contain options to extend the leases, which management reasonably expects to exercise and are included in the length of the terms. The lease of operating equipment is to be used at NW Iowa RNG and expires in 2025. The lease does not contain an option to extend and contains a purchase option upon termination that the Company expects to exercise.

In August 2024, the Company entered into an amendment that extended the term of an existing agreement to use a third-party processing facility beyond the previous 12-month term, which resulted in the agreement being recorded as a lease. The agreement for the leased facility expires in 2025, with no option to extend the lease term. Lease amortization for the third-party processing facility was recorded as a component of Project development costs on the Condensed Consolidated Statement of Operations prior to the signing of a customer offtake agreement in August 2024, and after which it is included as a component of work-in-progress inventory, to be expended as a component of Cost of production as sales are made in future periods.

GEVO, INC.
Notes to Consolidated Financial Statements (Continued)

The following tables present the (i) costs by lease category, (ii) other quantitative information, and (iii) future minimum payments under non-cancelable financing and operating leases as they relate to the Company's leases (in thousands, except for weighted averages):

	Years Ended December 31, 2024
Operating lease cost	$ 281
Finance lease expense:	
Amortization of leased assets	1,069
Interest on lease liabilities	315
Total lease expense	$ 1,665

	Years Ended December 31, 2024	2023
Other Information		
Cash paid for amounts included in the measurement of lease liabilities:		
Operating cash flows from finance leases	$ 906	$ 22
Operating cash flows from operating leases	$ 405	$ 330
Finance cash flows from finance leases	$ 191	$ 2
Right-of-use asset obtained in exchange for new finance lease liabilities	$ 2,731	$ —
Right-of-use asset obtained in exchange for new operating lease liabilities	$ 32	$ 199
Weighted-average remaining lease term, finance lease (months)	38	307
Weighted-average remaining lease term, operating leases (months)	46	61
Weighted-average discount rate - finance leases [1]	16 %	12 %
Weighted-average discount rate - operating leases [1]	6 %	6 %

(1) When our leases do not provide an implicit interest rate, we calculate the lease liability at lease commencement as the present value of unpaid lease payments using our estimated incremental borrowing rate. The incremental borrowing rate represents the rate of interest that we would have to pay to borrow an amount equal to the lease payments on a collateralized basis over a similar term and is determined using a portfolio approach based on information available at the commencement date of the lease.

Year Ending December 31,	Operating Leases	Finance Leases
2025	$ 398	$ 2,168
2026	367	26
2027	335	27
2028	344	26
2029	—	27
2030 and thereafter	—	516
Total	1,444	2,790
Less: amounts representing present value discounts	145	602
Total lease liabilities	1,299	2,188
Less: current portion	333	2,001
Non-current portion	$ 966	$ 187

GEVO, INC.
Notes to Consolidated Financial Statements (Continued)

8. Inventories

The following table sets forth the components of the Company's inventory balances (in thousands) as of:

	December 31, 2024	December 31, 2023
Raw materials	$ 198	$ 104
Finished goods		
Biofuels	1,250	1,167
Work in process		
Environmental attributes	2,146	2,067
Biofuels	248	—
Jet fuel	—	—
Spare parts	660	471
Total inventories	$ 4,502	$ 3,809

9. Property, Plant and Equipment

The following table sets forth the Company's property, plant and equipment by classification (in thousands) as of:

	Useful Life (in years)	December 31, 2024	December 31, 2023
Land		$ 6,592	$ 6,505
Plant facilities and infrastructure	5 to 20	74,255	77,329
Machinery and equipment	5 to 20	79,637	95,212
Furniture and office equipment	3 to 7	2,779	2,864
Software	3 to 6	5,419	1,636
Construction in progress		154,272	114,332
Total property, plant and equipment		322,954	297,878
Less: accumulated depreciation and amortization		(101,312)	(86,315)
Property, plant and equipment, net		$ 221,642	$ 211,563

The Company recorded depreciation expenses of $15.9 million and $17.6 million for the years ended December 31, 2024, and 2023, respectively.

10. Intangible Assets

Intangible assets consist of acquired patents, and intangible assets acquired as part of the acquisition of Cultivate Agricultural Intelligence, LLC. Acquired patents were evaluated by management to determine whether they (i) support current products, (ii) support planned research and development, or (iii) prevent others from competing with Gevo's products. See Note 20, Business Combinations, for additional information on assets acquired as part of the Cultivate Agricultural Intelligence, LLC acquisition.

GEVO, INC.
Notes to Consolidated Financial Statements (Continued)

The following tables set forth the Company's intangible assets by classification (in thousands) as of:

	December 31, 2024			
	Gross Carrying Amount	Accumulated Amortization	Identifiable Intangible Assets, net	Weighted-Average Useful Life (Years)
Patents	$ 4,580	$ (2,203)	$ 2,377	7.4
Defensive assets	4,900	(1,922)	2,978	8.4
Developed technology	1,300	(87)	1,213	5.0
Customer-related intangible	1,500	(31)	1,469	16.0
Trade name	100	(8)	92	4.0
Intangible assets	$ 12,380	$ (4,251)	$ 8,129	8.9

	December 31, 2023			
	Gross Carrying Amount	Accumulated Amortization	Identifiable Intangible Assets, Net	Weighted-Average Useful Life (Years)
Patents	$ 4,580	$ (1,621)	$ 2,959	7.4
Defensive assets	4,900	(1,335)	3,565	8.4
Intangible assets	$ 9,480	$ (2,956)	$ 6,524	7.9

The Company recorded amortization expense of $1.3 million and $1.2 million for the years ended December 31, 2024, and 2023, respectively.

The following table details the estimated amortization of identifiable intangible assets as of December 31, 2024 (in thousands):

Year Ending December 31,	Patents	Defensive Assets	Developed Technology	Customer-Related Intangible	Trade Name	Total
2025	$ 582	$ 586	$ 260	$ 94	$ 25	$ 1,547
2026	582	586	260	94	25	1,547
2027	582	586	260	94	25	1,547
2028	582	586	260	94	17	1,539
2029	49	586	173	94	—	902
2030 and thereafter	—	48	—	999	—	1,047
Total intangible assets	$ 2,377	$ 2,978	$ 1,213	$ 1,469	$ 92	$ 8,129

11. Deposits and Other Assets

The following table sets forth the components of the Company's deposits and other assets (in thousands) as of:

	Year Ended December 31,	
	2024	2023
Deposits	$ 184	$ 166
Prepaid feedstock	2,636	440
Equity interest (1)	1,500	1,500
Exclusivity fees (2)	—	583
Deposits receivable (3)	47,737	33,602
Earnest money deposit (4)	10,000	—
Other assets, net (5)	13,566	8,028
Total deposits and other assets	$ 75,623	$ 44,319

(1) The Company directly holds a 3.6% interest in the Series A Preferred Stock of Zero6 Clean Energy Assets, Inc. ("Zero6"), formerly Juhl Clean Energy Assets, Inc., which is not a publicly listed entity with a readily determinable fair value. The Company therefore measures the securities at cost. Recent observable equity raises indicated no impairment issues or an increase to the carrying value. This ownership interest is also pledged as collateral against two future obligations to Rock County Wind Fuel, LLC ("RCWF"), a Zero6 subsidiary, see Note 17, Commitments and Contingencies, for additional information.
(2) Axens will provide certain alcohol-to-SAF technologies and services exclusively provided to the Company which may be offset against future license fees subject to the delivery of a process design package.
(3) Deposits provided to a developer of certain wind-farm projects and power utility contractor to induce to design and construct the power generation, transmission and distribution facilities that will serve ATJ-60, $5.5 million of which will be either reimbursed or used as an investment into wind generation facility and the remaining $28.1 million is expected to be fully reimbursed upon completion of the project. Gevo has contractual priority liens against the equipment and constructed facilities under the contracts.
(4) Earnest money deposited in connection with the announced Red Trail Purchase Agreement, see Note 23, Subsequent Events, for additional information.
(5) Capital expenditures primarily related to the installation of infrastructure and equipment necessary to support the feedstock processing facilities, which will be depreciated over the expected useful life of the assets.

12. Accounts Payable and Accrued Liabilities

The following table sets forth the components of the Company's accounts payable and accrued liabilities in the Consolidated Balance Sheets (in thousands):

	Year Ended December 31,	
	2024	2023
Accounts payable	$ 539	$ 2,718
Accrued liabilities	9,873	6,448
Accrued construction in progress	2,595	6,965
Accrued payroll and related benefits	8,999	6,621
Total accounts payable and accrued liabilities	$ 22,006	$ 22,752

13. Debt

2021 Bond Issuance

On April 15, 2021, on behalf of Gevo NW Iowa RNG, LLC, the Iowa Finance Authority (the "Issuer") issued $68,155,000 of its non-recourse Solid Waste Facility Revenue Bonds (Gevo NW Iowa RNG, LLC Renewable Natural Gas Project), Series 2021 (Green Bonds) (the "2021 Bonds") for NW Iowa RNG. The bond proceeds were used as a source of construction financing alongside equity from the Company. The 2021 Bonds were issued under a Trust Indenture dated April 1, 2021 (the "Indenture") between the Issuer and Citibank, N.A. as trustee (the "Trustee"). The 2021 Bonds had a maturity date of January 1, 2042. The bonds bore interest at 1.5% per annum during the Initial Term Rate Period (as defined in the Indenture), payable semi-annually on January 1 and July 1 of each year. The effective interest rate was 1.1%. The 2021 Bonds were supported by the $71.2 million Bond Letter of Credit; see Note 5, Restricted Cash. The Trustee could draw sufficient amounts on the Bond Letter of Credit to pay the principal and interest until the first mandatory tender date of April 1, 2024. The 2021 Bonds were callable and re-marketable on or after October 1, 2022.

The 2021 Bonds were issued at a premium of $0.8 million and debt issuance costs were $3.0 million. The bond debt was classified as current debt and is presented net of the premium and issuance costs, which were being amortized over the life of the 2021 Bonds using the interest method. As of December 31, 2023, the premium balance and the debt issuance cost net of amortization were $0.1 million and $0.3 million, respectively. As of the Conversion Date (defined below) all premiums and debt issuance costs were fully amortized.

2024 Bond Remarketing

On April 1, 2024 (the "Conversion Date"), the 2021 Bonds became subject to mandatory tender for purchase and have been remarketed to bear interest in a new term rate period (the "Remarketed Bonds"). In connection with the conversion and remarketing of the 2021 Bonds on the Conversion Date, the original Indenture was amended by a First Supplemental Indenture dated April 1, 2024 (together with the original Indenture the "First Supplemental Indenture,") between the Issuer and the Trustee. The original bond financing agreement was amended by a First Supplemental Bond Financing Agreement dated April 1, 2024 (together with the original bond financing Agreement, the "First Supplemental Bond Financing Agreement") between the Issuer and the Company. The Remarketed Bonds were accounted for as a debt extinguishment, with no gain or loss recognized from extinguishment.

The Remarketed Bonds retained the same principal and maturity date of January 1, 2042. The Remarketed Bonds now bear interest of 3.875% per annum during the Initial Term Rate Period (as defined in the Indenture), payable semi-annually. The effective interest rate is 1.2%. The Company incurred $1.7 million of debt issuance costs associated with the remarketing. As of December 31, 2024, debt issuance costs, net of amortization, were $1.0 million.

The Remarketed Bonds are supported by a $69.6 million New Bond Letter of Credit; see Note 5, Restricted Cash, issued to the incumbent Trustee that can draw sufficient amounts on the New Bond Letter of Credit to pay the principal and interest, in case of default, until the first mandatory tender date of April 1, 2026. The Remarketed Bonds are subject to redemption and re-marketable on or after November 1, 2024. If the Remarketed Bonds have not been called and re-marketed by the first mandatory tender date, the Trustee may draw on the New Bond Letter of Credit to repay the bonds in their entirety at the purchase price. As of December 31, 2024, no amounts have been drawn under the New Bond Letter of Credit.

