Gevo, Inc.
Form 10-K
March 30, 2016

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

Form 10-K

(Mark One)

x ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2015

or

¨TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
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	Name of Each Exchange on Which Registered
Common Stock, par value $0.01 per share	NASDAQ Capital Market

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 x

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 x

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 x No ¨

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (Section 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes x No ¨

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§229.405 of this chapter) is not contained herein, and will not be contained, to the best of the registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. x

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

Large accelerated filer ¨	Accelerated filer ¨
Non-accelerated filer x (Do not check if a smaller reporting company)	Smaller reporting company ¨

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

The aggregate market value of 16,499,378 shares of voting stock held by non-affiliates of the registrant, based on the closing sale price of the common stock as reported on the NASDAQ on June 30, 2015, the last business day of the registrant's most recently completed second fiscal quarter, of $3.27 per share was $53,952,966. Shares of common stock held by each officer, director and holder of 5% 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 February 29, 2016, the number of outstanding shares of the registrant's common stock, par value $0.01 per share, was 23,510,855.

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 2016 annual meeting of stockholders to be filed no later than 120 days after the end of the registrant's fiscal year ended December 31, 2015.

GEVO, INC.

FORM 10-K—ANNUAL REPORT

For the Fiscal Year Ended December 31, 2015

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Forward-Looking Statements

This report contains forward-looking statements within the meaning of Section 21 E of the Securities Exchange Act of 1934 (the "Exchange Act"). When used anywhere in this Annual Report on Form 10-K (this "Report"), the words "expect," "believe," "anticipate," "estimate," "intend," "plan" and similar expressions are intended to identify forward-looking statement 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 achievement 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: the continued listing of our common stock on the NASDAQ, our ability to raise additional funds to continue operations, our ability to produce isobutanol at a profit, achievement of advances in our technology platform, the success of our retrofit production model, our ability to gain market acceptance for our products, additional competition and changes in economic conditions. 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 U.S. Securities and Exchange Commission (the "SEC"), including this Report in "Management's Discussion and Analysis of Financial Condition and Results of Operations," "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 "we," "us," "our" and "Company" refer to Gevo, Inc. and its wholly-owned and indirect subsidiaries.

This Report contains estimates and other information concerning our target markets that are based on industry publications, surveys and forecasts, including those generated by SRI Consulting, a division of Access Intelligence, LLC, Chemical Market Associates, Inc., the U.S. Energy Information Association (the "EIA"), the International Energy Agency (the "IEA"), the Renewable Fuels Association, and Nexant, Inc. ("Nexant"). Certain target market sizes presented in this Report have been calculated by us (as further described below) based on such information. This information involves a number of assumptions and limitations and you are cautioned not to give undue weight to this information. The industry in which we operate is subject to a high degree of uncertainty and risk due to a variety of factors, including those described in "Risk Factors." These and other factors could cause actual results to differ materially from those expressed in these publications, surveys and forecasts.

Conventions that Apply to this Report

With respect to calculation of product market volumes:

- product market volumes are provided solely to show the magnitude of the potential markets for isobutanol and the products derived from it. They are not intended to be projections of our actual isobutanol production or sales;
- product market volume calculations for fuels markets are based on data available for the year 2013;
- product market volume calculations for chemicals markets are based on data available for the year 2012; and
- volume data with respect to target market sizes is derived from data included in various industry publications, surveys and forecasts generated by the EIA, the IEA and Nexant.

We have converted these market sizes into volumes of isobutanol as follows:

- we calculated the size of the market for isobutanol as a gasoline blendstock and oxygenate by multiplying the world gasoline market volume by an estimated 12.5% by volume isobutanol blend ratio;
- we calculated the size of the specialty chemicals markets by substituting volumes of isobutanol equivalent to the volume of products currently used to serve these markets;
- we calculated the size of the petrochemicals and hydrocarbon fuels markets by calculating the amount of isobutanol that, if converted into the target products at theoretical yield, would be needed to fully serve these markets (in substitution for the volume of products currently used to serve these markets); and
- for consistency in measurement, where necessary we converted all market sizes into gallons.

Conversion into gallons for the fuels markets is based upon fuel densities identified by Air BP Ltd. and the American Petroleum Institute.

PART I

Item 1. Business.

Company Overview

We are a renewable chemicals and next generation biofuels company. We have developed proprietary technology that uses a combination of synthetic biology, metabolic engineering, chemistry and chemical engineering to focus primarily on the production of isobutanol, as well as related products from renewable feedstocks. Isobutanol is a four-carbon alcohol that can be sold directly for use as a specialty chemical in the production of solvents, paints and coatings or as a value-added gasoline blendstock. Isobutanol can also be converted into butenes using dehydration chemistry deployed in the refining and petrochemicals industries today. The convertibility of isobutanol into butenes is important because butenes are primary hydrocarbon building blocks used in the production of hydrocarbon fuels, lubricants, polyester, rubber, plastics, fibers and other polymers. We believe that the products derived from isobutanol have potential applications in substantially all of the global hydrocarbon fuels markets and in approximately 40% of the global petrochemicals markets.

In order to produce and sell isobutanol made from renewable sources, we have developed the Gevo Integrated Fermentation Technology® ("GIFT®"), an integrated technology platform for the efficient production and separation of renewable isobutanol. GIFT® consists of two components, proprietary biocatalysts that convert sugars derived from multiple renewable feedstocks into isobutanol through fermentation, and a proprietary separation unit that is designed to continuously separate isobutanol during the fermentation process. We developed our technology platform to be compatible with the existing approximately 25 billion gallons per year ("BGPY") of global operating ethanol production capacity, as estimated by the Renewable Fuels Association.

GIFT® is designed to permit (i) the retrofit of existing ethanol capacity to produce isobutanol, ethanol or both products simultaneously or (ii) the addition of renewable isobutanol or ethanol production capabilities to a facility's existing ethanol production by adding additional fermentation capacity side-by-side with the facility's existing ethanol fermentation capacity (collectively referred to as "Retrofit"). Having the flexibility to switch between the production of isobutanol and ethanol, or produce both products simultaneously, should allow us to optimize asset utilization and cash flows at a facility by taking advantage of fluctuations in market conditions. GIFT® is also designed to allow relatively low capital expenditure Retrofits of existing ethanol facilities, enabling a relatively rapid route to isobutanol production from the fermentation of renewable feedstocks. We believe that our production route will be cost-efficient, will enable relatively rapid deployment of our technology platform and allow our isobutanol and related renewable products to be economically competitive with many of the petroleum-based products used in the chemicals and fuels markets today.

Our Strategy

Our strategy is to commercialize our isobutanol for use directly as a specialty chemical and fuel blendstock and for conversion into plastics, fibers, polyester, rubber, other polymers and hydrocarbon fuels. Key elements of our strategy include:

- Successfully deploy our isobutanol technology at commercial scale at our production facility in Luverne, Minnesota.
- Build on existing agreements with customers to support capacity growth.
- Expand our production capacity via Retrofit of additional existing ethanol facilities with an emphasis on licensing.
- Expand adoption of our isobutanol across multiple applications and markets.
- Align the value chain for our isobutanol by collaborating with large brand owners and customers in particular as it relates to hydrocarbon fuels and chemicals.
- Incorporate additional feedstocks into our isobutanol production facilities.

Our Retrofit Strategy

We plan to commercialize our isobutanol through a strategy of Retrofitting existing ethanol production facilities to produce isobutanol and related renewable products and have developed our technology platform to be compatible with the existing approximately 25 BGPY of global operating ethanol production capacity. We believe that our design will enable a switch between the production of isobutanol and ethanol, or the ability to produce both products simultaneously, which will allow optimization of asset utilization and cash flows at a facility by taking advantage of fluctuations in market conditions.

The Retrofit approach allows us to project potentially lower capital outlays and a faster commercial deployment schedule than the construction of new plants. We believe the ability of GIFT® to convert sugars from multiple renewable feedstocks into isobutanol will enable us to leverage the abundant domestic sources of historically low cost grain feedstocks (e.g., corn) currently used for ethanol production and will potentially enable the expansion of our production capacity into international markets that use sugar cane or other feedstocks that are prevalent outside of the U.S.

We plan to secure access to existing ethanol production facilities through joint ventures, licensing arrangements, tolling partnerships and direct acquisitions. We then plan to work with design, engineering, and construction partners to deploy GIFT® through Retrofit of these production facilities.

Our Retrofit at the Agri-Energy Facility

In September 2010, we acquired a 22 million gallon per year ("MGPY") ethanol production facility in Luverne, Minnesota (the "Agri-Energy Facility"). The Agri-Energy Facility is a traditional dry-mill facility, which means that it uses dry-milled corn as a feedstock. In partnership with ICM, Inc. ("ICM"), we developed a detailed Retrofit design for this facility and began the Retrofit in 2011. In May 2012, we commenced initial startup operations for the production of isobutanol at the Agri-Energy Facility. In September 2012, as a result of a lower than planned production rate of isobutanol, we made the strategic decision to pause isobutanol production at the Agri-Energy Facility at the conclusion of startup operations to focus on optimizing specific parts of the process to further enhance isobutanol production rates.

In 2013, we made modifications to our Agri-Energy Facility designed to increase the isobutanol production rate. In June 2013, we resumed the limited production of isobutanol, operating one fermenter and one GIFT® separation system in order to (i) verify that the modifications had significantly reduced the previously identified infections, (ii) demonstrate that our biocatalyst performs in the one million liter fermenters at the Agri-Energy Facility, and (iii) confirm GIFT® efficacy at commercial scale at the Agri-Energy Facility. In August 2013, we expanded production capacity at the Agri-Energy Facility by adding a second fermenter and second GIFT® system to further verify our results with a second configuration of equipment. For these initial production runs, we demonstrated fermentation operations at commercial scale combined with the use of our GIFT® separation system using a dextrose (sugar) feedstock. Based on the results of these initial production runs, in October 2013 we began commissioning the Agri-Energy Facility on corn mash to test isobutanol production run rates and to optimize biocatalyst production, fermentation separation and water management systems.