Loans Payable

In April 2020, the Company entered into loan agreements with Live Oak Banking Company, pursuant to which the Company obtained loans from the Small Business Administration's Paycheck Protection Program ("SBA PPP") totaling $1.0 million (the "SBA Loans").

In April 2021, the balance of $0.6 million of loans and accrued interest obtained through the SBA PPP were forgiven. The remaining SBA Loan totals $0.2 million, bears interest at 1.0% per annum and matures in April 2025. Monthly payments of $8,230, including interest, began on June 5, 2021, and are payable through April 2025.

The summary of the Company's long-term debt is as follows (in thousands) as of:

	Interest Rate	Maturity Date	Year Ended December 31, 2024	2023
Remarketed Bonds, net	3.9%	April 2042	$ 68,155	$ 68,155
SBA Loans	1.0%	April 2025	21	119
Equipment	4% to 5%	December 2024	—	32
Total debt			68,176	68,306
Less: unamortized costs			(1,046)	(188)
Total debt, net			$ 67,130	$ 68,118
Less: current portion			(21)	(68,097)
Total non-current debt			$ 67,109	$ 21

Future payments for the Company's long-term debt are as follows (in thousands):

Year Ending December 31,	Total Debt
2025	$ 21
2026 and thereafter	68,155
Total debt	$ 68,176

14. Stock-Based Compensation

Equity incentive plans. In February 2011, the Company's stockholders approved the Gevo, Inc. 2010 Stock Incentive Plan (as amended and restated to date, the "2010 Plan") and the Employee Stock Purchase Plan.

The 2010 Plan provides for the grant of non-qualified stock options, incentive stock options, stock appreciation rights, restricted stock awards, restricted stock units and other equity awards to employees and directors of the Company. In May 2023, upon approval of the shareholders at the 2023 Annual Meeting of Stockholders, the 2010 Plan was amended and restated, which increased the number of shares of common stock reserved for issuance under the 2010 Plan to 37,980,074 shares. At December 31, 2024, 2,526,460 shares were available for future issuance under the 2010 Plan.

Stock-based compensation expense. The Company records stock-based compensation expense during the requisite service period for share-based payment awards granted to employees and non-employees.

The following table sets forth the Company's stock-based compensation expense for the periods indicated (in thousands):

	Year Ended December 31,	
	2024	2023
Cost of production	$ 60	$ 59
General and administrative	12,747	15,204
Other operating expenses	1,926	1,824
Total stock-based compensation	$ 14,733	$ 17,087

As of December 31, 2024, $0.1 million of stock-based compensation expense was capitalized due to labor allocation associated with internally developed software.

Stock option award activity. Stock option activity under the Company's stock incentive plans and changes during the year ended December 31, 2024, were as follows:

	Number of Options	Weighted-Average Exercise Price (1)	Weighted-Average Remaining Contractual Term (years)	Weighted-Average Grant-Date Fair Value	Aggregate Intrinsic Value
Options outstanding at December 31, 2023	8,109,060	$ 3.51	8.8		
Granted	6,603,419	$ 0.71			
Forfeited and expired	(609,021)	$ 2.57			
Exercised	—	$ —			
Options outstanding at December 31, 2024	14,103,458	$ 2.24	8.4	$ 1.90	$ —
Options vested and expected to vest at December 31, 2024	14,103,458	$ 2.24	8.4	$ 1.90	$ —

(1) Exercise price of options outstanding range from $0.67 to $876 as of December 31, 2024. The higher end of the range is due to the impact of several reverse stock splits during the years 2015 to 2018.

During the year ended December 31, 2024, 5.5 million stock options vested. As of December 31, 2024, the total unrecognized compensation expense relating to stock options was $5.4 million, which is expected to be recognized over the remaining weighted-average period of approximately 1.7 years.

GEVO, INC.
Notes to Consolidated Financial Statements (Continued)

The following table sets forth the weighted average Black-Scholes option pricing model assumptions (no dividends were expected) and resulting grant date fair value for the stock options granted during the years ended December 31, 2024, and 2023:

	Year Ended December 31, 2024	2023
Risk-free interest rate	3.24 %	4.30 %
Expected volatility factor	133 %	153 %
Expected option life (years)	6.0	6.0
Weighted-average fair value	$ 0.63	$ 1.41

There is a maximum contractual term of ten years for the share options. The Company settles stock option exercises with newly issued common shares. No tax benefits were realized by the Company in connection with these exercises as the Company maintains net operating loss carryforwards and has established a valuation allowance against the entire tax benefit.

Restricted Stock. The Company periodically grants restricted stock awards to employees and directors. The vesting period for restricted stock awards granted may be based upon a service period or based upon the attainment of performance objectives. The Company recognizes stock-based compensation over the vesting period, which for awards that vest based on a service period is generally two to three years.

Non-vested restricted stock awards at December 31, 2024, and changes during the year ended December 31, 2024, were as follows:

	Number of Shares	Weighted-Average Grant-Date Fair Value
Outstanding at December 31, 2023	6,159,341	$ 2.30
Granted	5,739,174	$ 0.75
Vested and issued	(3,758,389)	$ 2.59
Forfeited and expired	(551,982)	$ 1.16
Non-vested at December 31, 2024	7,588,144	$ 1.08

As of December 31, 2024, the total unrecognized compensation expense relating to restricted stock awards was $6.1 million, which is expected to be recognized over the remaining weighted-average period of approximately 1.7 years.

15. Income Taxes

For financial reporting purpose, income before income taxes includes the following components in millions:

	2024
United States	$ (79.1)
Total	$ (79.1)

As of December 31, 2024, the Company has a federal and state net operating loss carryover of approximately $238.5 million and $208.6 million, respectively, available to offset future income for income tax reporting purposes. Of our Federal net operating loss carryovers, $1.5 million is expiring in year 2037 and $237.0 million has indefinite carryforward periods. Other than the $1.5 million generated in year 2017 and expiring in year 2037, the rest of the loss utilization is limited to 80% of taxable income in the future years. The Company also has state net operating loss carryovers, $205.8 million would expire between the years 2033 and 2044.

GEVO, INC.
Notes to Consolidated Financial Statements (Continued)

We periodically evaluate our net operating loss carryforwards and whether certain changes in ownership have occurred that would limit our ability to utilize a portion of our net operating loss carryforwards pursuant to Internal Revenue Code Section 382. An ownership change may occur, for example, as a result of trading in our stock by significant investors as well as issuance of new equity. As a result of ownership changes in prior years, a portion of our net operating losses have been limited.

Deferred income taxes arise from temporary differences between the tax basis of assets and liabilities and their reported amounts in the financial statements, which will result in taxable or deductible amounts in the future.

The following table sets forth the tax effects of temporary differences that give rise to significant portions of the Company's net deferred tax assets (in thousands):

	December 31,	
	2024	2023
Deferred tax assets, net:		
Net operating loss carryforwards	$ 61,024	$ 48,638
Operating lease assets	(780)	(405)
Operating lease liabilities	925	545
Depreciation	17,775	11,421
Stock compensation	1,225	2,530
Business interest expense	1,083	1,110
Capitalized research cost	11,070	7,332
Transaction cost	1,308	—
Other temporary differences	1,060	820
Deferred tax assets	94,690	71,991
Valuation allowance	(94,690)	(71,991)
Net deferred tax assets	$ —	$ —

ASC 740, *Income Taxes*, provides for the recognition of deferred tax assets if realization of such assets is more likely than not to occur. Based on management's review of both the positive and negative evidence, which includes our historical operating performance, reported cumulative net losses since inception and difficulty in accurately forecasting results, we have concluded that it is not likely that we will be able to realize all of our U.S. deferred tax assets. Therefore, we have provided a full valuation allowance against deferred tax assets at December 31, 2024 and 2023, respectively.

The following table sets forth reconciling items from income tax computed at the statutory federal rate:

	Year Ended December 31,	
	2024	2023
Federal income tax at statutory rate	21.0 %	21.0 %
State income taxes, net of federal benefits	8.5 %	6.8 %
Officers compensation limit	1.4 %	(1.8)%
Stock based compensation	(6.1)%	(2.5)%
Other permanent	(0.4)%	(0.2)%
Valuation allowance	(28.5)%	(23.3)%
Net federal true-up	4.1 %	— %
Effective tax rate	— %	— %

The decrease from the federal statutory rate for the years ended December 31, 2024 is primarily due to the movement in officers compensation, stock-based compensation, state taxes, and valuation allowances.

Accounting literature regarding liabilities for unrecognized tax benefits provides guidance for the recognition and measurement in financial statements of uncertain tax positions taken or expected to be taken in a tax return. The

Company's evaluation was performed for the tax periods from inception to December 31, 2024. The Company is subject to examination by major tax jurisdictions for the years ended December 31, 2021 to 2024.

The Company recognizes uncertain tax positions net, against any operating losses or applicable research credits as they arise. Currently, there are no uncertain tax positions recognized at December 31, 2024 and 2023, respectively.

16. Employee Benefit Plan

The Company sponsors the Gevo, Inc. 401(k) Plan (the "401(k) Plan"). Subject to certain eligibility requirements, the 401(k) Plan covers substantially all employees beginning the month after employment. Employee contributions are deposited by the Company into the 401(k) Plan and may not exceed the maximum statutory contribution amount. Beginning January 1, 2023, the 401(k) Plan was amended to include matching contributions to the 401(k) Plan, with the Company matching 100% of the employee's contributions that are not over 3% of compensation, plus 50% of contributions which are over 3% but are not over 5% of compensation. The matching contributions will be made in shares of the Company's common stock and vest immediately. For the year ended December 31, 2024, accrued matching contributions to the 401(k) Plan was $0.8 million, equivalent to approximately 0.7 million shares of common stock, to be remitted to participants in Q1 2025. For the year ended December 31, 2023, accrued matching contributions to the 401(k) Plan was $0.7 million, equivalent to approximately 0.7 million shares of common stock, which was remitted to participants in Q1 2024.

17. Commitments and Contingencies

Legal Matters. From time to time, the Company has been and may again become involved in legal proceedings arising in the ordinary course of its business. The Company is not presently a party to any litigation and is not aware of any pending or threatened litigation against the Company that it believes could have a material adverse effect on its business, operating results, financial condition or cash flows.

State Tax Audit. During 2023, the Company was notified of a pending sales and use tax audit by the South Dakota Department of Revenue for the period covering January 2021 through December 2023. Although the final resolution of the Company's sales and use tax audit is uncertain, based on current information, in the opinion of the Company's management, the Company concluded that certain losses on litigation were probable and estimable; as a result, the Company recorded $1.0 million accrual for use tax contingencies, included in Accounts payable and accrued liabilities on the Consolidated Balance Sheets.

Indemnifications. In the ordinary course of its business, the Company makes certain indemnities under which it may be required to make payments in relation to certain transactions. As of December 31, 2024, and 2023, the Company did not have any liabilities associated with indemnities.

In addition, the Company indemnifies its officers and directors for certain events or occurrences, subject to certain limitations. The duration of these indemnifications, commitments, and guarantees varies and, in certain cases, is indefinite. The maximum amount of potential future indemnification is unlimited; however, the Company has a director and officer insurance policy that may enable it to recover a portion of any future amounts paid. The Company accrues losses for any known contingent liability, including those that may arise from indemnification provisions, when future payment is probable. No such losses have been recorded to date.

Environmental Liabilities. The Company's operations are subject to environmental laws and regulations adopted by various governmental authorities in the jurisdictions in which it operates. These laws require the Company to investigate and remediate the effects of the release or disposal of materials at its locations. Accordingly, the Company has adopted policies, practices and procedures in the areas of pollution control, occupational health and the production, handling, storage and use of hazardous materials to prevent material environmental or other damage, and to limit the financial liability which could result from such events. Environmental liabilities are recorded when the Company's liability is probable, and the costs can be reasonably estimated. No environmental liabilities have been recorded as of December 31, 2024.