In March 2014, we decided to leverage the flexibility of our GIFT® technology and further modify the Agri-Energy Facility in order to enable the simultaneous production of isobutanol and ethanol. In July 2014, we began more consistent co-production of isobutanol and ethanol at the Agri-Energy Facility, with one fermenter utilized for isobutanol production and three fermenters utilized for ethanol production.

In September 2015, we began deploying additional capital at our Agri-Energy Facility, primarily designed to decrease the cost of production for isobutanol by bringing parts of the process to the facility that have previously been done off-site by third parties. Key equipment being installed at the plant include a distillation system to purify isobutanol on site, an addition to our seed train to improve our ability to grow our yeast on site and a stainless steel fermenter to replace one of the existing carbon steel fermenters that had reached the end of its useful life. The installation of this equipment is expected to decrease our cost of production of isobutanol, with a goal of producing isobutanol at our Agri-Energy Facility at a positive contribution margin in 2016. These capital projects are anticipated to be completed in the first or second quarter of 2016.

Through December 31, 2015, we have incurred capital costs of approximately $65.5 million on the Retrofit of the Agri-Energy Facility. The Retrofit of the Agri-Energy Facility includes a number of additional capital costs that are unique to the design of the facility, including additional equipment that we believe will allow us to switch between ethanol and isobutanol production, modifications to increase the potential production capacity of GIFT® at this facility and the establishment of an enhanced yeast seed train to accelerate the adoption of improved yeast strains at this facility and at future plants. Capital expenditures at the Agri-Energy Facility also include upfront design and engineering costs, plant modifications identified as necessary during initial startup operations for the production of isobutanol and capitalized interest.

Until May 2012, when we commenced initial Retrofit startup operations for the production of isobutanol at the Agri-Energy Facility, we derived revenue from the sale of ethanol, distiller's grains and other related products produced as part of the ethanol production process at the Agri-Energy Facility. Continued ethanol production during the Retrofit process allowed us to retain local staff for the future operation of the plant, maintain the equipment and generate cash flow. Our Retrofit strategy includes the ability to switch between the production of isobutanol and ethanol, or produce both products simultaneously, with an emphasis on maximizing cash flows at a site. In the past we have been able to switch between the production of isobutanol and ethanol at the Agri-Energy Facility. In the future, we believe that we will be able to transition between the production and sale of ethanol and related products at the Agri-Energy Facility, in whole or in part, if we were to project positive cash flows from ethanol operations versus maintaining the

facility at idle or producing isobutanol, including any costs related to the transition, but there is no guarantee that this will be the case. As a result, the historical operating results of our subsidiary, Agri-Energy, LLC ("Agri-Energy"), and the operating results reported during the Retrofit to isobutanol production may not be indicative of future operating results for Agri-Energy or Gevo's consolidated results. The future return on our invested capital depends on our ability to maximize cash flows from the Retrofit of the Agri-Energy Facility.

Third Party Retrofit and Construction Activities

We have commenced a licensing strategy whereby a licensee would invest the capital for the Retrofit of its own ethanol plant or for a new greenfield build out of an isobutanol-producing plant. In return, we, as the licensor, would expect to receive an up-front license fee and ongoing royalty payments from the project, as well as other potential revenue streams such as yeast sales.

In January 2016, we entered into a license agreement and joint development agreement with Porta Hnos. S.A. ("Porta") to construct multiple isobutanol plants in Argentina using corn as a feedstock, the first of which is expected to be wholly owned by Porta and is anticipated to begin producing isobutanol in 2017. The plant is expected to have a production capacity of up to five million gallons of isobutanol per year. Once the plant is operational, we expect to generate revenues from this licensing arrangement, through royalties, sales and marketing fees, and other revenue streams such as yeast sales. The agreements also contemplate Porta constructing at least three additional isobutanol plants for certain of their existing ethanol plant customers. For these projects, we would be the direct licensor of our technology and the marketer for any isobutanol produced, and would expect to receive all royalties and sales and marketing fees generated from these projects. Porta would provide the engineering, procurement and construction ("EPC") services for the projects. The production capacity of these additional plants is still to be determined. Porta is a leading supplier of EPC services to the ethanol industry in South America. As a result, we believe that our alliance with Porta will allow us to more quickly achieve commercial-scale production of isobutanol in Argentina and potentially elsewhere in South America.

In November 2015, we entered into a joint development agreement with Praj Industries Limited ("Praj"), which establishes a strategic relationship to: (i) jointly develop our technology for use in certain ethanol plants that utilize certain non-corn based feedstocks (the "Feedstock"); (ii) jointly develop an engineering package for greenfield isobutanol plants and Retrofitting ethanol plants to produce renewable isobutanol from the Feedstock; and (iii) license our technology to build greenfield isobutanol plants and Retrofit certain ethanol plants to produce isobutanol. We and Praj will jointly develop and optimize the parameters to produce isobutanol from the Feedstock. After the development work is completed, we will negotiate commercial license agreements with Praj and third party licensees. Praj has the exclusive right to supply equipment and process engineering services for (i) certain greenfield isobutanol plants covered by the joint development agreement and (ii) the addition of isobutanol capacity for certain ethanol plants that utilize the Feedstock and Praj technology. Praj agreed to meet certain milestones to maintain its exclusive rights. We will negotiate and license our technology for producing isobutanol directly with the ethanol plants covered by the joint development agreement and will also have the right to supply biocatalysts, nutrient packages, and support services to such plants. Praj will be the EPC services supplier for the ethanol plants covered by the joint development agreement and we will be the exclusive seller of all isobutanol produced by such plants. We believe that our alliance with Praj will allow us to more quickly achieve commercial-scale production of isobutanol derived from the Feedstock outside of the United States.

In addition, in October 2013, we signed a letter of intent with IGPC Ethanol Inc. to Retrofit its approximately 40 MGPY ethanol plant, and in November 2014, we signed a letter of intent with Highlands EnviroFuels, LLC which contemplates Highlands EnviroFuels, LLC obtaining a license from us to produce renewable isobutanol at a plant that would be bolted on to the back-end of a sugar cane and sweet sorghum syrup mill and have a nameplate capacity of approximately 20 to 25 MGPY of isobutanol.

In June 2011, we entered into an isobutanol joint venture agreement with Redfield Energy, LLC, a South Dakota limited liability company ("Redfield"), under which we have agreed to work with Redfield to Retrofit Redfield's approximately 50 MGPY ethanol production facility located near Redfield, South Dakota (the "Redfield Facility") for the commercial production of isobutanol. Under the terms of the joint venture agreement, we are responsible for all costs associated with the Retrofit of the Redfield Facility. We are entitled to a percentage of Redfield's profits, losses and distributions after commercial production of isobutanol has begun. As of December 31, 2015, we have incurred $0.4 million in planning-related costs, such as project engineering and permitting costs, for the future Retrofit of the Redfield Facility. Based on our preliminary engineering estimates, we will need to raise additional debt or equity capital to Retrofit the Redfield Facility, but are not obligated to do so under the Joint Venture Agreement. There are no assurances that we will move forward with the Retrofit of the Redfield Facility. We do not expect to advance this project during 2016.

Butamax Advanced Biofuels LLC

Cross License Agreement

On August 22, 2015, we entered into a Settlement Agreement and Mutual Release (the "Settlement Agreement") with Butamax Advanced Biofuels LLC ("Butamax"), E.I. du Pont de Nemours & Company ("DuPont") and BP Biofuels North America LLC ("BP"

and, together with Butamax and DuPont, the "Butamax Parties"), that resolves the various disputes, lawsuits and other proceedings between one or more of the Butamax Parties and us, as previously disclosed and as specifically identified in the Settlement Agreement (the "Subject Litigation"), and creates a new business relationship pursuant to which Butamax and we have granted rights to each other under certain patents and patent applications in accordance with the terms of a Patent Cross-License Agreement (the "License Agreement") which was entered into by us and Butamax concurrently with the Settlement Agreement, as described in detail below. For more information concerning the Settlement Agreement, please see Item 3. Legal Proceedings.

Pursuant to the terms of the License Agreement, each party receives a non-exclusive license under certain patents and patent applications owned or licensed (and sublicensable) by the other party for the production and use of biocatalysts in the manufacture of isobutanol using certain production process technology for the separation of isobutanol, and to manufacture and sell such isobutanol in any fields relating to the production or use of isobutanol and isobutanol derivatives, subject to the customer-facing field restrictions described below. Each party also receives a non-exclusive license to perform research and development on biocatalysts for the production, recovery and use of isobutanol.

Each party may produce and sell up to 30 million gallons of isobutanol per year in any field on a royalty-free basis. Butamax will be the primary customer-facing seller of isobutanol in the field of fuel blending (subject to certain exceptions, the "Direct Fuel Blending" field) and we will be the primary customer-facing seller of isobutanol in the field of jet fuel for use in aviation gas turbines (the "Jet" field, also subject to certain exceptions). As such, subject to each party's right to sell up to 30 million gallons of isobutanol per year in any field on a royalty-free basis, other than with Butamax's written consent, we will only sell isobutanol through Butamax in the Direct Fuel Blending field subject to a royalty based on the net sales price for each gallon of isobutanol sold or transferred by us, our affiliates or sublicensees within the Direct Fuel Blending field (whether through Butamax or not) and on commercially reasonable terms to be negotiated between the parties and Butamax will only sell isobutanol through us in the Jet field subject to a royalty based on the net sales price for each gallon of isobutanol sold or transferred by Butamax, its affiliates or sublicensees within the Jet field (whether through us or not) and on commercially reasonable terms to be negotiated between the parties; provided, that each party may sell up to fifteen million gallons of isobutanol in a given year directly to customers in the other party's customer-facing field on a royalty-free basis so long as the isobutanol volumes are within the permitted 30 million gallons of isobutanol sold or otherwise transferred per year in any field described above and, in certain instances, each party may then sell up to the total permitted 30 million gallons per year in the other party's customer-facing field on a royalty-free basis. In addition, in order to maintain its status as the primary customer-facing seller in these specific fields, each party must meet certain milestones within the first five years of the License Agreement. If such milestones are not met as determined by an arbitration panel, then a party will have the right to sell directly to customers in the other party's customer-facing field subject to the payment of certain royalties to the other party on such sales.