GEVO, INC.
Notes to Consolidated Financial Statements (Continued)

Fuel Supply Commitment. The Company has three long-term fuel supply contracts to source feedstock for the anaerobic digesters at the NW Iowa RNG project. These contracts provide an annual amount of feedstock to be used in the production of RNG.

Zero6 Commitments. In September 2022, the Company entered into a development agreement with Zero6 to construct and operate a wind project for the provision of electric energy for ATJ-60. Pursuant to the agreement, the Company has committed to pay Zero6 total development charges of $8.6 million, comprised of advanced development fee payments of $0.9 million, certain reimbursable costs of $1.2 million, and $6.5 million upon completion of the project. The Company is not contractually obligated for the specified development charges until certain milestones are met in future periods, and upon completion of the project.

Further, the Company has committed to fund certain discretionary, budgeted costs associated with long lead equipment and engineering services for ATJ-60, totaling an estimated $36.0 million. The amount is expected to be fully reimbursed upon completion of the project. Gevo has contractual priority liens against the equipment and constructed facilities under the contracts. See Footnote 21 below for further information.

Additionally, the Company's investment in Zero6, see Note 11, Deposits and Other Assets, is pledged separately as collateral for two commitments for the purchase of wind electricity for the Luverne Facility, as well as the purchase of 100% of RCWF's renewable energy credits. Gevo has a commitment to purchase all of RCWF's electricity. The portion not used by the Luverne Facility is charged to the Company at a lower price.

The estimated commitments as of December 31, 2024, and thereafter are shown below (in thousands):

	December 31,						
	2025	2026	2027	2028	2029	2030 and thereafter	Total
Fuel Supply Payments	$ 2,106	$ 1,718	$ 2,060	$ 1,753	$ 2,226	$ 23,742	$ 33,605
Zero6 Commitment	34,217	34,337	—	8,350	—	—	76,904
Renewable Energy Credits	142	142	142	142	142	1,468	2,178
Electricity Above Use (Est.)	505	—	—	—	—	—	505
Total	$ 36,970	$ 36,197	$ 2,202	$ 10,245	$ 2,368	$ 25,210	$ 113,192

18. Fair Value Measurements

Accounting standards define fair value, outline a framework for measuring fair value, and detail the required disclosures about fair value measurements. Under these standards, fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date in the principal or most advantageous market. Standards establish a hierarchy in determining the fair market value of an asset or liability. The fair value hierarchy has three levels of inputs, both observable and unobservable. Standards require the utilization of the highest possible level of input to determine fair value.

Level 1 – inputs include quoted market prices in an active market for identical assets or liabilities.

Level 2 – inputs are market data, other than Level 1, that are observable either directly or indirectly. Level 2 inputs include quoted market prices for similar assets or liabilities, quoted market prices in an inactive market, and other observable information that can be corroborated by market data.

Level 3 – inputs are unobservable and corroborated by little or no market data.

The carrying value and fair value, by fair value hierarchy, of the Company's financial instruments at December 31, 2024, and 2023, are as follows (in thousands):

		Fair Value Measurements at December 31, 2024		
	Fair Value at December 31, 2024	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash and cash equivalents (1)	$ 189,389	$ 189,389	$ —	$ —

		Fair Value Measurements at December 31, 2023		
	Fair Value at December 31, 2023	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Cash and cash equivalents (1)	$ 298,349	$ 298,349	$ —	$ —

(1) Cash and cash equivalents includes $186.7 million and $283.2 million invested in U.S. government money market funds as of December 31, 2024, and 2023, respectively.

The Company had no transfers of assets or liabilities between fair value hierarchy levels during the years ended December 31, 2024, and 2023.

For the Remarketed Bonds, the fair values are estimated using the Black-Derman-Toy interest rate lattice framework. The effective maturity of the Remarketed Bonds was assumed to be April 1, 2026 (two years from issuance) with repayment of 100% of principal on that date. The impact of the Company's optional redemption feature, effective November 1, 2024, is appropriately captured by the Black-Derman-Toy interest rate lattice. The carrying values and estimated fair values of the Remarketed Bonds as of December 31, 2024, are summarized as follows (in thousands):

	Carrying Value	Estimated Fair Value
Remarketed Bonds	$ 68,155	$ 68,852

19. Shareholders' Equity

Share Issuances

At-the-Market Offering Program

In January 2024 the Company filed a registration statement on Form S-3, which included a base prospectus which covers the offer, issuance and sale of up to an aggregate of $750.0 million of the registrant's common stock, preferred stock, debt securities, depositary shares, warrants, purchase contracts and units and an at-the-market offering prospectus supplement covering the offering, issuance and sale by the Company of up to a maximum aggregate offering price of $500.0 million of common stock that may be issued and sold under an at-the-market-offering agreement.

As of December 31, 2024, the Company has remaining capacity to issue up to $500.0 million of common stock under the at-the-market offering program.

Stock Repurchase Program

On May 30, 2023, the Company authorized a stock repurchase program, under which it may repurchase up to $25 million of its common stock. The primary goal of the repurchase program is to allow the Company to opportunistically repurchase shares, while maintaining the Company's ability to fund its development projects. Under the stock repurchase program, the Company may repurchase shares from time to time in the open market or through privately negotiated transactions. The timing, volume and nature of stock repurchases, if any, will be in the Company's sole discretion and will be dependent on market conditions, applicable securities laws, and other factors. The stock repurchase program may be suspended or discontinued at any time by the Company and does not have an expiration date.

The Company repurchased 7.2 million shares of common stock for $4.7 million under the stock repurchase program during the year ended December 31, 2024. Shares were repurchased at market value, and were retired immediately upon repurchase. The Company did not repurchase any shares during the year ended December 31, 2023. As of December 31, 2024, approximately $20.3 million remained available under the stock repurchase program.

Warrants

In addition to the Series 2022-A Warrants, the Company has warrants outstanding that were issued in conjunction with a registered direct offering in August 2020 (the "Series 2020-A Warrants"). The Company evaluated the Series 2022-A Warrants and Series 2020-A Warrants for liability or equity classification and determined that equity treatment was appropriate because both the Series 2022-A Warrants and Series 2020-A Warrants do not meet the definition of liability instruments.

The Series 2022-A Warrants and Series 2020-A Warrants are classified as a component of equity because they are freestanding financial instruments that are legally detachable and separately exercisable from the shares of common stock with which they were issued, are immediately exercisable and will expire five years from the date of issuance, do not embody an obligation for the Company to repurchase its shares, and permit the holders to receive a fixed number of shares of common stock upon exercise. In addition, the Series 2022-A Warrants and Series 2020-A Warrants do not provide any guarantee of value or return.

The following table sets forth information pertaining to shares issued upon the exercise of warrants:

	Issuance Date	Expiration Date	Exercise Price as of December 31, 2024	Shares Underlying Warrants on Issuance Date	Shares Issued upon Warrant Exercises as of December 31, 2024	Shares Underlying Warrants Outstanding as of December 31, 2024
Series 2020-A Warrants (1)	7/6/2020	7/6/2025	$ 0.60	30,000,000	29,995,867	4,133
Series 2022-A Warrants (1)	6/8/2022	6/7/2027	$ 4.37	33,333,336	—	33,333,336
Total Warrants				63,333,336	29,995,867	33,337,469

(1) Equity-classified warrants.

During the year ended December 31, 2024, common stock was issued as a result of the exercise of warrants as shown below (dollars in thousands):

	Common Stock Issued	Proceeds
Series 2020-A Warrants	81,798	$ 49

No warrants were exercised during the year ended December 31, 2023.

20. Business Combinations

Acquisition of Cultivate Agricultural Intelligence, LLC

On September 25, 2024 (the “Cultivate Acquisition Date”), the Company acquired all of the issued and outstanding membership interests of Cultivate Agricultural Intelligence, LLC (“Cultivate”) pursuant to the terms of the Membership Interest Purchase Agreement between the Company and Cultivate, as well as Cultivate’s individual members (the “Cultivate Acquisition”).

The Cultivate Acquisition met the requirements to be considered a business combination under ASC 805: Business Combinations (“ASC 805”). The assets and liabilities acquired from Cultivate, affected for preliminary adjustments to reflect the fair market values assigned to assets purchased and liabilities assumed, and results of operations, are included in the Company’s consolidated financial statements from the Cultivate Acquisition Date. The Company has allocated the purchase price to the tangible and identifiable intangible assets and liabilities assumed based on their estimated fair market values at the Cultivate Acquisition Date as required under ASC 805. The Company has not presented pro forma results because the Cultivate Acquisition was not deemed significant at the date of closing. Amounts related to the Cultivate Acquisition included in Condensed Consolidated Statements of Operations are insignificant.

The Cultivate Acquisition was accounted for using the acquisition method of accounting and the fair value of the total purchase consideration transferred was $6.9 million. Included in the total consideration is cash consideration of $6.2 million and estimated contingent consideration totaling $0.7 million (the “Cultivate Earn-out liability”), for which the Company may be required to pay additional cash consideration contingent on future net profit-based performance targets between the closing date and the fourth anniversary of the closing date, up to a maximum of $2.0 million. As of the Cultivate Acquisition Date, the fair value of the Cultivate Earn-out liability was determined using a Monte Carlo simulation approach and is considered a Level 3 fair value measurement. As of December 31, 2024, the Cultivate Earn-out liability’s fair value of $0.7 million is reported within the Other long-term liabilities line item in the Condensed Consolidated Balance Sheets. The fair value will be remeasured at each reporting date in accordance with ASC 820, Fair Value Measurement, with changes in the fair value of the Cultivate Earn-out Liability recognized in the Condensed Consolidated Statements of Operations. The change in the fair value of the Cultivate Earn-out Liability has not changed significantly from the date of acquisition.

The following table displays the total purchase consideration transferred in the Cultivate Acquisition (in thousands):

	Amount
Cash consideration	$ 6,167
Earn-out consideration	730
Total purchase consideration transferred	$ 6,897

The Company incurred approximately $0.1 million of direct acquisition-related expenditures, which are recognized in General and administrative expense in the Condensed Consolidated Statements of Operations.

The following table sets forth the fair values of the assets acquired and liabilities assumed in connection with the Cultivate Acquisition (in thousands):

	Cultivate Acquisition Date Fair Value

Current assets	$	302
Property, plant and equipment		21
Intangible assets		2,900
Goodwill		3,742
Other assets		18
Total assets acquired		6,983
Current liabilities		86
Total liabilities assumed		86
Total assets acquired and liabilities assumed	$	6,897

The purchase price allocation is preliminary and subject to change during the measurement period, which is not to exceed one year from the Cultivate Acquisition Date. When the valuation is final, changes to the valuation of acquired assets and liabilities could result in adjustments to identified intangibles and goodwill.

Fair Value of Net Assets Acquired and Intangibles

The assets and liabilities were recorded at their respective fair values as of September 25, 2024. The Company developed the fair value of intangible assets, which includes developed technology, a customer-related intangible, and trade names, using various techniques including the relief from royalty method and multi-period excess earnings method. For all other major assets and liabilities acquired, the Company determined that book value approximated fair value. Goodwill represents the future economic benefits that the Company expects to achieve as a result of the acquisition of the human capital and assets acquired. The goodwill resulting from this acquisition is expected to be deductible for tax purposes. The fair value of net assets acquired, intangibles, and goodwill, was assigned to the Company's Gevo segment.

The following table sets forth the intangible assets acquired in the Cultivate Acquisition (in thousands):

	Cultivate Acquisition Date Fair Value		Estimated Life (Years)
Developed technology	$	1,300	5.0
Customer-related intangible		1,500	16.0
Trade names		100	4.0
Total intangible assets	$	2,900	

21. Variable Interest Entities

The Company has entered into agreements with various SPEs to facilitate the development and construction of facilities to provide carbon neutral power to ATJ-60. These SPEs are structured as a limited liability companies.