In addition to the royalties discussed above for sales of isobutanol in the Direct Fuel Blending field, and subject to our right to sell up to 30 million gallons of isobutanol per year in any field on a royalty-free basis, we will pay to Butamax a royalty per gallon of isobutanol sold or transferred by us, our affiliates or sublicensees within the field of isobutylene (a derivative of isobutanol) applications (other than isobutylene for paraxylene, isooctane, Jet, diesel and oligomerized isobutylene applications). Likewise, in addition to the royalties discussed above for sales of isobutanol in the Jet field, and subject to Butamax's right to sell up to 30 million gallons of isobutanol per year in any field on a royalty-free basis, Butamax will pay to us a royalty per gallon of isobutanol sold or transferred by Butamax, its affiliates or sublicensees within the fields of marine gasoline, retail packaged fuels and paraxylene (except for gasoline blending that results in use in marine or other fuel applications). The royalties described above will be due only once for any volume of isobutanol sold or transferred under the License Agreement, and such royalties accrue when such volume of isobutanol is distributed for end use in the particular royalty-bearing field. All sales of isobutanol in other fields will be royalty-free, subject to the potential technology fee described below.

In the event that we, our affiliates or sublicensees choose to employ a certain solids separation technology for the production of isobutanol at one of their respective plants ("Solids Separation Technology"), we are granted an option to license such technology from Butamax on a non-exclusive basis subject to the payment of a one-time technology license fee based on the rated isobutanol capacity for each such plant (subject to additional fees upon expansion of such capacity). We also receive the option to obtain an engineering package from Butamax to implement the Solids Separation Technology on commercially reasonable terms to be negotiated between the parties and subject to the technology fee described above and an additional technology licensing fee for use of the Solids Separation Technology applicable to ethanol capacity as provided in such engineering package from Butamax (which capacity is not duplicative of the rated isobutanol capacity referenced above) in instances where Butamax provides an engineering package for use at a particular plant that will run isobutanol and ethanol production side-by-side using the licensed Solids Separation Technology at such plant.

The License Agreement encompasses both parties' patents for producing isobutanol, including biocatalysts and separation technologies, as well as for producing hydrocarbon products derived from isobutanol, including certain improvements and new patent applications filed within seven years of the date of the License Agreement. While the parties have cross-licensed their patents for making and using isobutanol, the parties will not share their own proprietary biocatalysts with each other. The parties may use third

parties to manufacture biocatalysts on their behalf and may license their respective technology packages for the production of isobutanol to third parties, subject to certain restrictions. A third party licensee would be granted a sub-license, and would be subject to terms and conditions that are consistent with those under the License Agreement.

Under the License Agreement, the parties have also agreed to certain limitations on the making or participating in a challenge of the other party's patents that are at issue in the Subject Litigation. The parties have also made certain representations, warranties and covenants to each other including, without limitation, with respect to obtaining certain consents, indebtedness, rights in the licensed patents, and relationships with certain other ethanol plant process technology providers.

The License Agreement will continue in effect until the expiration of the licensed patents, unless earlier terminated by a party as provided in the License Agreement. The parties also have certain termination rights with respect to the term of the license granted to the other party under the License Agreement upon the occurrence of, among other things, a material uncured breach by the other party. In the event that a party's license is terminated under the License Agreement, such party's sublicense agreements may be assigned to the other party, subject to certain restrictions.

The parties may not assign the License Agreement or any right or obligation thereunder without the prior written consent of the other party. However, the parties may assign the License Agreement to an affiliate or a person that acquires all of the business or assets of such party, subject to certain restrictions.

Isobutanol Direct Use Markets

Without modification, isobutanol has applications in the specialty chemical and gasoline blendstock markets. Since our potential customers in these markets would not be required to develop any additional infrastructure to use our isobutanol, we believe that selling into these markets will result in a relatively low risk profile and produce attractive margins.

Specialty Chemicals

Isobutanol has direct applications as a specialty chemical. High-purity and chemical-grade isobutanol can be used as a solvent and chemical intermediate. We plan to produce high-purity and chemical-grade isobutanol that can be used in the existing butanol markets as a cost-effective, environmentally sensitive alternative to petroleum-based products. We believe that our production route will be cost-efficient and will allow for significant expansion of the historical isobutanol markets within existing butanol markets through displacing n-butanol, a related compound to isobutanol that is currently sold into butanol markets.

We estimate the total addressable worldwide market for isobutanol as a specialty chemical to be approximately 1.2 BGPY.

Gasoline Blendstocks

Isobutanol has direct applications as a gasoline blendstock. Fuel-grade isobutanol may be used as a high energy content, low Reid Vapor Pressure ("RVP"), gasoline blendstock and oxygenate. Based on isobutanol's low water solubility, in contrast with ethanol, we believe that isobutanol will be compatible with existing refinery infrastructure, allowing for blending at the refinery rather than blending at the terminal.

Further, based on isobutanol's high energy content and low water solubility, as well as testing completed by the National Marine Manufacturers Association, the Outdoor Power Equipment Institute and Briggs & Stratton, we believe that isobutanol has direct applications as a blendstock in high value specialty fuels markets serving marine, off-road vehicles, small engine and sports vehicle markets.

We estimate the total addressable worldwide market for isobutanol as a gasoline blendstock to be approximately 41 BGPY.

Butene and Hydrocarbon Markets Derived from Isobutanol

Beyond direct use as a specialty chemical and gasoline blendstock, isobutanol can be dehydrated to produce butenes which can then be converted into other products such as para-xylene, jet fuel and many other hydrocarbon fuels and specialty blendstocks, offering substantial potential for additional demand. The conversion of isobutanol into butenes is a fundamentally important process that enables isobutanol to be used as a building block chemical in multiple markets.

Jet Fuel

We have demonstrated the conversion of our isobutanol into a renewable jet fuel blendstock that meets current ASTM International ("ASTM") and U.S. military synthetic jet fuel blendstock performance and purity requirements. We have successfully delivered to the U.S. Air Force, the U.S. Army and the U.S. Navy a combined total of approximately 90,000 gallons of jet fuel made from isobutanol. We are working to obtain an ASTM standard specification for the use of such jet fuel blendstock in commercial aviation. We have completed a comprehensive research report and had it reviewed by the ASTM Alternative Jet Fuel Task Force and OEM (Original Equipment Manufacturers) in the Airframe and Jet Engine Industries. From this data set we have drafted an annex to ASTM specification D7566 for alternative jet fuel and are seeking approval from ASTM. We expect to receive ASTM approval in 2016. If such approval is received this would allow our renewable jet fuel to be used as a blending component in standard Jet A-1 for commercial airline use in the United States and around the globe.

Military and commercial airlines are currently looking to form strategic alliances with biofuels companies to meet their renewable fuel needs.

We estimate the global market for jet fuel to be approximately 83 BGPY.

Para-xylene ("PX") and Polyethylene Terephthalate ("PET")

Isobutanol can be used to produce PX, polyester and their derivatives, which are used in the beverage, food packaging, textile and fibers markets. PX is a key raw material in PET production.

We estimate the global market for PET to be approximately 50 million metric tons per year of which approximately 30% is used for plastic bottles and containers. We have demonstrated the conversion of our isobutanol into renewable PX at the demonstration plant in Silsbee, TX. This demonstration plant produced renewable PX from October 2013 through March 2014, and, in May 2014, we shipped renewable PX to Toray Industries, Inc. ("Toray Industries") under the terms of a supply agreement.

Butenes

Traditionally butenes have been produced as co-products from the process of cracking naphtha in the production of ethylene. Historically, lower natural gas prices and reported reductions in the use of naphtha as the feedstock for the production of ethylene have resulted in a projected reduction in the volume of available butenes. This structural shift in feedstocks increases the potential market opportunity for our isobutanol in the production of butenes.

Isobutanol can be sold to isobutylene and n-butene (butenes) chemicals users for conversion into lubricants, methyl methacrylate and rubber applications.

We estimate the total addressable worldwide market for butenes to be approximately 2.1 BGPY.

Other Hydrocarbon Fuels

Diesel fuel, gasoline, isooctane, isooctene and bunker fuel may also be produced from our isobutanol. We have demonstrated the conversion of isobutanol to isooctane, isooctene and renewable gasoline. Renewable hydrocarbons such as isooctane, isooctene and renewable gasoline can directly replace petroleum-based hydrocarbons without any compromise of performance. The use of these renewable hydrocarbons enables companies to meet regulatory requirements for renewable content in fuels while satisfying the performance requirements of their customers. We have also converted isobutanol to kerosene with properties that we expect may be fit for diesel blending applications.

Our Production Technology Platform

We have used tools from synthetic biology, biotechnology and process engineering to develop a proprietary fermentation and separation process to cost effectively produce isobutanol from renewable feedstocks. GIFT® is designed to allow for relatively low capital expenditure Retrofits of existing ethanol facilities, enabling a rapid route to isobutanol production from the fermentation of renewable feedstocks, while maintaining the flexibility to revert to the production of ethanol or the simultaneous production of isobutanol and ethanol. GIFT® isobutanol production is very similar to existing ethanol production, except that we replace the ethanol producing biocatalyst with our

isobutanol producing biocatalyst and we incorporate well-known equipment into the production process to separate and collect the isobutanol during the fermentation process. We believe that reusing large parts of the ethanol plant without modification is beneficial because the unchanged parts will stay in place and continue to operate after the Retrofit as they did when ethanol was produced. This means that the existing operating staff can continue to manage the production of isobutanol because they will already have experience with the base equipment. We believe this continuity will reduce the risks associated with the

production startup following the Retrofit as most of the process is unchanged and the existing operating staff is available to monitor and manage the production process. In addition, we believe that our GIFT® design will enable us to switch between the production of isobutanol and ethanol, or produce both products simultaneously, which will allow us to optimize asset utilization and cash flows at a facility by taking advantage of fluctuations in market conditions.