Nonconsolidated VIEs

During September 2022 and February 2023, the Company entered into agreements with Zero6 Energy Development, Inc. ("ZEDI"), a national clean energy expert that provides expertise in capital management, development, engineering, and asset management, to develop and construct facilities to provide carbon neutral power to ATJ-60 via the two Project LLCs: Kingsbury County Wind Fuel, LLC ("KCWF") and Dakota Renewable Hydrogen, LLC ("DRH"), respectively. In December 2023 the agreements with ZEDI related to the two Project LLCs were amended to remove certain kickout rights that previously existed.

GEVO, INC.
Notes to Consolidated Financial Statements (Continued)

Each Project LLC is currently funded via advances for certain long lead equipment items from Gevo. The Company has made certain refundable project advances indirectly to the Project LLCs via ZEDI, to induce ZEDI to design and construct the power generation, transmission and distribution facilities that will serve ATJ-60.

Each Project LLC is a VIE, and the Company holds an implicit variable interest in each Project LLC. As of December 2023, we have concluded that the removal of the kickout rights from the agreements has resulted in a loss of control and that, therefore, the Company is no longer the primary beneficiary of the Project LLCs. The Project LLCs are a VIE because their equity is insufficient to maintain its on-going collateral requirements without additional financial support from the Company.

There was no gain or loss recognized as a result of the deconsolidation of the Project LLCs. We have recognized $47.5 million in Deposits and other assets related to advances made to the Project LLCs which are reimbursable upon the achievement or failure to achieve certain milestones. Such amounts represent our maximum exposure to loss as a result of our involvement with the Project LLCs.

22. Segments

Operating segments are defined as components of an entity for which discrete financial information is available that is regularly reviewed by the Chief Operating Decision Maker (“CODM”) in deciding how to allocate resources to an individual segment and in assessing performance. The Company’s Chief Executive Officer is the CODM. The CODM assesses the segments’ performance by using Loss from Operations.

The CODM uses operating results for each segment predominantly in the annual budget and forecasting process. The CODM considers budget-to-actual variances on a quarterly basis when making decisions about the allocation of operating and capital resources of each segment. As such, management has determined that the Company has organized its operations and activities in the manner in which information is utilized by the CODM and has determined that it has three operating and reportable segments: (i) Gevo segment; (ii) GevoFuels segment; (iii) GevoRNG segment. All segments follow the same basis of accounting policies as described in Note 2, Summary of Significant Accounting Policies.

Gevo segment. The Gevo segment is responsible for all research and development activities related to the future production of SAF, commercial opportunities for other renewable hydrocarbon products, such as hydrocarbons for gasoline blendstocks and diesel fuel; ingredients for the chemical industry, such as ethylene and butenes; plastics and materials; and other chemicals. The Gevo segment also develops, maintains and protects its intellectual property portfolio, provides corporate oversight services, and is responsible for development of Verity platforms.

GevoFuels segment. GevoFuels is a cornerstone of the Company’s operations, committed to driving low-cost, sustainable, and American-made energy solutions. Our focus is on advancing practical, low-carbon energy alternatives that promote energy independence and strengthen the economy. This segment is dedicated to the development, construction, and operation of Alcohol-to-Jet projects that are not only good for the environment but also cost-effective for businesses and consumers. Our flagship project, ATJ-60, is a groundbreaking greenfield initiative focused on producing SAF right here in the U.S.

GevoRNG segment. The Renewable Natural Gas segment includes GevoRNG which is an innovative project that leverages anaerobic digestion technology to capture and convert methane emissions into renewable natural gas. This project plays a significant role in addressing both the environmental impact of methane emissions and the growing demand for cleaner energy alternatives. RNG is chemically identical to conventional natural gas, but it is produced from organic waste rather than fossil fuels, making it a sustainable and carbon-neutral energy source. By converting methane

GEVO, INC.
Notes to Consolidated Financial Statements (Continued)

emissions into RNG, Gevo RNG helps mitigate the environmental impact of livestock farming, specifically reducing the greenhouse gases that contribute to climate change.

During the fourth quarter of 2024, the Company realigned its organizational and reporting structure due to the acquisition of CultivateAI as well as the anticipated closing of its acquisition of Red Trail Energy. The Company previously reported an Agri-Energy segment, which consisted of a plant that has been idle since 2022. Information previously reported within the Agri-Energy segment is now included within the Gevo segment. Information related to the GevoFuels segments is now reviewed by the CODM. All historical financial segment information has been recast to conform to the current period presentation. We use segment profit and loss as a measure reported to the chief operating decision-maker for the purpose of making decisions about allocating resources to the segment and assessing its performance. The financial information presented below reflects information about the Company’s segments.

The "Other Expenses" in the segment table include the following components: cost of production, general and administrative expenses, acquisition-related costs, facility idling costs, and other expenses.

	Year Ended December 31, 2024			
	Gevo	GevoFuels	GevoRNG	Consolidated
Revenues	$ 1,119	$ —	$ 15,796	$ 16,915
Less:				
Depreciation and amortization	9,718	—	8,580	18,298
Research and development	5,581	(5)	—	5,576
Project development	14,236	3,930	—	18,166
Other expenses	49,724	—	15,975	65,699
Loss from operations	(78,139)	(3,925)	(8,760)	(90,824)
Interest expense	(760)	(5)	(3,114)	(3,879)
Interest income	15,637	—	—	15,637
Consolidated Net Loss	(62,854)	(3,925)	(11,861)	(78,640)
Acquisitions of property, plant, and equipment	17,088	30,102	3,895	51,085
Total assets	297,979	208,309	77,653	583,941

	Year Ended December 31, 2023			
	Gevo	GevoFuels	GevoRNG	Consolidated
Revenues	$ 1,743	$ —	$ 15,457	$ 17,200
Less:				
Depreciation and amortization	12,302	—	6,705	19,007
Research and development	6,577	—	60	6,637
Project development	12,751	1,981	—	14,732
Other expenses	45,871	1	12,787	58,659
Loss from Operations	(75,758)	(1,982)	(4,095)	(81,835)
Interest expense	(365)	(5)	(1,791)	(2,161)
Interest income	18,957	—	—	18,957
Consolidated Net Loss	(57,283)	(3,048)	(5,884)	(66,215)
Acquisitions of property, plant, and equipment	19,821	28,240	6,394	54,455
Total assets	410,975	137,837	101,510	650,322

23. Subsequent Events

Acquisition of Red Trail Energy Assets

On September 10, 2024, the Company and certain of its wholly owned subsidiaries (the “Buyers”) entered into an Asset Purchase Agreement (the “Red Trail Purchase Agreement”) with Red Trail Energy, LLC, a North Dakota limited liability company (“Seller”). Pursuant to the Red Trail Purchase Agreement, Buyers acquired substantially all of the assets, and assumed certain liabilities, of Seller (the “Transaction”). The purchase price was $210,000,000, subject to customary adjustments, including a working capital adjustment (the “Purchase Price”).

In connection with the Red Trail Purchase Agreement, the Company and Seller entered into an escrow agreement pursuant to which the Company (i) deposited $10,000,000 in earnest money, see Note 11, Deposits and Other Assets, which will be applied against the Purchase Price, (ii) deposited $1,260,000 of the Purchase Price at closing for the purposes of securing the post-closing indemnification obligations of Seller, and (iii) deposited $5,000,000 of the Purchase Price at closing for purposes of securing any Purchase Price adjustments. In addition, Buyers obtained a representation and warranty insurance policy to provide coverage for certain breaches of representations and warranties of the Seller, which coverage is subject to certain exclusions, deductibles and other terms and conditions as set forth in the policy.

On January 31, 2025 (the “Closing Date”), the Company, closed the Transaction pursuant to the Purchase Agreement.

Credit Agreement

On the Closing Date, Net-Zero North HoldCo, LLC, (the “Borrower”), and certain other subsidiaries of Gevo, entered into a Credit Agreement (the “Credit Agreement”) with OIC Investment Agent, LLC, as administrative agent for the Lenders (in such capacity, the “Administrative Agent”) and as collateral agent for the Secured Parties (in such capacity, the “Collateral Agent”), and the lenders from time to time thereto (“Lenders”).

The Credit Agreement provides for a $105 million senior secured term loan that was funded on the Closing Date (the “Term Loan”) with a maturity of January 31, 2030. The proceeds of the Term Loan were used to partially fund the Transaction and the payment of fees under the Credit Agreement. The Credit Agreement also provides for additional uncommitted term loans in an aggregate amount to be mutually agreed upon by the Borrower, the Guarantors and the Lenders for use for certain future growth opportunities after the Closing Date. Interest on the Term Loan will accrue at a rate of (i) 10.00% per annum if the net leverage ratio as of the last day of the quarter for the measurement period (the “Measurement Period”) consisting of the prior four consecutive fiscal quarters of the Borrower (“Leverage Ratio”) is less than 1.5x, (ii) 10.75% per annum if the Leverage Ratio is equal to or greater than 1.5x, but less than 3.0x, and (iii) 11.50% per annum if the Leverage Ratio is equal to or greater than 3.0x and shall initially be set at 11.50% per annum until the next quarterly adjustment date. The Leverage Ratio is defined as the ratio of the combined indebtedness of the Borrower and the Guarantors (other than any indebtedness pursuant to any permitted working capital facility) less any cash equivalent investments in any collateral accounts to the consolidated EBITDA of the Borrower and Guarantors for the relevant Measurement Period. Interest will be due and payable in cash at the end of each quarter.

In connection with the Term Loan, and subject to the other terms under the Credit Agreement, Lenders made an equity investment in Gevo Intermediate HoldCo, LLC (“Holdings”) equal to $5 million on the Closing Date. The organizational documents of Holdings also provide Lenders with the right to appoint two non-voting observers to the board of managers of Holdings.

The Term Loan is secured by a first-lien security interest subject only to reasonable and customary permitted liens and encumbrances, in all the Borrower’s and each Guarantor’s tangible and intangible assets, properties controlled by Borrower and Guarantors, and contracts, including deposit accounts and collateral assignment of material contracts and certain real estate assets to be determined, and includes a pledge of all equity interests in the Borrower and its subsidiaries. The Credit Agreement also contains customary affirmative and negative covenants, events of default, mandatory prepayments (including an excess cash flow sweep), conditions precedent, representations, and warranties.

RNG Pathway

In March of 2025, the California Air Resources Board ("CARB") approved our application for a provisional Tier 2 pathway, representing the significantly lower carbon intensity of our RNG than was reflected under the previous temporary pathway. With the provisional pathway approval having been received prior to March 31, 2025, we will be able to apply the provisional pathway carbon intensity score to dispensing activities that occurred in Q4 2024, which also included RNG production for the months of July and August stored and dispensed in Q4 2024, and for dispensing activities throughout 2025.

Item 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

Item 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures

We have disclosure controls and procedures, which as defined under Rules 13a-15(e) and 15d-15(e) under the Exchange Act or the Act, means controls and other procedures of an issuer that are designed to ensure that information required to be disclosed by an issuer in the reports that it files or submits under the Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information we are required to disclose in the reports that we file or submit under the Act is accumulated and communicated to our management, including our Chief Executive Officer (principal executive officer) and Chief Financial Officer (principal financial officer), as appropriate to allow timely decisions regarding required disclosure.

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act), as of December 31, 2024. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer have concluded that in certain aspects our disclosure controls and procedures were not effective as of December 31, 2024, as a result of a material weakness in internal control over financial reporting described below.

Notwithstanding the material weakness described herein, our management, including our Chief Executive Officer and Chief Financial Officer, has concluded that our audited financial statements included in this Annual Report on Form 10-K present fairly, in all material respects, our financial position, results of operations, and cash flows for the periods presented in accordance with accounting principles generally accepted in the United States of America.