We intend to process the spent grain mash from our fermenters to produce isobutanol distiller's grains ("iDGs™"), relying on established processes in the current ethanol industry. We plan to market our iDGs™ to the dairy, beef, swine and poultry industries as a high-protein, high-energy animal feed. To support these efforts, in December 2011 we entered into an exclusive off-take and marketing agreement with Land O'Lakes Purina Feed for the sale of iDGs™ produced at the Agri-Energy Facility. We believe that our sales of our iDGs™ will allow us and our partners to offset a significant portion of our grain feedstock costs, in the same manner as is practiced by the corn-based ethanol industry today through the sale of dry distiller's grains.

Biocatalyst Overview

Our biocatalysts are microorganisms that have been designed to metabolize sugars to produce isobutanol. Our technology team developed these proprietary biocatalysts to efficiently convert fermentable sugars of all types into isobutanol by engineering isobutanol pathways into the biocatalysts. We designed our biocatalysts to equal or exceed the performance of the yeast currently used in commercial ethanol production in yield (percentage of the theoretical maximum percentage of isobutanol that can be made from a given amount of feedstock) and rate (how fast the sugar fed to the fermentation is converted to isobutanol). We initially achieved our target fermentation performance goals with our research biocatalyst at our GIFT® mini-plant and then replicated this performance in a retrofitted one MGPY ethanol demonstration facility located at ICM's St. Joseph, Missouri site. We select biocatalysts for their projected performance in the GIFT® process, targeting lower cost isobutanol production. We continue to seek to improve the performance parameters of our biocatalyst with a goal of reducing projected capital and operating costs, increasing operating reliability and increasing the volume of isobutanol production.

Continuous improvement of biocatalyst performance is achieved using a variety of synthetic biology and conventional biotechnology tools to minimize the production of unwanted by-products to improve isobutanol yield and rate, thereby reducing capital and operating costs. With our biocatalysts, we have demonstrated that we can produce isobutanol at commercial scale with rates and yields which we believe validate our biotechnology pathways and efficiencies. Our commercial biocatalyst is designed to produce isobutanol from common commercial fermentation ethanol feedstocks, including grains (e.g., corn, wheat, sorghum and barley), sugar cane, and molasses. This feedstock flexibility supports our initial deployment in the U.S. and is designed to enable our future expansion into international markets for production of isobutanol.

Although development work continues, we have shown at laboratory scale and at our one MGPY demonstration facility located at ICM's St. Joseph, Missouri facility that we can convert hydrolyzed wood feedstocks into isobutanol. We are further improving biocatalysts to efficiently produce isobutanol from cellulosic feedstocks, including crops that are specifically cultivated to be converted into fuels (e.g., switchgrass), forest residues (e.g., waste wood, pulp and sustainable wood), agricultural residues (e.g., corn stalks, leaves, straw and grasses) and municipal green waste (e.g., grass clippings and yard waste). We carefully select our biocatalyst platforms based on their tolerance to isobutanol and other conditions present during an industrial fermentation process, as well as their known utility in large-scale commercial production processes.

Feedstocks

We have designed our biocatalyst platform to be capable of producing isobutanol from any fuel ethanol feedstock currently in commercial use, which we believe, in conjunction with our proprietary isobutanol separation unit, will permit us to Retrofit any existing fuel ethanol facility. We have demonstrated that our biocatalysts are capable of converting the types of sugars in grains and sugar cane to isobutanol at our commercial targets for fermentation time and yield and we believe that they will have the ability to convert these sugars into isobutanol at a commercial scale. The vast majority of fuel ethanol currently produced in the U.S. is produced from corn feedstock, which is abundant according to data from the U.S. Department of Agriculture and the Renewable Fuels Association. Although development work continues to be done, we have shown at laboratory scale and at our one MGPY demonstration facility located at ICM's St. Joseph, Missouri site that we can convert certain cellulosic sugars into isobutanol.

We expect that our feedstock flexibility will allow our technology to be deployed worldwide and will enable us to offer our customers protection from the raw material cost volatility historically associated with petroleum-based products.

In June 2015, Agri-Energy, our wholly-owned subsidiary, entered into a Price Risk Management, Origination and Merchandising Agreement (the "Origination Agreement") with FCStone Merchant Services, LLC ("FCStone") and a Grain Bin Lease Agreement with FCStone (the "Lease Agreement"). Pursuant to the Origination Agreement, FCStone will originate and sell to Agri-Energy, and Agri-Energy will purchase from FCStone, the entire volume of corn grain used by our plant in Luverne, Minnesota. The initial term of the Origination Agreement will continue for a period of eighteen months and will automatically renew for additional

terms of one year unless Agri-Energy gives notice of non-renewal to FCStone. FCStone will receive an origination fee for purchasing and supplying Agri-Energy with all of the corn used by Agri-Energy's plant in Luverne, Minnesota. As security for the payment and performance of all indebtedness, liabilities and obligations of Agri-Energy to FCStone, Agri-Energy granted to FCStone a security interest in the corn grain stored in grain storage bins owned and operated by Agri-Energy ("Storage Bins") and leased to FCStone pursuant to the Lease Agreement. Pursuant to the Lease Agreement, FCStone will lease Storage Bins from Agri-Energy to store the corn grain prior to title of the corn grain transferring to Agri-Energy upon Agri-Energy's purchase of the corn grain. FCStone agrees to lease Storage Bins sufficient to store 700,000 bushels of corn grain and agrees to pay to Agri-Energy $175,000 per year. The term of the Lease Agreement will run concurrently with the Origination Agreement, and will be extended, terminated, or expire in accordance with the Origination Agreement. The Company also entered into an unsecured guaranty (the "Guaranty") in favor of FCStone whereby the Company guaranteed the obligations of Agri-Energy to FCStone under the Origination Agreement. The Guaranty shall terminate on the earlier to occur of (i) April 15, 2020 or (ii) termination of the Origination Agreement.

GIFT® Improves Fermentation Performance

Our experiments show that the GIFT® fermentation and recovery system provides enhanced fermentation performance as well as efficient recovery of isobutanol and other alcohols. The GIFT® system enables continuous separation of isobutanol from the fermentation tanks while fermentation is in process. Isobutanol is removed from the fermentation broth using a low temperature distillation to continuously remove the isobutanol as it is formed without the biocatalyst being affected. Since biocatalysts have a low tolerance for high isobutanol concentrations in fermentation, the ability of our process to continuously remove isobutanol as it is produced allows our biocatalyst to continue processing sugar into isobutanol at a high rate without being suppressed by rising levels of isobutanol in the fermenter, reducing the time to complete the fermentation. Using our biocatalysts, we have demonstrated that GIFT® enables isobutanol fermentation times equal to, or less than, those achieved in the current conventional production of ethanol, which allows us to fit our technology into existing ethanol fermenters reducing capital expenditures. We have designed a proprietary engineering package to carry out our isobutanol fermentation and recovery process.

GIFT® requires limited change to existing ethanol production infrastructure. As with ethanol production, feedstock is ground, cooked, treated with enzymes and fermented. Just like ethanol production, after fermentation, a primary product (isobutanol) and a co-product (iDGs™) are recovered for sale. The main modifications of the GIFT® system are replacing the ethanol producing yeast with Gevo's proprietary isobutanol producing biocatalyst, and adding low temperature distillation equipment for continuous removal and separation of isobutanol.

Conversion of Isobutanol into Hydrocarbons

We have demonstrated conversion of our isobutanol into a wide variety of hydrocarbon products which are currently used to produce plastics, fibers, polyester, rubber and other polymers and hydrocarbon fuels. Hydrocarbon products consist entirely of hydrogen and carbon and are currently derived almost exclusively from petroleum, natural gas and coal. Importantly, isobutanol can be dehydrated to produce butenes, which are an intermediate product in the production of hydrocarbon products with many industrial uses. The straightforward conversion of our isobutanol into butenes is a fundamentally important process that enables isobutanol to be used as a building block chemical. Much of the technology necessary to convert isobutanol into butenes and subsequently into these hydrocarbon products is commonly known and practiced in the chemicals industry today. For example, the dehydration of ethanol to ethylene, which uses a similar process and technology to the dehydration of isobutanol, is practiced commercially today to serve the ethylene market. The dehydration of isobutanol into butenes is not commercially practiced today because isobutanol produced from petroleum is not cost-competitive with other petrochemical processes for generation of butenes. We believe that our efficient fermentation technology for producing isobutanol will promote commercial isobutanol dehydration and provide us with the opportunity to access hydrocarbon markets. To assist in accessing

these markets, we have developed a hydrocarbon processing demonstration plant ("Hydrocarbons Demo Plant") near Houston, Texas, in partnership with South Hampton Resources, Inc. ("South Hampton"). The Hydrocarbon Demo Plant can process 6,000 to 7,000 gallons of our isobutanol per month into a variety of renewable hydrocarbons for use as fuels and chemicals.

Our ETO Technology

We have also developed new technologies using ethanol as a feedstock for the production of hydrocarbons, renewable hydrogen, and other chemical intermediates, which we describe as our ethanol-to-olefins ("ETO") technologies. The process produces tailored mixes of isobutylene, propylene, hydrogen and acetone, which are valuable as standalone molecules, or as feedstocks to produce other chemical products and longer chain alcohols. This technology has the potential to address additional markets in the chemicals and plastics fields, such as renewable polypropylene for automobiles and packaging and renewable hydrogen for use in chemical and fuel cell markets. At this time, this technology has only been operated at a laboratory scale, but if successfully scaled up to commercial level, this technology may provide the estimated 25BGPY global ethanol industry a broader set of end-product market and margin opportunities.

Underpinning the ETO technology is our development of proprietary mixed metal oxide catalysts that produce either polymer grade propylene, high purity isobutylene or acetone in high yields in a single processing step. One of the benefits of the technology is that we can use conventional fuel grade specification ethanol that can be sourced from a variety of feedstocks with no apparent adverse impact on end product yields. Water, which is co-fed with the ethanol, is able to be recycled resulting in a process which generates minimal waste. The ethanol and water mixture is vaporized and fed across a fixed catalyst bed resulting in a gaseous product mix consisting of the propylene, isobutylene or acetone, in addition to hydrogen and carbon dioxide, along with lesser amounts of methane and ethylene. Separation of gaseous products can be achieved via conventional process technologies and unit operations within the petroleum industry.

Competition

Our isobutanol is targeted for use in the following markets: direct use as a solvent and gasoline blendstock, use in the chemicals industry for producing rubber, plastics, fibers, polyester and other polymers and use in the production of hydrocarbon fuels. We face competitors in each market, 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 than we do.

Renewable isobutanol. We are a leader in the development of renewable isobutanol via fermentation of renewable plant biomass. While the competitive landscape in renewable isobutanol production is limited at this time, we are aware of other companies that are seeking to develop isobutanol production capabilities, including Butamax with whom we have entered into the License Agreement described above. See Item 1. Business—Butamax Advanced Biofuels LLC—Cross License Agreement.

Solvent markets. We also face competition from companies that are focused on the development of n-butanol, a related compound to isobutanol. These companies include Cathay Industrial Biotech Ltd., METabolic EXplorer S.A., Eastman Chemicals Company, and Green Biologics Ltd. We understand that these companies produce n-butanol from an acetone-butanol-ethanol (“ABE”) fermentation process primarily for the small chemicals markets. ABE fermentation using a Clostridia biocatalyst has been used in industrial settings since 1919. As discussed in several academic papers analyzing the ABE process, such fermentation is handicapped in competitiveness by high energy costs due to low concentrations of butanol produced and significant volumes of water processed. It requires high capital and operating costs to support industrial scale production due to the low rates of the Clostridia fermentation, and results in a lower butanol yield because it produces ethanol and acetone as by-products. We believe our proprietary process has many significant advantages over the ABE process because of its limited requirements for new capital expenditures, its production output of only isobutanol as a primary product and its limited water usage in production. We believe these advantages will produce a lower cost isobutanol compared to n-butanol produced by ABE fermentation. N-butanol’s lower octane rating compared to isobutanol gives it a lower value in the gasoline blendstock market, but n-butanol can compete directly in many solvent markets where n-butanol and isobutanol have similar performance characteristics.

Gasoline blendstocks. In the gasoline blendstock market isobutanol competes with non-renewable alkylate and renewable ethanol. We estimate the total potential global market for isobutanol as a gasoline blendstock to be approximately 40 BGPY. Alkylate is a premium value gasoline blendstock typically derived from petroleum. However, petroleum feeds for alkylate manufacture are pressured by continued increases in the use of natural gas to generate olefins for the production of alkylate, due to the low relative cost of natural gas compared to petroleum. Isobutanol has fuel properties similar to alkylate and, as such, we expect that isobutanol could be used as a substitute for some alkylate in fuel applications. Ethanol is renewable and has a high octane rating, and although it has a high RVP, ethanol receives a one pound RVP waiver in a large portion of the U.S. gasoline market. Renewability is important in the U.S. because the Renewable Fuels Standard program mandates that a minimum volume of renewable blendstocks be used in gasoline each year. A high octane rating is important for engine performance and is a valuable

characteristic because many inexpensive gasoline blendstocks have lower octane ratings. Low RVP is important because the U.S. Environmental Protection Agency ("EPA") sets maximum permissible RVP levels for gasoline. In markets where low RVP is important, isobutanol can enable refiners to meet fuel specifications at lower cost. Ethanol's vapor pressure waiver is valuable because it offsets much of the negative value of ethanol's high RVP. We believe that our isobutanol will be valued for its combination of low RVP, low water solubility, relatively high octane and renewability.

Many production and technology supply companies are working to develop ethanol production from cellulosic feedstocks, including Shell Oil Company, DuPont-Danisco Cellulosic Ethanol LLC, Abengoa Bioenergy, S.A., POET, LLC, ICM, Mascoma Corporation, Inbicon A/S, INEOS New Planet BioEnergy LLC, Archer Daniels Midland Company, BlueFire Ethanol, IncZeaChem Inc., Iogen Corporation, Qteros, Inc., and many smaller startup companies. Successful commercialization by some or all of these companies will increase the supply of renewable gasoline blendstocks worldwide, potentially reducing the market size or margins available to isobutanol.

Plastics, fibers, polyester, rubber and other polymers. Isobutanol can be dehydrated to produce butenes, hydrocarbon intermediates currently used in the production of plastics, fibers, polyester, rubber and other polymers. The straightforward conversion of our isobutanol into butenes is a fundamentally important process that enables isobutanol to be used as a building block chemical in

multiple markets. These markets include butyl rubber, lubricants and additives derived from butenes such as isobutylene, poly methyl methacrylate from isobutanol, propylene for polypropylene from isobutylene, polyesters made via PX from isobutylene and polystyrene made via styrene.

In these markets, we compete with the renewable isobutanol companies and renewable n-butanol producers described previously, and face similar competitive challenges. Our competitive position versus petroleum-derived plastics, fibers, rubber and other polymers varies, but we believe that the high volatility of petroleum prices, often tight supply markets for petroleum-based petrochemical feedstocks and the desire of many consumers for goods made from more renewable sources will enable us to compete effectively. However, petrochemical companies may develop alternative pathways to produce petrochemical-based hydrocarbon products that may be less expensive than our isobutanol or more readily available or developed in conjunction with major petrochemical, refiner or end user companies. These products may have economic or other advantages over the plastics, fibers, polyester, rubber and other polymers developed from our isobutanol. Further, some of these companies have access to significantly more resources than we do to develop products.

Additionally, Global Bioenergies, S.A. is pursuing the direct production of isobutylene from renewable carbohydrates. Through analysis of the fermentation pathway, we believe that the direct production of butenes such as isobutylene via fermentation will have higher capital and operating costs than production of butenes derived from our isobutanol.

Hydrocarbon fuels. Beyond direct use as a fuel additive, isobutanol can be converted into many hydrocarbon fuels and specialty blendstocks, offering substantial potential for additional demand in the fuels markets. We will compete with the incumbent petroleum-based fuels industry, as well as biofuels 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 will 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.

Biofuels companies will provide substantial competition in the gasoline market. These biofuels competitors are numerous and include both large established companies and numerous startups. Government tax incentives for renewable fuel producers and regulations such as the RFS2 help provide opportunities for renewable fuels producers to compete. In particular, in the gasoline and gasoline blendstock markets, Virent Energy Systems, Inc. ("Virent") offers a competitive process for making gasoline and gasoline blendstocks. However, we have the advantage of being able to target conversion of isobutanol into specific high-value molecules such as isooctane, which can be used to make gasoline blendstocks with a higher value than whole gasoline, which we do not believe Virent's process can match. In the jet fuel market, we may face competition from companies such as Synthetic Genomics, Inc., Solazyme, Inc., Sapphire Energy, Inc. and Exxon-Mobil Corporation, which are pursuing production of jet fuel from algae-based technology. Renewable Energy Group, Inc. and others are also targeting production of jet fuels from vegetable oils and animal fats. Red Rock Biofuels LLC and others are planning to produce jet fuel from renewable biomass. In the diesel fuels market, competitors such as Amyris Biotechnologies, Inc. ("Amyris") provide alternative hydrocarbon diesel fuel. We believe our technology provides a higher yield on feedstock than the isoprenoid fermentation pathway developed by Amyris, which we believe will yield a production cost advantage.

Ethanol. We compete with numerous ethanol producers located throughout the U.S., many of which have much greater resources than we do, including Archer-Daniels-Midland Company, POET, LLC and Valero Energy Corporation. Competition for corn supply from other ethanol plants and other corn consumers will likely exist in all areas and regions in which our current and future plants will operate. We also face competition from foreign producers of ethanol and such competition may increase significantly in the future. Large international companies have developed, or are developing, increased foreign ethanol production capacities. Brazil is the world's second largest

ethanol producing country. Brazil's ethanol production is sugarcane-based, as opposed to corn-based, and has historically been less expensive to produce.

Intellectual Property

Our success depends in large part on our proprietary products and technology for which we seek protection under patent, copyright, trademark and trade secret laws. Such protection is also maintained in part using confidential disclosure agreements. Protection of our technologies is important so that we may offer our customers and partners proprietary services and products unavailable from our competitors, and so that we may exclude our competitors from using technology that we have developed or exclusively licensed. If competitors in our industry have access to the same technology, our competitive position may be adversely affected. As of December 31, 2015, we exclusively licensed rights to approximately 92 issued patents and filed patent applications in the U.S. and in various foreign jurisdictions. These licensed patents and patent applications are owned by Cargill and exclusively licensed to us for use in certain fields. These licensed patents and patent applications cover both enabling technologies and products or methods of producing products. Our license to such patents and applications allows us to freely practice the licensed inventions, subject only to the terms of this license. Effective March 28, 2016, we terminated the License Agreement with Cargill Incorporated,

dated February 19, 2009. We elected to terminate this agreement because we determined that we no longer needed the Cargill technology for our business. We do not expect the termination to have an adverse effect on our business.

As of December 31, 2015, we have submitted approximately 418 patent applications in the U.S. and in various foreign jurisdictions. These patent applications are directed to our technologies and specific methods and products that support our business in the biofuel and bioindustrial markets. We continue to file new patent applications, for which terms extend up to 20 years from the filing date in the U.S.