Management's Report on Internal Control over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act). Our internal control system was designed to provide reasonable assurance to our management and board of directors regarding the preparation and fair presentation of published financial statements. All internal control systems, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation.

The Company's management, with the participation of our Chief Executive Officer and Chief Financial Officer, under the oversight of our Board, conducted an evaluation of the effectiveness of our internal control over financial reporting as of December 31, 2024, based on the criteria established in Internal Control -- Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission ("COSO"). Based on this evaluation, management determined that in certain aspects, based upon the existence of the material weaknesses described below, that we did not maintain effective internal control over financial reporting as of December 31, 2024.

As of December 31, 2024, we have determined that we did not maintain a sufficient complement of personnel with the necessary technical expertise and accounting knowledge to appropriately address complex and non-routine transactions, which control deficiency constitutes a material weakness. A material weakness is defined as a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of our annual or interim financial statements will not be prevented or detected on a timely basis.

Remediation of Material Weakness in Internal Control Over Financial Reporting

We have already initiated steps toward remediation of the issues. The material weakness cannot be considered completely remediated until the applicable controls have operated for a sufficient period of time and management has concluded, through testing, that these controls are operating effectively. We expect this to take through 2025 and beyond as necessary.

In response to the identified material weakness, we have implemented and will continue to implement additional corrective actions to enhance the effectiveness of our controls and ensure that they are operating as intended.

Such measures include:

- Hiring additional accounting personnel with the necessary technical accounting expertise and financial reporting knowledge to perform control activities surrounding complex and non-routine transactions.
- Providing extensive and recurring training of our accounting staff.
- Continuing our engagement with an external firm to assist with complex and non-routine transactions.
- We are improving communication channels among departments and teams involved in contract execution and those that handle financial reporting and internal control activities.

Changes in Internal Control Over Financial Reporting

Except as disclosed above, there were no changes in our internal control over financial reporting that occurred during the year ended December 31, 2024 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Item 9B. Other Information

During the three months ended December 31, 2024, the below directors and/or officers, as defined in Rule 16a-1(f), adopted, modified or terminated a "Rule 10b5-1 trading arrangement," as defined in Item 408 of Regulation S-K. The Rule 10b5-1 trading arrangements were each intended to satisfy the affirmative defense in Rule 10b5-1(c)(1).

Name and Title	Action	Date	Duration of Plan	Total Number of Shares of Common Stock to be Purchased or Sold
Patrick R. Gruber *Chief Executive Officer*	Terminate	November 14, 2024	July 26, 2024 to July 25, 2025	Up to 815,015
Patrick R. Gruber *Chief Executive Officer*	Adopt	November 14, 2024	February 17, 2025 to February 16, 2026	Up to 2,957,838
Christopher M. Ryan *President and Chief Operating Officer*	Terminate	November 26, 2024	July 26, 2024 to July 25, 2025	Up to 341,227
Christopher M. Ryan *President and Chief Operating Officer*	Adopt	November 26, 2024	February 26, 2025 to February 25, 2026	Up to 853,643
L. Lynn Smull *Chief Financial Officer*	Terminate	November 25, 2024	July 26, 2024 to July 25, 2025	Up to 166,264
L. Lynn Smull *Chief Financial Officer*	Adopt	November 25, 2024	February 26, 2025 to February 25, 2026	Up to 115,647
Paul D. Bloom *Chief Business Officer*	Terminate	November 21, 2024	July 26, 2024 to July 25, 2025	Up to 308,814

Paul D. Bloom *Chief Business Officer*	Adopt	November 21, 2024	February 20, 2025 to February 19, 2026	Up to 718,587
Andrew L. Shafer *Chief Customer, Marketing and Brand Officer*	Terminate	November 22, 2024	November 1, 2024 to October 31, 2025	Up to 60,606
Andrew L. Shafer *Chief Customer, Marketing and Brand Officer*	Adopt	November 22, 2024	February 20, 2025 to February 19, 2026	Up to 146,242
Kimberly T. Bowron *Chief People and IT Officer*	Terminate	December 2, 2024	July 26, 2024 to July 25, 2025	Up to 88,960
Kimberly T. Bowron *Chief People and IT Officer*	Adopt	December 2, 2024	March 3, 2025 to March 4, 2026	Up to 136,960

Except as set forth above, no director or officer, as defined in Rule 16a-1(f), adopted, modified and/or terminated a "Rule 10b5-1 trading arrangement," or a "non-Rule 10b5-1 trading arrangement," each as defined in Item 408 of Regulation S-K, during the three months ended December 31, 2024.

Item 9C. Disclosure Regarding Foreign Jurisdictions that Prevent Inspections

None**.**

PART III

Item 10. Directors, Executive Officers and Corporate Governance

The information required by this item is incorporated by reference to our definitive proxy statement for the 2025 annual meeting of stockholders to be filed with the SEC within 120 days after our fiscal year ended December 31, 2024.

We have a written code of business conduct and ethics in place that applies to all of our directors, officers and employees, including our principal executive officer, principal financial officer, and principal accounting officer. A copy of our code of ethics is available on our website: https://investors.gevo.com/corporate/corporate-governance/. We are required to disclose certain changes to, or waivers from, that code for our senior financial officers. We intend to use our website as a method of disseminating any change to, or waiver from, our code of ethics as permitted by applicable SEC rules.

Item 11. Executive Compensation

The information required by this item is incorporated by reference to our definitive proxy statement for the 2025 annual meeting of stockholders to be filed with the SEC within 120 days after our fiscal year ended December 31, 2024.

Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

The information required by this item is incorporated by reference to our definitive proxy statement for the 2025 annual meeting of stockholders to be filed with the SEC within 120 days after our fiscal year ended December 31, 2024.

Item 13. Certain Relationships and Related Transactions, and Director Independence

The information required by this item is incorporated by reference to our definitive proxy statement for the 2025 annual meeting of stockholders to be filed with the SEC within 120 days after our fiscal year ended December 31, 2024.

Item 14. Principal Accountant Fees and Services

The information required by this item is incorporated by reference to our definitive proxy statement for the 2025 annual meeting of stockholders to be filed with the SEC within 120 days after our fiscal year ended December 31, 2024.

PART IV

Item 15. Exhibits, Financial Statement Schedules

(a)(1) Financial Statements

The following Consolidated Financial Statements are included:

	Page
Report of Independent Registered Public Accounting Firm	56
Consolidated Balance Sheets	57
Consolidated Statements of Operations	58
Consolidated Statements of Comprehensive Income (Loss)	59
Consolidated Statements of Stockholders' Equity	60
Consolidated Statements of Cash Flows	61
Notes to Consolidated Financial Statements	63

(a)(2) Financial Statement Schedules

All financial statement schedules have been omitted because they are not applicable or are not required, or because the information required to be set forth therein is included in the Consolidated Financial Statements or notes thereto.

(a)(3) Exhibits

Exhibit No.	Description	Incorporated by Reference Form	File No.	Filing Date	Exhibit	Filed Herewith
2.1††	Asset Purchase Agreement, dated as of September 10, 2024, by and among Gevo, Inc., Richardton CCS, LLC, Net-Zero Richardton, LLC, and Red Trail Energy, LLC.	8-K	001-35073	September 12, 2024	2.1	
3.1	Amended and Restated Certificate of Incorporation of Gevo, Inc.	10-K	001-35073	February 24, 2022	3.1	
3.2	Second Amended and Restated Bylaws of Gevo, Inc.	8-K	001-35073	November 24, 2021	3.1	
4.1	Form of Gevo, Inc. Common Stock Certificate.	S-1	333-168792	January 19, 2011	4.1	
4.2	Form of Series 2020-A Warrant.	8-K	001-35073	July 8, 2020	4.1	
4.3	Form of Series 2022-A Warrant.	8-K	001-35073	June 8 2022	4.1	
4.4	Description of Securities.	10-K	001-35073	February 24, 2022	4.3	
10.1#	Gevo, Inc. Amended and Restated 2010 Stock Incentive Plan.	8-K	001-35073	May 25, 2023	10.1	
10.2#	Form of Restricted Stock Unit Agreement under the Amended and Restated 2010 Stock Incentive Plan.	S-1	333-168792	January 19, 2011	10.15	

Exhibit No.	Description	Incorporated by Reference Form	File No.	Filing Date	Exhibit	Filed Herewith
10.3#	Form of Restricted Shares Award Agreement under the Amended and Restated 2010 Stock Incentive Plan.	10-Q	001-35073	August 8, 2018	10.7	
10.4#	Form of Stock Option Award Agreement under the Amended and Restated 2010 Stock Incentive Plan.	10-Q	001-35073	August 8, 2018	10.6	
10.5#	Form of Stock Appreciation Rights Award Agreement under the Amended and Restated 2010 Stock Incentive Plan.	10-Q	001-35073	August 8, 2018	10.8	
10.6#	Gevo, Inc. Employee Stock Purchase Plan.	S-8	333-172771	March 11, 2011	4.7	
10.7#	Gevo, Inc. Executive Health Management Plan.	10-Q	001-35073	November 2, 2011	10.1	
10.8#	Form of Indemnification Agreement between Gevo, Inc. and its directors and officers.	S-1	333-168792	January 19, 2011	10.33	
10.9#	Offer Letter, dated November 9, 2019, by and between Gevo, Inc. and L. Lynn Smull.	8-K	001-35073	November 15, 2019	10.1	
10.10†	At-The-Market Offering Agreement, dated January 16, 2024, between Gevo, Inc. and H.C. Wainwright & Co., LLC.	S-3	333-276515	January 16, 2024	1.2	
10.11+	Base Contract for Sale and Purchase of Natural Gas, dated July 22, 2021, by and between Gevo NW Iowa RNG, LLC, BP Canada Energy Marketing Corp. and BP Products North America Inc.	8-K	001-35073	August 9, 2021	10.1	
10.12+	Special Provisions Attached to and Forming Part of the Base Contract for Sale and Purchase of Natural Gas dated July 22, 2021, by and between Gevo NW Iowa RNG, LLC, BP Canada Energy Marketing Corp. and BP Products North America Inc.	8-K	001-35073	August 9, 2021	10.2	
10.13+	Biogas Supply Addendum – Vehicle Fuel Segment-Supply Side, dated July 22, 2021, by and between Gevo NW Iowa RNG, LLC, BP Canada Energy Marketing Corp. and BP Products North America Inc.	8-K	001-35073	August 9, 2021	10.3	
10.14+	Transaction Confirmation relating to the Base Contract, by and between Gevo NW Iowa RNG, LLC and BP Canada Energy Marketing Corp.	8-K	001-35073	August 9, 2021	10.4	
10.15	Bond Financing Agreement, dated as of April 1, 2021, by and between Gevo NW Iowa RNG, LLC and the Iowa Finance Authority.	8-K	001-35073	April 15, 2021	10.1	

Exhibit No.	Description	Incorporated by Reference				Filed Herewith
		Form	File No.	Filing Date	Exhibit	
10.16++	Letter of Credit Reimbursement Agreement, dated as of April 1, 2021, by and between Gevo, Inc. and Citibank, N.A.	8-K	001-35073	April 15, 2021	10.2	
10.17++	First Amended and Restated Transaction Confirmation, by and between Gevo NW Iowa RNG, LLC BP Canada Energy Marketing Corp. and BP Products North America Inc.	10-Q	001-35073	August 8, 2022	10.2	
10.18#	Gevo, Inc. Change in Control Severance Plan.	8-K	001-35073	December 2, 2022	10.1	
10.19+	First Supplemental Bond Financing Agreement, dated as of April 1, 2024, by and between Gevo NW Iowa RNG, LLC and the Iowa Finance Authority.	8-K	001-35073	April 1, 2024	10.1	
10.20††	Letter of Credit Reimbursement Agreement, dated as of April 1, 2024, by and between Gevo, Inc. and Citibank, N.A.	8-K	001-35073	April 1, 2024	10.2	
10.21††	Credit Agreement, dated as of January 31, 2025, by and between the Net-Zero North HoldCo, LLC, OIC Investment Agent, LLC, as administrative agent for the Lenders, and the other parties thereto.	8-K	001-35073	February 3, 2025	10.1	
10.22††	Form of Term Loan Note.	8-K	001-35073	February 3, 2025	10.2	
10.23#	Employment Agreement, amended and restated as of August 12, 2024, by and among Gevo, Inc. and Patrick Gruber.	8-K	001-35073	August 16, 2024	10.1	
10.24#	Employment Agreement, amended and restated as of August 12, 2024, by and among Gevo, Inc. and Christopher Ryan.	8-K	001-35073	August 16, 2024	10.2	
10.25#	Employment Agreement, dated August 12, 2024, by and among Gevo, Inc. and Paul Bloom.	8-K	001-35073	August 16, 2024	10.3	
10.26#	Employment Agreement, dated August 12, 2024, by and among Gevo, Inc. and Kimberly Bowron.	8-K	001-35073	August 16, 2024	10.4	
16.1	Letter of Grant Thornton LLP to the Securities and Exchange Commission, dated June 7, 2024.	8-K	001-35073	June 7, 2024	16.1	
19.1	Insider Trading Policy.					X
21.1	List of Subsidiaries.					X
23.1	Consent of Deloitte & Touche LLP					X

Exhibit No.	Description	Incorporated by Reference Form	File No.	Filing Date	Exhibit	Filed Herewith
23.2	Consent of Grant Thornton LLP.					X
31.1	Section 302 Certification of the Principal Executive Officer.					X
31.2	Section 302 Certification of the Principal Financial Officer.					X
32.1 *	Section 906 Certifications of the Principal Executive Officer and the Principal Financial Officer.					*
97	Gevo, Inc. Compensation Recovery Policy	10-K	001-35073	March 7, 2024	97	
101.INS	Inline XBRL Instance Document (the Instance Document does not appear in the Interactive Data File because its XBRL tags are embedded within the Inline XBRL document)					X
101.SCH	Inline XBRL Taxonomy Extension Schema					X
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase					X
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase					X
01.LAB	Inline XBRL Taxonomy Extension Label Linkbase					X
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase					X
104	Cover Page Interactive Data File (embedded within the Inline XBRL and contained in Exhibit 101)					

† Certain portions have been omitted pursuant to a confidential treatment request. Omitted information has been filed separately with the SEC.

\+ Certain portions of the exhibit have been omitted pursuant to Rule 601(b)(10) of Regulation S-K. The omitted information is (i) not material and (ii) would likely cause competitive harm to the Company if publicly disclosed.

++ Confidential portions of the exhibit have been redacted from the filed version of the exhibit and are marked with a ***

†† Schedules have been omitted pursuant to Item 601(a)(5) of Regulation S-K. The Company hereby undertakes to supplementally furnish copies of any omitted schedules to the Securities and Exchange Commission upon request.

\# Indicates a management contract or compensatory plan or arrangement.

*	Furnished herewith

(b) Exhibits

See Item 15(a)(3) above.

(c) Financial Statement Schedules

See Item 15(a)(2) above.

**Item 16.	Form 10-K Summary**

None.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.

Gevo, Inc.
(REGISTRANT)

By: /s/ Sylvia Gendenjamts
Sylvia Gendenjamts, CPA
Vice President Accounting and Treasurer
(Principal Accounting Officer)

Date: March 27, 2025

Pursuant to the requirements of the Securities Exchange Act of 1934, this Report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated:

Signatures	Title	Date
/s/ PATRICK R. GRUBER **Patrick R. Gruber, Ph.D.**	Chief Executive Officer (Principal Executive Officer) and Director	March 27, 2025
/s/ L. LYNN SMULL **L. Lynn Smull**	Chief Financial Officer (Principal Financial Officer)	March 27, 2025
/s/ SYLVIA GENDENJAMTS **Sylvia Gendenjamts, CPA**	Vice President Accounting and Treasurer (Principal Accounting Officer)	March 27, 2025
/s/ WILLIAM H. BAUM **William H. Baum**	Chairperson of the Board of Directors	March 27, 2025
/s/ GARY W. MIZE **Gary W. Mize**	Director	March 27, 2025
/s/ ANDREW J. MARSH **Andrew J. Marsh**	Director	March 27, 2025
/s/ JAIME GUILLEN **Jaime Guillen**	Director	March 27, 2025
/s/ CAROL J. BATTERSHELL **Carol J. Battershell**	Director	March 27, 2025
/s/ ANGELO AMORELLI **Angelo Amorelli**	Director	March 27, 2025
/s/ MARY KATHRYN ELLET **Mary Kathryn Ellet**	Director	March 27, 2025

GEVO, INC.

INSIDER TRADING POLICY

AND GUIDELINES WITH RESPECT TO CERTAIN TRANSACTIONS IN COMPANY SECURITIES

This Insider Trading Policy (the *"**Policy**"*) provides guidelines to employees, officers and directors of Gevo, Inc. and any of its subsidiaries (collectively, the *"**Company**"*) with respect to transactions in the Company's securities. The Company has adopted this Policy and the procedures set forth herein to help prevent insider trading and to assist the Company's employees, officers and directors in complying with their obligations under the federal securities laws. Employees, officers and directors are individually responsible to understand and comply with this Policy.

A. APPLICABILITY OF POLICY

This Policy applies to all transactions in the Company's securities, including common stock, restricted stock, restricted stock units, stock appreciation rights, performance units, deferred share units, options and warrants to purchase common stock and any other debt or equity securities the Company may issue from time to time, such as bonds, preferred stock and convertible debentures, as well as to derivative securities relating to the Company's securities, whether or not issued by the Company, such as exchange-traded options. This Policy applies to all employees, officers and directors of the Company and members of their immediate families who reside with them or anyone else who lives in their household, and family members who live elsewhere but whose transactions in the Company's securities are directed by them or subject to their influence and control (collectively referred to as *"**Family Members**"*). This Policy also imposes specific blackout period and pre-clearance procedures on directors, officers and certain other designated employees of the Company who receive or have access to Material Nonpublic Information (as defined below) and/or are subject to the reporting provisions and trading restrictions of Section 16 of the Securities Exchange Act of 1934, as amended (the ***"Exchange Act"***).

The current *"**Insider Trading Compliance Officers**"* referred to herein are the Chief Accounting Officer and the Vice-President - General Counsel & Secretary of the Company.

B. DEFINITION OF MATERIAL NONPUBLIC INFORMATION

It is not possible to define all categories of material information. However, information should be regarded as material if there is a substantial likelihood that it would be considered important to a reasonable investor in making a voting decision or an investment decision to buy, hold or sell securities. Any information that could be expected to affect the market price of the Company's securities, whether such information is positive or negative, should be considered material. Because trading that receives scrutiny will be evaluated after the fact with the benefit of hindsight, questions as to the materiality of particular information should be resolved in favor of materiality, and trading should be avoided. Directors, officers and certain other employees of the Company are subject to the Blackout Period provisions described in **Section F.1** of this Policy.

While it may be difficult under this standard to determine whether particular information is material, there are various categories of information that are particularly sensitive and, as a general rule, should always be considered material. Examples of such information may include:

- Financial results and forecasts;
- Projections of future earnings or losses;
- Scientific, clinical or regulatory results;
- Communications with government agencies, such as the Securities and Exchange Commission and the Environmental Protection Agency;
- Notice of issuance of patents or the acquisition or disposition of other material intellectual property rights;
- News of, or development in, a pending or proposed merger, acquisition or tender offer;
- News of, or development in, a pending or proposed acquisition or disposition of significant assets;
- News of, or development in, strategic partnerships or relationships;
- Major discoveries or significant changes or developments in products or product lines, research or technologies;
- Impending bankruptcy or financial liquidity problems;
- Gain or loss of a significant customer or supplier;
- Significant expansion or curtailment of operations;
- Significant pricing changes;
- Stock splits and stock repurchase programs;
- New equity or debt offerings;
- Actual or threatened major litigation, or the resolution of such litigation; and
- Changes in senior management.

"Material Nonpublic Information" is material information about the Company that has not been previously disclosed to the general public through a press release or securities filings and is otherwise not available generally to the general public.

Statement of Policy

C. General Policy

It is the policy of the Company to oppose the unauthorized disclosure of any nonpublic information acquired in the workplace, the use of Material Nonpublic Information in securities trading, and any other violation of applicable securities laws.

D. Specific Policies

1. **Trading on Material Nonpublic Information**. No employee, officer or director of the Company and no Family Member of any such person, shall engage in any transaction involving a purchase or sale of the Company's securities, including any offer to purchase or offer to sell (other than pursuant to a trading plan that complies with Securities and Exchange Commission (***"SEC"***) Rule 10b5-1 and is implemented in accordance with **Section G** of this Policy), during any period commencing with the date that he or she possesses Material Nonpublic Information and ending at the close of business on the second Trading Day (as defined below) following the date of public disclosure of that information, or at such time as such nonpublic information is no longer material. As used in this Policy, the term ***"Trading Day"*** shall mean a day on which The Nasdaq Stock Market, LLC (***"Nasdaq"***) is open for trading. If, for example, the Company were to make an announcement of previously Material Nonpublic Information on a Monday, employees, officers and directors who had access to such information prior to such time shall not trade in the Company's securities until that Thursday.

2. **Tipping**. No employee, officer or director of the Company shall disclose or pass on (***"tip"***) Material Nonpublic Information to any other person, including a Family Member or friend, nor shall such person make recommendations or express opinions on the basis of Material Nonpublic Information as to trading in the Company's securities.

3. **Confidentiality of Nonpublic Information**. Nonpublic information relating to the Company is the property of the Company and the unauthorized disclosure of such information is forbidden.

E. Potential Criminal and Civil Liability and/or Disciplinary Action

1. **Liability for Insider Trading**. Any employee, officer or director of the Company who engages in a transaction in the Company's securities at a time when he or she has knowledge of Material Nonpublic Information may be subject to an SEC civil investigation, cease and desist order or other administrative action, and incur federal and state law penalties and sanctions, including but not limited to:

- a civil penalty of up to three times the profit gained or loss avoided as a result of the insider trading;

- up to 20 years in jail; and
- a criminal fine of up to $5,000,000.

There is no *de minimis* exception to the rule against insider trading. Use of inside information to gain personal benefit is as illegal with respect to a few shares of stock as it is with respect to a large number of shares.

2. Liability for Tipping. Any employee, officer or director of the Company who tips (***"tippers"***) a third party (commonly referred to as a ***"tippee"***) may also be liable for improper transactions by tippees to whom they have tipped Material Nonpublic Information regarding the Company or to whom they have made recommendations or expressed opinions on the basis of such information as to trading in the Company's securities. Tippers and tippees would be subject to the same penalties and sanctions as described above, and the SEC has imposed large penalties even when the tipper or tippee did not profit from the trading. The SEC and the national securities exchanges use sophisticated electronic surveillance techniques to assess and uncover insider trading.

3. Control Persons. The Company and its supervisory personnel, if they fail to take appropriate steps to prevent illegal insider trading, may in certain circumstances be subject to the following penalties:

- a civil penalty of up to the greater of $1,425,000 (as adjusted from year-to-year) and three times the profit gained or loss avoided as a result of the employee's violation (which penalty is in addition to, not an alternative to, the employee's liability discussed under **Section E.1** of this Policy); and
- criminal penalties.

4. Possible Company-Imposed Disciplinary Actions. Employees of the Company who violate this Policy shall also be subject to disciplinary action by the Company, which may include ineligibility for future participation in the Company's equity incentive plans or termination of employment for cause.