As of December 31, 2015, we have been issued 26 U.S. patents and 13 international patents.

In addition to the patents and applications described above, we have a global cross-license to certain patents and applications relating to the production, recovery, and use of isobutanol that are owned or licensed by Butamax. The global cross-license allows us to freely practice the licensed inventions, subject to the terms of the cross-license. For information regarding this license, see Item 1. Business—Butamax Advanced Biofuels LLC—Cross License Agreement.

We will continue to file and prosecute patent applications and maintain trade secrets, as is consistent with our business plan, in an ongoing effort to protect our intellectual property. It is possible that our licensors' current patents, or patents which we may later acquire or license, may be successfully challenged or invalidated in whole or in part. It is also possible that we may not obtain issued patents from our filed applications, and may not be able to obtain patents regarding other inventions we seek to protect. We also may not file patents in each country in which we plan to do business or actually conduct business. Under appropriate circumstances, we may sometimes permit certain intellectual property to lapse or go abandoned. Due to uncertainties inherent in prosecuting patent applications, sometimes patent applications are rejected and we may subsequently abandon them. It is also possible that we will develop products or technologies that will not be patentable or that the patents of others will limit or preclude our ability to do business. In addition, any patent issued to us may provide us with little or no competitive advantage, in which case we may abandon such patent or license it to another entity.

We have obtained registered trademarks for Gevo Integrated Fermentation Technology®, GIFT®, and Gevo® in the U.S. These registered and pending U.S. trademarks are also registered or pending in certain foreign countries.

Our means of protecting our proprietary rights may not be adequate and our competitors may independently develop technology or products that are similar to or compete with ours. Patent, trademark and trade secret laws afford only limited protection for our technology platform and products. The laws of many countries do not protect our proprietary rights to as great an extent as do the laws of the U.S. Despite our efforts to protect our proprietary rights, unauthorized parties have in the past attempted, and may in the future attempt, to operate using aspects of our intellectual property or products or to obtain and use information that we regard as proprietary. Third parties may also design around our proprietary rights, which may render our protected technology and products less valuable. In addition, if any of our products or technologies is covered by third-party patents or other intellectual property rights, we could be subject to various legal actions. We cannot assure you that our technology platform and products do not infringe patents held by others or that they will not in the future.

Litigation may be necessary to enforce our intellectual property rights, to protect our trade secrets, to determine the validity and scope of the proprietary rights of others or to defend against claims of infringement, invalidity, misappropriation or other allegations. Any such litigation could result in substantial costs and diversion of our resources. Any settlement of or adverse judgment resulting from such litigation could require us to obtain a license to continue to make, use or sell the products or technology that is the subject of the claim, or otherwise restrict or prohibit our use of the technology.

Customers, Partnerships and Collaborations

We commenced a limited commercial scale campaign for the production of isobutanol in 2014 at our Agri-Energy Facility to demonstrate commercial scale capacity and sell the resulting product. We expect initial commercial production to be directed to serve the high-purity and chemical-grade markets, to provide introductory volumes to the specialty fuel blendstock markets in the U.S. and to be further processed at a demonstration plant near Houston, Texas, to fulfill contracts for various hydrocarbons applications such as alcohol-to-jet fuel ("ATJ") and PX. In 2014, we also began producing and selling isobutanol distiller's grains, or iDGs™, as an animal feed co-product, in a similar manner as distiller's grains are sold in the ethanol industry today.

As of December 31, 2015, we had entered into the following key arrangements:

Mansfield Oil Company of Gainesville, Inc. In August 2011, we entered into a commercial off-take agreement with Mansfield Oil Company of Gainesville, Inc. ("Mansfield") to distribute isobutanol-based fuel into the petroleum market. Mansfield markets and distributes fuel to thousands of commercial customers across the U.S. and has over 900 supply points across the U.S. The agreement allows Mansfield to blend our isobutanol for its own use and to be a distributor of

our isobutanol for a term of five years. We also entered into a three-year supply services agreement, with automatic one-year renewals thereafter, with C&N, a Mansfield subsidiary ("C&N"), which will provide supply chain services including logistics management, customer service support, invoicing and billing services. Substantially all ethanol sold by Agri-Energy since its acquisition in September 2010 was sold to C&N pursuant to a separate ethanol purchase and marketing agreement.

Land O'Lakes Purina Feed LLC. In December 2011, we entered into a commercial off-take and marketing agreement with Land O'Lakes Purina Feed LLC ("Land O'Lakes Purina Feed") for the sale of iDGs™ produced by the Agri-Energy Facility. Land O' Lakes Purina Feed provides farmers and ranchers with an extensive line of agricultural supplies (feed, seed, and crop protection products) and services. Pursuant to the agreement, Land O'Lakes Purina Feed will be the exclusive marketer of our iDGs™ and modified wet distiller's grains for the animal feed market. The agreement has an initial three-year term following the first commercial sales of iDGs™ with automatic one-year renewals thereafter unless terminated by one of the parties. Further, we plan to work with Land O'Lakes Purina Feed to explore opportunities to upgrade the iDGs™ for special value-added applications in feed markets. Land O' Lakes Purina Feed also provides marketing services for the sale of our ethanol distiller grains.

Alaska Airlines. In May 2015, we entered into a strategic alliance agreement with Alaska Airlines. Pursuant to the terms of this agreement, Alaska Airlines agreed to purchase an initial quantity of our ATJ when and if we secure D7566 certification. In the event that we do not secure ASTM certification by December 31, 2016, the agreement will automatically terminate unless we and Alaska Airlines agree in writing to an extension. In February 2016, we entered into a purchase agreement with Alaska Airlines to supply an additional 20,000 gallons of ATJ. It is anticipated that Gevo will deliver the 20,000 gallons to Alaska Airlines within 90 days of the ASTM D7566 certification being received. All of the ATJ to be supplied under these agreements is expected to be produced from isobutanol at the Hydrocarbons Demo Plant we developed with our partner South Hampton located near Houston, Texas.

BCD Chemie. In April 2015, we entered into a first purchase order to supply isooctene to BCD Chemie, a subsidiary of Brenntag AG, a leading chemical distributor based in Germany. BCD Chemie is targeting applications in Europe to replace petroleum-based hydrocarbons to enable companies to meet regulatory requirements for renewable content in fuels while satisfying the performance requirements of their customers. We subsequently entered into additional purchase orders to supply isooctene to BCD Chemie into 2016. To date, the total value of the purchase orders to BCD Chemie is over $1 million.

Total Additives & Special Fuels. In September 2014, we entered into an agreement with Total Additifs Et Carburants Speciaux SAS ("Total ACS") to supply isooctane for formulation into Formula 1® racing fuel. Total ACS is a subsidiary of Total S.A., the French multinational integrated oil and gas company. The contract provided Total ACS with exclusivity for use of our isooctane for Formula 1® racing. The contract expired on December 31, 2015; however, we anticipate continuing to supply isooctane, and potentially other hydrocarbon fuels, to Total ACS in the future.

U.S. Military. In September 2011, we were awarded a contract by the Defense Logistics Agency (the "DLA"), to supply ATJ to the U.S. Air Force. The DLA sources and provides nearly 100% of the consumable items the U.S. military needs to operate. Under the contract, we provided the U.S. Air Force with 11,000 gallons of ATJ which was used to support engine testing and a demonstration flight in an A-10 aircraft. The term of the agreement was through December 30, 2012. The demonstration flight was successfully completed in June 2012. In September 2012, we were awarded an additional contract for the procurement of up to 45,000 gallons of ATJ. In March 2013, we entered into a contract with the DLA to supply the U.S. Army with 3,650 gallons of biojet fuel and in May 2013 this initial order was increased by 12,500 gallons. In September 2013, we entered into a contract with the DLA to supply the U.S. Navy with 20,000 gallons of biojet fuel. All of the ATJ supplied under these contracts was produced from isobutanol at the Hydrocarbons Demo Plant.

Toray Industries. In June 2011, we announced that we had successfully produced fully renewable and recyclable PET in cooperation with Toray. Working directly with Toray Industries, we employed prototypes of commercial operations from the petrochemical and refining industries to make PX from isobutanol. Toray Industries used our bio-para-xylene ("bio-PX") and commercially available renewable mono ethylene glycol to produce fully renewable

PET films and fibers. In June 2012, we entered into a definitive agreement with Toray Industries, as amended in October 2013, for the joint development of an integrated supply chain for the production of bio-PET. Pursuant to the terms of the agreement with Toray Industries, we received $1.0 million which we used for the design and construction of a demonstration plant. Toray Industries was obligated to purchase initial volumes of bio-PX produced at the demonstration plant. In May 2014, we successfully shipped these initial volumes of bio-PX.

The Coca Cola Company. We have established a working relationship with Coca-Cola to create bio-PX from our isobutanol in an effort to accelerate the development of Coca-Cola's second generation PlantBottle™ packaging made from 100% plant-based materials. In November 2011, we entered into a joint research, development, license and commercialization agreement with Coca-Cola. Pursuant to this agreement, we have agreed to conduct research and development activities, including engineering to produce bio-PX from isobutanol, with the ultimate goal of producing bio-PET for food-grade bottling. Our work is targeted to take the technology from laboratory-scale to commercial-scale and support Coca- Cola's efforts to lead the beverage industry away from fossil-fuel based packaging by offering an alternative made completely from renewable raw materials. Pursuant to the terms of the agreement, Coca-Cola paid us a fixed fee for the research program during the first two years of the agreement. The research and development activities under the initial agreement were successfully completed and an amendment was entered into in March 2014 that extended the agreement through the end of 2014. We are in ongoing discussions with Coca-Cola to determine the next steps of the collaboration to scale-up the bio-PX technology.