F. Mandatory Guidelines

1. Trading Blackout Period. To ensure compliance with this Policy and applicable securities laws, and to avoid even the appearance of trading on the basis of inside information, the Company requires that its directors and executive officers, each of whom is set forth on **Appendix A** attached hereto, all other employees in the finance department of the Company set forth on **Appendix B** hereto, and any other employees designated by an Insider Trading Compliance Officer as subject to the Blackout Period (as defined below) prohibitions because of their access to the Company's internal financial statements or other Material Nonpublic Information regarding the Company's performance during annual and quarterly fiscal periods set forth on **Appendix C** hereto (collectively, ***"Designated Insiders"***), and Family Members of the foregoing, refrain from conducting transactions involving the purchase or sale of the Company's securities during the Blackout Periods established below. Each of the following periods will constitute a ***"Blackout Period"***:

> The period commencing two (2) days prior to the end of each fiscal quarter and ending at the close of business on the second Trading Day following the date of public disclosure of the Company's financial results for that quarter. For purposes of clarification, the 2nd day of such 2-day period shall be the last date of such fiscal quarter. If such public disclosure occurs on a Trading Day before the markets close, then that day shall be considered the first Trading Day. If such public disclosure occurs after the markets close on a Trading Day, then the date of public disclosure shall not be considered the first Trading Day following the date of public disclosure.

In addition to the Blackout Periods described above, the Company may announce "special" Blackout Periods from time to time if, in the judgment of the Company's Chief Executive Officer or an Insider Trading Compliance Officer, there are nonpublic developments that would be considered material for insider trading law purposes, such as, among other things, developments relating to regulatory matters, litigation or a major corporate transaction. Depending on the circumstances, a "special" Blackout Period may apply to all Designated Insiders or only a specific group of Designated Insiders. An Insider Trading Compliance Officer will provide written notice to Designated Insiders subject to a "special" Blackout Period. Any person made aware of the existence of a "special" Blackout Period should not disclose the existence of the "special" Blackout Period to any other person. The failure of the Company to designate a person as being subject to a "special" Blackout Period will not relieve that person of the obligation not to trade while he or she is aware of Material Nonpublic Information. As used in this Policy, the term "Blackout Period" shall mean all periodic Blackout Periods and all "special" Blackout Periods announced by the Company.

The purpose behind the Blackout Period is to help establish a diligent effort to avoid any improper transactions. Trading in the Company's securities outside a Blackout Period should not be considered a "safe harbor", and all employees, officers and directors of the Company and other persons subject to this Policy should use good judgment at all times. Even outside a Blackout Period, any person possessing Material Nonpublic Information concerning the Company should not engage in any transactions in the Company's securities until such information has been known publicly for at least two Trading Days after the date of announcement. Although the Company may from time to time impose "special" Blackout Periods, because of developments known to the Company and not yet disclosed to the public, each person is individually responsible at all times for compliance with the prohibitions against insider trading.

Transactions effected pursuant to a SEC Rule 10b5-1 trading plan implemented in accordance with **Section G** of this Policy are not subject to Blackout Periods.

2. Pre-clearance of Trades. The Company has determined that all directors and executive officers and their Family Members must refrain from trading in the Company's securities without first complying with the Company's "pre-clearance" process. Each director or executive officer must contact an Insider Trading Compliance Officer not less than two Trading Days prior to commencing any trade, or before any of their Family Members commences any trade, in the Company's securities. This pre-clearance requirement applies to any transaction or transfer involving the Company's securities, including a gift, transfer to a trust or any other transaction in the Company's securities.

The Company may also find it necessary, from time to time, to require compliance with the pre-clearance process from other employees designated as Designated Insiders.

An Insider Trading Compliance Officer must pre-clear each proposed trade or transfer (provided that an Insider Trading Compliance Officer cannot pre-clear his or her own proposed trade or transfer under this Policy). The Insider Trading Compliance Officers are not under any obligation to approve a trade submitted for pre-clearance, and may determine not to permit a trade.

To facilitate the process, the Company has prepared a pre-clearance request form, attached hereto as **Exhibit B**, to be completed and provided to an Insider Trading Compliance Officer. An Insider Trading Compliance Officer will assist with the approval process. No trade or transfer may be effected until the requesting director, executive officer, Family Member of a director or executive officer or, as required under this Policy, other employee of the Company, has received the approved Pre-Clearance Request Form, even if two (2) Trading Days have passed since the Pre-Clearance Request Form was submitted to an Insider Trading Compliance Officer. If, upon requesting pre-clearance or otherwise, a director or executive officer or a Family Member of a director or executive officer is advised that Company securities may not be traded, such director, executive officer or Family Member may not buy, sell or otherwise trade any Company securities under any circumstance, and may not inform anyone of such restriction. This trading restriction will apply until the officer, director or Family Member receives a subsequent pre-clearance to trade his or her Company securities.

Transactions effected pursuant to a SEC Rule 10b5-1 trading plan implemented in accordance with **Section G** of this Policy will not require further pre-clearance at the time of each such transaction.

3. Hardship Exceptions. Any Designated Insider or Family Member of such insider who has an unexpected and urgent need to sell Company securities in order to generate cash may, in appropriate circumstances, be permitted to sell Company securities even during a Blackout Period. Hardship exceptions may be granted only by an Insider Trading Compliance Officer and must be requested at least two (2) days in advance of the proposed trade. A hardship exception may be granted only if the Insider Trading Compliance Officer concludes that the Company's earnings information for the applicable quarter does not constitute Material Nonpublic Information. Under no circumstances will a hardship exception be granted during a "special" blackout period or to a director or executive officer.

4. Individual Responsibility. Every director, officer and employee of the Company has the individual responsibility to comply with this Policy regardless of whether a transaction is executed outside a Blackout Period or is pre-cleared by the Company. The restrictions and procedures are intended to help avoid inadvertent instances of improper insider trading, but appropriate judgment should always be exercised by each employee, officer and director of the Company in connection with any trade in the Company's securities.

An employee, officer or director of the Company may, from time to time, need to forego a proposed transaction in the Company's securities even if he or she planned to make the transaction before learning of Material Nonpublic Information and even though the individual believes he or she may suffer an economic loss or forego anticipated profit by waiting.

G. Rule 10b5-1 Trading Plans

SEC Rule 10b5-1 provides an affirmative defense from insider trading liability under the federal securities laws for trading plans that meet certain requirements. It does not prevent someone from bringing a lawsuit. This Policy permits individuals to adopt SEC Rule 10b5-1 trading plans with brokers that outline a pre-set plan for trading of the Company's securities, including the exercise of equity awards.

As required by SEC Rule 10b5-1, a director, executive officer or other employee of the Company identified as a Designated Insider may implement a trading plan under SEC Rule 10b5-1 only when he or she is not in possession of Material Nonpublic Information. In addition, a trading plan may not be entered into during a Blackout Period. Any executive officer or other employee of the Company identified as a Designated Insider who wishes to implement a trading plan under SEC Rule 10b5-1 must first pre-clear the plan with an Insider Trading Compliance Officer, and also must pre-clear any amendment to such plan with an Insider Trading Compliance Officer.

Establishing a trading plan under SEC Rule 10b5-1 does not exempt transactions from the short-swing profit provisions of Section 16 of the Exchange Act (***"Section 16"***).

H. Certain Exceptions

1. Equity Award Exercises. For purposes of this Policy, the Company considers that the exercise of equity awards under the Company's equity incentive plans (but not the sale of the underlying stock) to be exempt from this Policy. This Policy does apply, however, to any sale of stock as part of a broker-assisted "cashless" exercise of an equity award, or any market sale for the purpose of generating the cash needed to pay the exercise price of an equity award.

2. **Restricted Stock Awards or Restricted Stock Units**. This Policy's trading restrictions generally do not apply to the vesting of restricted stock or restricted stock units or the Company's withholding of shares of stock to satisfy tax withholding requirements upon the vesting of any restricted stock or restricted stock units (assuming such withholding is permitted by the Company). The trading restrictions do apply, however, to any market sale of stock received upon vesting of such awards.

2. 401(k) Plan. This Policy does not apply to purchases of Company stock in the Company's 401(k) plan resulting from periodic contributions of money to the plan pursuant to payroll deduction elections. This Policy does apply, however, to certain elections that may be made under the 401(k) plan, including: (a) an election to increase or decrease the percentage of periodic contributions that will be allocated to the Company stock fund, if any; (b) an election to make an intra-plan transfer of an existing account balance into or out of the Company stock fund; (c) an election to borrow money against a 401(k) plan account if the loan will result in a liquidation of some or all of a participant's Company stock fund balance; and (d) an election to pre-pay a plan loan if the pre-payment will result in allocation of loan proceeds to the Company stock fund.

3. Employee Stock Purchase Plan. This Policy does not apply to purchases of Company stock in any employee stock purchase plan of the Company resulting from periodic contributions of money to the plan pursuant to the elections made at the time of enrollment in the plan. This Policy also does not apply to purchases of Company stock resulting from lump sum contributions to the plan, provided that the participant elected to participate by lump-sum payment at the beginning of the applicable enrollment period. This Policy does apply to a participant's election to participate in or increase his or her participation in the plan, and to a participant's sales of Company stock purchased pursuant to the plan.

4. Dividend Reinvestment Plan. This Policy does not apply to purchases of Company stock under any dividend reinvestment plan of the Company resulting from reinvestment of dividends paid on Company securities. This Policy does apply, however, to voluntary purchases of Company stock that result from additional contributions a participant chooses to make to the plan, and to a participant's election to participate in the plan or increase his or her level of participation in the plan. This Policy also applies to his or her sale of any Company stock purchased pursuant to the plan.

In addition, *bona fide gifts* are not transactions subject to this Policy, unless the person making the gift has reason to believe that the recipient intends to sell the Company securities while the donor is aware of Material Nonpublic Information, or the person making the gift is subject to any trading restrictions described under this Policy

I. Applicability of Policy to Inside Information Regarding Other Companies

This Policy and the guidelines described herein also apply to material nonpublic information relating to other companies, including the Company's customers, vendors or suppliers (collectively, ***"business partners"***), when that information is obtained in the course of employment with, or other services performed on behalf of, the Company. Civil and criminal penalties, and termination of employment, may result from trading on inside information regarding the Company's business partners. All Company employees should treat material nonpublic information about the Company's business partners with the same care required with respect to information related directly to the Company.

J. Section 16 Liability - Directors and Officers

Directors and certain officers of the Company must also comply with the reporting obligations and limitations on short-swing profit transactions set forth in Section 16. The practical effect of these provisions is that these officers and directors who purchase and sell the Company's securities within a six-month period must disgorge all profits to the Company whether or not they had knowledge of any Material Nonpublic Information. Under these provisions, and so long as certain other criteria are met, neither the receipt of stock or stock options under the Company's stock plans, nor the exercise of options nor the receipt of stock under a Company dividend reinvestment plan or the Company's 401(k) retirement plan is deemed a purchase that can be matched against a sale for Section 16(b) short-swing profit disgorgement purposes; however, the sale of any such shares so obtained is a sale for these purposes. The Company will provide separate memoranda and other appropriate materials to the affected officers and directors regarding compliance with Section 16 and its related rules.

The rules on recovery of short-swing profits are absolute and do not depend on whether a person has Material Nonpublic Information.

K. Short Sales

No officer, director, other employee or consultant of the Company may engage in short sales of the Company's securities, including a "sale against the box," at any time.

L. Publicly-Traded Options

A transaction in options is, in effect, a bet on the short-term movement of the Company's stock and therefore creates the appearance that the director or employee is trading based on inside information. Transactions in options also may focus the trader's attention on short-term performance at the expense of the Company's long-term objectives. Accordingly, transactions in puts, calls or other derivative securities, on an exchange or in any other organized market, are prohibited. Option positions arising from certain types of hedging transactions are governed by **Section M** of this Policy.