Northwest Advanced Renewables Alliance. We are a member of the Northwest Advanced Renewables Alliance ("NARA") and are providing NARA with technology to enable the commercial scale processing of cellulosic sugars from wood waste into valuable products. The cellulosic jet fuel made using our technologies will be used in a 1,000-gallon renewable fuel demonstration test flight. Our isobutanol and ATJ-SPK technologies are both licensed by NARA as part of this project. NARA is a five-year project supported by the U.S. Department of Agriculture, National Institute of Food and Agriculture, and is comprised of 22 member organizations from industry, academia and government laboratories. Its mission is to facilitate development of biojet and bioproduct industries in the Pacific Northwest using forest residuals that would otherwise become waste products.

These agreements demonstrate the demand for isobutanol from the Agri-Energy Facility and Hydrocarbons Demo Plant. However, certain of the commitments that we have received are non-binding. There can be no assurance that we will be able to negotiate final terms with these or other companies in a timely manner, or at all, or attract customers based on our arrangements with the petrochemical companies and large brand owners discussed above.

In 2015, C&N and Land O'Lakes Purina Feed LLC accounted for approximately 70% and 19% of our consolidated revenue, respectively. Given our production capacity compared to the overall size of the North American market and the demand for our products, we do not believe that a decline in a specific customer's purchases would have a material adverse long-term effect upon our financial results.

Research and Development

Our strategy depends on continued improvement of our technologies for the production of isobutanol, as well as next generation chemicals and biofuels based on our isobutanol technology. Accordingly, we annually devote significant funds to research and development. The following table shows our research and development costs by function (in thousands).

	Year Ended December 31,		
	2015	2014	2013
Biocatalyst development	$3,435	$8,493	$10,177
Process engineering and operation of pilot and demo plants	1,344	3,943	8,239
Chemistry and applications development	1,831	1,684	1,763
Total Research and Development Expense	$6,610	$14,120	$20,179

During 2015, 2014 and 2013, we recorded revenue from government grants and cooperative agreements in the amounts of $1.2 million, $0.8 million and $2.7 million, respectively, which primarily related to research and

development activities performed in our biocatalyst, chemistry, and applications development groups.

Our research and development activities are currently being performed primarily in our corporate headquarters located in Englewood, Colorado and the Hydrocarbons Demo Plant near Houston, Texas.

Government Regulation - Environmental Compliance Costs

Regulation by governmental authorities in the U.S. and other countries is a significant factor in the development, manufacture and marketing of second-generation biofuels. Our isobutanol and the next generation products isobutanol will be used to produce may require regulatory approval by governmental agencies prior to commercialization. In particular, biofuels 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 biofuels. The process of seeking required approvals and the continuing need for compliance with applicable statutes and regulations requires the expenditure of substantial resources. Regulatory approval, if and when obtained for any of the next generation products isobutanol is used to produce, may be limited in scope, which may significantly limit the uses for which our isobutanol and these next generation products may be marketed.

When built at a dry-mill facility, our GIFT® fermentation process creates iDGs™, a potential animal feed component, as a co-product. We have undertaken a self-assessed Generally Regarded As Safe process via third party scientific review to support the sale of our iDGs™ as animal feed. While we believe we can rely on this review, as we update our biocatalysts to increase isobutanol production, for further customer assurance, we also intend to pursue approval upon a completed biocatalyst from the Center for Veterinary Medicine of the U.S. Food and Drug Administration (the "FDA"). Even if we receive such approval, the FDA's policies may change and additional government regulations may be enacted that could prevent, delay or require regulatory approval of our co-products. We cannot predict the likelihood, nature or extent of adverse governmental regulations that might arise from future legislative or administrative action, either in the U.S. or abroad.

Our process contains a genetically engineered organism which, when used in an industrial process, is considered a new chemical under the EPA's Toxic Substances Control Act program ("TSCA"). EPA's Biotechnology Program under TSCA requires the submission of certain information of the Office of Pollution Prevention and Toxic Substances. Due to the nature of our microorganism we can utilize the TSCA Biotechnology Program Tier I and Tier II exemption criteria at our Luverne, Minnesota manufacturing location. As we expand our business activities, we will pursue the EPA's Microbial Commercial Activity Notice process for future plants. We do not anticipate a material adverse effect on our business or financial condition as a result of our efforts to comply with these requirements. However, the TSCA new chemical submission policies may change and additional government regulations may be enacted that could prevent or delay regulatory approval of our products. We cannot predict the likelihood, nature or extent of adverse governmental regulations that might arise from future legislative or administrative action, either in the U.S. or abroad.

There are various third-party certification organizations, such as ASTM and Underwriters' Laboratories, Inc. ("UL"), involved in certifying the transportation, dispensing and use of liquid fuel in the U.S. and internationally. In 2013, a specification for fuel grade isobutanol titled ASTM D7862 "Standard Specification for Butanol for Blending with Gasoline for Use as Automotive Spark-Ignition Engine Fuel" was published. In addition, UL has published guidance on the use of isobutanol-gasoline blends in its UL87A fuel dispensers. Voluntary standards development organizations may change and additional requirements may be enacted that could prevent or delay marketing approval of our products. The process of seeking required approvals and the continuing need for compliance with applicable statutes and regulations require the expenditure of substantial resources. We do not anticipate a material adverse effect on our business or financial conditions as a result of our efforts to comply with these requirements, but we cannot predict the likelihood, nature or extent of adverse third-party requirements that might arise from future action, either in the U.S. or abroad.

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 operation 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 and facility shutdowns.

There is a risk of liability for the investigation and cleanup of environmental contamination at each of the properties that we own or operate and at off-site locations where we arrange for the disposal of hazardous substances. If these

substances are or have been disposed of or released at sites that undergo investigation or remediation by regulatory agencies, we may be responsible under the Comprehensive Environmental Response, Compensation and Liability Act or other environmental laws for all or part of the costs of investigation and remediation. We may also be subject to related claims by private parties alleging property damage and personal injury due to exposure to hazardous or other materials at or from the properties. Some of these matters may require us to expend significant amounts for investigation and cleanup or other costs. We are not aware of any material environmental liabilities relating to contamination at or from our facilities or at off-site locations where we have transported or arranged for the disposal of hazardous substances.

In addition, new laws, new interpretations of existing laws, increased governmental enforcement of environmental laws or other developments could require us to make significant additional expenditures. Continued government and public emphasis on environmental issues can be expected to result in increased future investments in environmental controls at our facilities which cannot be estimated at this time. Present and future environmental laws and regulations applicable to our operations, more vigorous enforcement policies and discovery of currently unknown conditions could all require us to make substantial expenditures. For example, our air emissions are subject to the Clean Air Act, the Clean Air Act Amendments of 1990 and similar state and local laws and associated regulations. Under the Clean Air Act, the EPA has promulgated National Emissions Standards for Hazardous Air

Pollutants ("NESHAP"), which could apply to facilities that we own or operate if the emissions of hazardous air pollutants exceed certain thresholds. If a facility we operate is authorized to emit hazardous air pollutants above the threshold level, then we might still be required to come into compliance with another NESHAP at some future time. New or expanded facilities might be required to comply with both standards upon startup if they exceed the hazardous air pollutant threshold. In addition to costs for achieving and maintaining compliance with these laws, more stringent standards may also limit our operating flexibility.

As a condition to granting the permits necessary for operating our facilities, regulators could make demands that increase our construction and operations costs, which might force us to obtain additional financing. For example, unanticipated water discharge limits could sharply increase construction costs for our projects. Permit conditions could also restrict or limit the extent of our operations. We cannot guarantee that we will be able to obtain or comply with the terms of all necessary permits to complete the Retrofit of an ethanol plant. Failure to obtain and comply with all applicable permits and licenses could halt our construction and could subject us to future claims.

Segments and Geographic Information

We have determined that we have two operating segments: (i) the Gevo, Inc. segment; and (ii) the Gevo Development/Agri-Energy segment. We organize our business segments based on the nature of the products and services offered through each of our consolidated legal entities. Transactions between segments are eliminated in consolidation. For additional financial information related to our segments, see Note 19 to our consolidated financial statements.

Gevo, Inc. Segment. Our Gevo, Inc. segment is responsible for all research and development activities related to the future production of isobutanol, including the development of our proprietary biocatalysts, the production and sale of biojet fuel, our Retrofit process and the next generation of chemicals and biofuels that will be based on our isobutanol technology. Our Gevo, Inc. segment also develops, maintains and protects our intellectual property portfolio, develops future markets for our isobutanol and provides corporate oversight services.

Gevo Development/Agri-Energy Segment. Our Gevo Development/Agri-Energy segment is currently responsible for the operation of our Agri-Energy Facility and the production of ethanol, isobutanol and related products. Substantially all of the ethanol produced from the date of the acquisition of the Agri-Energy Facility through December 31, 2015 was sold through an ethanol marketing company. Sales of ethanol and related products from our Gevo Development/Agri-Energy segment comprised approximately 90% of our consolidated revenue for the fiscal year ended December 31, 2015.

The following table sets forth our revenue by reportable segment (in thousands).

	Year Ended December 31,		
	2015	2014	2013
Revenues:			
Gevo	$2,911	$4,718	$4,822
Gevo Development / Agri-Energy	27,226	23,548	3,422
Consolidated	$30,137	$28,266	$8,244

Geographic Information. For both the Gevo, Inc. segment and the Gevo Development/Agri-Energy segments, all revenue is earned and all assets are held in the U.S.

Employees

As of December 31, 2015, Gevo, Inc. and its subsidiaries employed 59 employees, 27 of whom were employed by Gevo, Inc. and were located in Englewood, Colorado. Of the Gevo, Inc. employees, 16 were engaged in research and development activities and 11 were engaged in general, administrative and business development activities. As of December 31, 2015, our subsidiary Agri-Energy employed 32 employees, all of whom were located in Luverne, Minnesota, and involved in the operations of our production facility. None of our employees are represented by a labor union, and we consider our employee relations to be good.

Corporate Information

We were incorporated in Delaware in June 2005 as a corporation under the name Methanotech, Inc. and filed an amendment to our certificate of incorporation changing our name to Gevo, Inc. on March 29, 2006. Our principal executive offices are located at 345 Inverness Drive South, Building C, Suite 310, Englewood, CO 80112, and our telephone number is (303) 858-8358.