M. Hedging or Monetization Transactions

Certain forms of hedging or monetization transactions, such as zero-cost collars and forward sale contracts, allow a director, officer or employee to lock in much of the value of his or her stock holdings, often in exchange for all or part of the potential for upside appreciation in the stock. These transactions would allow them to continue to own the covered securities, but without the full risks and rewards of ownership. When that occurs, their interests and the interests of the Company and its stockholders may be misaligned and may signal a message to the trading market when disclosed in Section 16 reports that may not be in the best interests of the Company and its stockholders at the time it is conveyed. Accordingly, transactions in hedging or monetization transactions involving Company securities are prohibited.

N. Margin Accounts and Pledges

Securities held in a margin account may be sold by the broker without the customer's consent if the customer fails to meet a margin call. Similarly, securities pledged (or hypothecated) as collateral for a loan may be sold in foreclosure if the borrower defaults on the loan. A margin sale or foreclosure sale may occur at a time when the pledgor is aware of Material Nonpublic Information or otherwise is not permitted to trade in Company securities pursuant to Blackout Period restriction. Thus, unless pre-cleared by an Insider Trading Compliance Officer, directors, officers and employees are prohibited from pledging Company securities as collateral for a loan. Any director, officer or employee of the Company preparing to pledge his or her Company securities must clearly demonstrate his or her financial capacity to repay the loan without resort to the pledged securities. Any person proposing to pledge Company securities as collateral for a loan must submit a request for approval to an Insider Trading Compliance Officer at least two weeks prior to the proposed execution of documents evidencing the proposed pledge.

O. STANDING ORDERS

Standing orders should be used only for a very brief period of time. A standing order placed with a broker or other nominee to sell or purchase stock at a specified price leaves an employee, officer or director of the Company with no control over the timing of the transaction. A standing order transaction executed by the broker or other nominee when such employee, officer or director of the Company is aware of Material Nonpublic Information may result in unlawful insider trading.

P. POST-TERMINATION TRANSACTIONS

In the event an employee, officer or director of the Company resigns or terminates employment or service with the Company, this Policy shall continue to apply to transactions in Company securities by such individual for so long as he or she remains in possession of any Material Nonpublic Information possessed by such employee, officer or director as of his or her resignation or termination. Notwithstanding the foregoing, all former employees, officers and directors shall remain subject to the prohibitions against insider trading set forth under federal and state securities laws any time they engage in transactions in Company securities following their resignation or termination.

Q. COMMUNICATIONS WITH THE PUBLIC

The Company is subject to the SEC's Regulation FD (Fair Disclosure) and must avoid selective disclosure of Material Nonpublic Information. The Company has established procedures for releasing material information in a manner that is designed to achieve broad public dissemination of the information immediately upon its release. Pursuant to Company policy, only the executive officers who have been authorized to engage in communications with the public may disclose information to the public regarding the Company and its business activities and financial affairs. The public includes, without limitation, research analysts, portfolio managers, financial and business reporters, news media and investors. In addition, because of the risks associated with the exchange of information through such communications media, Company employees are strictly prohibited from posting or responding to messages containing information regarding the Company on Internet "bulletin boards," Internet "chat rooms" or in similar online forums. Employees who inadvertently disclose any Material Nonpublic Information must immediately advise an Insider Trading Compliance Officer so the Company can assess its obligations under Regulation FD and other applicable securities laws.

R. INQUIRIES

Please direct questions as to any of the matters discussed in this Policy to either of the following Insider Trading Compliance Officers:

Sylvia Gendenjamts
Vice President of Accounting and Treasurer
Gevo, Inc.
345 Inverness Dr. South, Bldg. C, Suite 310
Englewood, CO 80112
Telephone: [*****]
E-mail: [*****]

E. Cabell Massey
Vice President, Legal and Corporate Secretary
Gevo, Inc.
345 Inverness Dr. South, Bldg. C, Suite 310
Englewood, CO 80112
Telephone: [*****]
E-mail: [*****]

S. Suspected Violations

Any director, officer, other employee or consultant of the Company who knows of or suspects a violation of this Policy should report the violation immediately to an Insider Trading Compliance Officer or through the procedures for anonymous reporting outlined in the Company's Open Door Policy for Reporting Complaints Regarding Accounting, Auditing and Other Matters. The Company will comply with all requests from the SEC, Nasdaq and other agencies for information related to insider trading investigations.

T. Certification

All employees, officers and directors of the Company must certify their understanding of, and intent to comply with, this Policy by executing the Certification attached hereto as **Exhibit A** and returning it to an Insider Trading Compliance Officer.

EXHIBIT A

GEVO, INC.

INSIDER TRADING POLICY

CERTIFICATION

I certify that:

1. I have received, read and understand the Insider Trading Policy (the "Policy") of Gevo, Inc. ("Gevo"). I understand that a Gevo Insider Trading Compliance Officer is available to answer any questions I have regarding the Policy.

2. I will comply with the Policy for as long as I am subject to the Policy.

3. I understand that my failure to comply in all respects with the Policy is a basis for termination for cause of my employment or other service relationship with Gevo or any of its subsidiaries, as well as potential civil and criminal penalties.

Signature: ____________________________

Print name: ___________________________

Date: ________________________________

EXHIBIT B

To: Gevo, Inc. (the "Company")
Insider Trading Compliance Officer

From: _________________________ (telephone: _________________)

Re: Proposed Transaction in the Company's Securities

This is to advise you that the undersigned intends to execute a transaction in the Company's securities (the "Transaction") on or before ____________________ (the "Transaction Deadline")[1], and does hereby request that the Company pre-clear the proposed Transaction, as required by the Company's Insider Trading Policy (the "Policy").

The terms of the proposed Transaction are as follows:

Nature of Transaction *(check one)*	☐ Purchase ☐ Sale
Maximum Number of Shares of Common Stock, Units or Rights	Up to ______________________
Price Limit(s)	If Purchase: at or *below* $________ per share/unit/right If Sale: at or *above* $_________ per share/unit/right
Public or Private Transaction *(check one)*	☐ Public ☐ Private

The undersigned is not in possession of material nonpublic information about the Company or its affiliates, including any of its subsidiaries, and agrees to not enter into the Transaction if the undersigned comes into possession of material nonpublic information about the Company or its affiliates, including any of its subsidiaries, between the date hereof and the time the Transaction is effected. The undersigned has read and understands the terms of the Policy and certifies that the proposed Transaction will not violate the Policy.

The undersigned agrees to advise the Insider Trading Compliance Officer immediately if, for any reason, any of the foregoing information becomes inaccurate or incomplete in any respect. The undersigned further acknowledges and agrees that if the proposed Transaction is not executed by the Transaction Deadline, the undersigned must submit an additional request for pre-clearance to, and receive approval from, the Insider Trading Compliance Officer (and any additional officer of the Company as required under the Policy) in order to execute the proposed Transaction.

[1] The Transaction Deadline shall be the end of the third business day following the date of written approval of this request for pre-clearance by the Company.

The undersigned understands that the Company may require additional information about the Transaction, and agrees to provide such information immediately upon request.

The undersigned understands that any approval granted hereby on behalf of the Company may be rescinded prior to the time that any portion of the Transaction is effected if, in the sole reasonable judgment of the Company, the execution of such Transaction would violate the Policy or otherwise be inadvisable.

Dated: _______________, 20___

Sincerely,

____
[Signature]

____
[Print Name]

Approved:

By:___________________________________
Insider Trading Compliance Officer
Name:__________________________________

Exhibit 21.1

Subsidiaries of Gevo, Inc.

Name of Subsidiary	Jurisdiction
Gevo Asset, LLC	Delaware
Gevo RNG Holdco, LLC	Delaware
Gevo NW Iowa RNG, LLC	Delaware
Agri-Energy, LLC	Minnesota
Gevo Net-Zero Holdco, LLC	Delaware
Gevo Net-Zero 1, LLC	Delaware
Gevo Net-Zero Operations, LLC	Delaware
Gevo Net-Zero Asset Management, LLC	Delaware
Verity Holdings, LLC	Delaware
Cultivate Agricultural Intelligence, LLC	Florida
Gevo North Dakota Asset Management, LLC	Delaware
Gevo Intermediate HoldCo, LLC	Delaware
Net-Zero North HoldCo, LLC	Delaware
Net-Zero Richardton, LLC	Delaware
Richardton CCS, LLC	Delaware
Gevo North Dakota Operations, LLC	Delaware

Exhibit 23.1

CONSENT OF INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS

We have issued our report dated March 27, 2025, with respect to the consolidated financial statements included in the Annual Report of Gevo, Inc. on Form 10-K for the year ended December 31, 2024. We consent to the incorporation by reference of said report in the Registration Statements of Gevo, Inc. on Forms S-8 (File No. 333-172771, File No. 333-195264, File No. 333-207172, File No. 333-212391, File No. 333-226689, File No. 333-232267, File No. 333-239275, File No. 333-257971, and File No. 333-272380) and on Forms S-3 (File No. 333-276515, File No. 333-252229, and File No. 333-226686).

/s/ DELOITTE & TOUCHE LLP

Denver, Colorado
March 27, 2025

Exhibit 23.2

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We have issued our report dated March 7, 2024 (except for Note 22, as to which the date is March 27, 2025), with respect to the consolidated financial statements included in the Annual Report of Gevo, Inc. on Form 10-K for the year ended December 31, 2024. We consent to the incorporation by reference of said report in the Registration Statements of Gevo, Inc. on Forms S-8 (File No. 333-172771, File No. 333-195264, File No. 333-207172, File No. 333-212391, File No. 333-226689, File No. 333-232267, File No. 333-239275, File No. 333-257971, and File No. 333-272380) and on Forms S-3 (File No. 333-276515, File No. 333-252229, and File No. 333-226686).

/s/ GRANT THORNTON LLP

Denver, Colorado
March 27, 2025

Exhibit 31.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER

I, Patrick R. Gruber, certify that:

1. I have reviewed this Annual Report on Form 10-K of Gevo, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this report;

4. The Registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and have:

    a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

    b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

    c) Evaluated the effectiveness of the Registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

    d) Disclosed in this report any change in the Registrant’s internal control over financial reporting that occurred during the Registrant’s most recent fiscal quarter (the Registrant’s fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant’s internal control over financial reporting; and

5. The Registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Registrant’s auditors and the audit committee of the Registrant’s board of directors (or persons performing the equivalent functions):

    a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Registrant’s ability to record, process, summarize and report financial information; and

    b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Registrant’s internal control over financial reporting.

Date: March 27, 2025

/s/ Patrick R. Gruber

Patrick R. Gruber
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER

I, L. Lynn Smull, certify that:

1. I have reviewed this Annual Report on Form 10-K of Gevo, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the Registrant as of, and for, the periods presented in this report;

4. The Registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the Registrant and have:

   a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the Registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) Evaluated the effectiveness of the Registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) Disclosed in this report any change in the Registrant's internal control over financial reporting that occurred during the Registrant's most recent fiscal quarter (the Registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the Registrant's internal control over financial reporting; and

5. The Registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the Registrant's auditors and the audit committee of the Registrant's board of directors (or persons performing the equivalent functions):

   a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the Registrant's ability to record, process, summarize and report financial information; and

   b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the Registrant's internal control over financial reporting.

Date: March 27, 2025

/s/ L. Lynn Smull

L. Lynn Smull
Chief Financial Officer
(Principal Financial Officer)

CERTIFICATIONS PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002
(18 U.S.C. SECTION 1350)

I, Patrick R. Gruber, Chief Executive Officer of Gevo, Inc. (the "Company"), and I, Lynn Smull, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that:

(1) The Annual Report on Form 10-K of the Company for the year ended December 31, 2024, (the "Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended; and

(2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company for the period covered by the Report.

/s/ Patrick R. Gruber

Patrick R. Gruber
Chief Executive Officer
(Principal Executive Officer)

Date: March 27, 2025

/s/ L. Lynn Smull

L. Lynn Smull
Chief Financial Officer
(Principal Financial Officer)

Date: March 27, 2025