Website Access to SEC Filings

We are subject to the reporting requirements under the Securities Exchange Act of 1934, as amended (the "Exchange Act"). Consequently, we are required to file reports and information with the SEC, including reports on the following forms: annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Exchange Act. These reports and other information concerning us may be accessed through the SEC's website at http://www.sec.gov and on our website at www.gevo.com. Such filings are placed on our website as soon as reasonably practical after they are filed with the SEC. Any information contained in, or that can be accessed through our website, is not incorporated by reference into, nor is it in any way part of, this Report.

Item 1A. Risk Factors

You should carefully consider these 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.

Risks Relating to our Business and Strategy

We have substantial indebtedness outstanding and may incur additional indebtedness in the future. Our indebtedness exposes us to risks that could adversely affect our business, financial condition and results of operations.

As of December 31, 2015, the aggregate amount of the outstanding principal and final payments under our amended and restated loan and security agreement with TriplePoint Capital LLC ("TriplePoint") was approximately $0.5 million and we had $26.1 million in outstanding 10% Convertible Senior Notes, due 2017, which were issued to WB Gevo, Ltd. ("Whitebox") in June 2014 (the "2017 Notes"), and $22.4 million in outstanding 7.5% Convertible Senior Notes due 2022, which were issued in July 2012 (the "2022 Notes" and, together with the 2017 Notes, the "Convertible Notes"). In addition, we and any current and future subsidiaries of ours may incur substantial additional debt in the future, subject to the specified limitations in our existing financing documents and the indentures governing the Convertible Notes. If new debt is added to our or any of our subsidiaries' debt levels, the risks described in this "Certain Risks Related to Owning Our Securities" section could intensify.

Our current and future indebtedness could have significant negative consequences for our business, results of operations and financial condition, including:

- increasing our vulnerability to adverse economic and industry conditions;
- limiting our ability to obtain additional financing;
- requiring the dedication of a substantial portion of our cash flow from operations to service our indebtedness, thereby reducing the amount of our cash flow available for other purposes;
- limiting our flexibility in planning for, or reacting to, changes in our business; and

placing us at a possible competitive disadvantage with less leveraged competitors and competitors that may have better access to capital resources.

We cannot assure you that we will continue to maintain sufficient cash reserves or that our business will generate cash flow from operations at levels sufficient to permit us to pay principal, premium, if any, and interest on our indebtedness, or that our cash needs will not increase. If we are unable to generate sufficient cash flow or otherwise obtain funds necessary to make required payments, or if we fail to comply with the various requirements of our existing indebtedness or any other indebtedness which we may incur in the future, we would be in default, which could permit the holders of our indebtedness, including the Convertible Notes, to accelerate the maturity of such indebtedness. Any default under such indebtedness could have a material adverse effect on our business, results of operations and financial condition.

In particular, our indebtedness with Whitebox and TriplePoint is secured by liens on substantially all of our assets, including our intellectual property. If we are unable to satisfy our obligations under such instruments, Whitebox or TriplePoint, as applicable, could foreclose on our assets, including our intellectual property. Any such foreclosure could force us to substantially curtail or cease our operations which could have a material adverse effect on our business, financial condition and results of operations.

There is substantial doubt about our ability to continue as a going concern, which may hinder our ability to obtain further financing.

Our audited financial statements for the year ended December 31, 2015, were prepared under the assumption that we would continue our operations as a going concern. Our independent registered public accounting firm for the year ended December 31, 2015 included a "going concern" emphasis of matter paragraph in its report on our financial statements as of, and for the year ended, December 31, 2015, indicating that the amount of working capital at December 31, 2015 was not sufficient to meet the cash requirements to fund planned operations through December 31, 2016 without additional sources of cash, which raises substantial doubt about our ability to continue as a going concern. Uncertainty concerning our ability to continue as a going concern may hinder our ability to obtain future financing. Continued operations and our ability to continue as a going concern are dependent on our ability to obtain additional funding in the near future and thereafter, and there are no assurances that such funding will be available to us at all or will be available in sufficient amounts or on reasonable terms. Our financial statements do not include any adjustments that may result from the outcome of this uncertainty. Without additional funds from private and/or public offerings of debt or equity securities, sales of assets, sales of our licenses of intellectual property or technologies, or other transactions, we will exhaust our resources and will be unable to continue operations. If we cannot continue as a viable entity, our stockholders would likely lose most or all of their investment in us.

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

We have incurred net losses of $36.2 million, $41.1 million, and $66.8 million during the years ended December 31, 2015, 2014 and 2013, respectively. As of December 31, 2015, we had an accumulated deficit of $339.5 million. We expect to incur losses and negative cash flows from operating activities for the foreseeable future. We currently derive revenue from the sale of isobutanol, ethanol and related products at the Agri-Energy Facility, although over certain periods of time, we may and have operated the plant for the sole production of ethanol and related products to maximize cash flows.

Additionally, we have generated limited revenue from the sale of products such as ATJ fuel produced from isobutanol that has been used for engine qualification and flight demonstration by the U.S. Air Force and other branches of the U.S. military. If our existing grants and cooperative agreements are canceled prior to the expected end dates or we are unable to obtain new grants, cooperative agreements or product supply contracts, our revenues could be adversely affected.

Furthermore, we expect to spend significant amounts on the further development and commercial implementation of our technology. We also expect to spend significant amounts acquiring and deploying additional equipment to attain final product specifications that may be required by future customers, acquiring or otherwise gaining access to additional ethanol plants and Retrofitting them for isobutanol production, on marketing, general and administrative expenses associated with our planned growth, on management of operations as a public company, and on debt service obligations. In addition, the cost of preparing, filing, prosecuting, maintaining and enforcing patent, trademark and other intellectual property rights and defending ourselves against claims by others that we may be violating their intellectual property rights may be significant.

In particular, over time, costs related to defending the validity of our issued patents and challenging the validity of the patents of others at the U.S. Patent and Trademark Office ("USPTO") may be significant. As a result, even if our revenues increase substantially, we expect that our expenses will exceed revenues 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. 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 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.

Significant portions of our resources have been dedicated to research and development, as well as demonstrating the effectiveness of our technology through the Retrofit of the Agri-Energy Facility. We believe that we will continue to expend substantial resources for the foreseeable future on further developing our technologies, developing future markets for our isobutanol and accessing and Retrofitting facilities necessary for the production of isobutanol on a commercial scale. These expenditures may include costs associated with research and development, accessing existing ethanol plants, Retrofitting or otherwise modifying the plants to produce isobutanol, obtaining government and regulatory approvals, acquiring or constructing storage facilities and negotiating supply agreements for the isobutanol we produce. In addition, other unanticipated costs may arise. Because the costs of developing our technology at a commercial scale are highly uncertain, we cannot reasonably estimate the amounts necessary to successfully commercialize our production.

To date, we have funded our operations primarily through equity offerings, issuances of debt, borrowing under our secured debt financing arrangements and revenues earned primarily from the sale of ethanol. Based on our current plans and expectations, we will

require additional funding to achieve our goals. In addition, the cost of preparing, filing, prosecuting, maintaining and enforcing patent, trademark and other intellectual property rights and defending against claims by others that we may be violating their intellectual property rights may be significant. Moreover, our plans and expectations may change as a result of factors currently unknown to us, and we may need additional funds sooner than planned and may seek to raise additional funds through public or private debt or equity financings in the near future. 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 developing and optimizing our technologies for full-scale commercial production of isobutanol;
- the timing of, and costs involved in accessing existing ethanol plants;
- the timing of, and costs involved in Retrofitting the plants we access with our technologies;
- the costs involved in establishing enhanced yeast seed trains, including at the Agri-Energy Facility;
- the costs involved in acquiring and deploying additional equipment to attain final product specifications including at the Agri-Energy Facility, that may be required by future customers;
- the costs involved in increasing our isobutanol production capacity, including at the Agri-Energy Facility;
- the cost of operating, maintaining and increasing production capacity of the Retrofitted plants;
- our ability to negotiate agreements supplying suitable biomass to our plants, and the timing and terms of those agreements;
- the timing of, and the costs involved in developing adequate storage facilities for the isobutanol we produce;
- our ability to gain market acceptance for isobutanol as a specialty chemical, gasoline blendstock and as a raw material for the production of hydrocarbons;
- our ability to negotiate supply agreements for the isobutanol we produce, and the timing and terms of those agreements, including terms related to sales price;
- our ability to negotiate sales of our isobutanol for full-scale production of butenes and other industrially useful chemicals and fuels, and the timing and terms of those sales, including terms related to sales price;
- our ability to sell the iDGs™ left as a co-product of fermenting isobutanol from corn as animal feedstock;
- 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. In addition, our ability to raise additional funds will be subject to certain limitations in the agreements governing our indebtedness, including our secured indebtedness with Whitebox and/or TriplePoint. If needed funds are not available to us on a timely basis, we may be required to delay, limit, reduce or terminate:

- our research and development activities;
- our plans to access and/or Retrofit existing ethanol facilities;
- our production of isobutanol at Retrofitted plants;
- our production of hydrocarbons at our demonstration plant located at the South Hampton facility near Houston, TX, or any other future facilities;
- 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 developing storage capacity and negotiating supply agreements that may be necessary for the commercialization of our isobutanol production.

Our Retrofit of the Agri-Energy Facility is our first commercial Retrofit and, as a result, our full-scale commercial production of isobutanol at the Agri-Energy Facility could be delayed or we could experience significant cost overruns in comparison to our current estimates.

In September 2010, we acquired ownership of the Agri-Energy Facility in Luverne, Minnesota. To date, we have successfully demonstrated fermentation operations at commercial scale combined with the use of our GIFT ® separation system using corn mash feedstock at the Agri-Energy Facility. We may incur additional costs in order to further optimize the production of isobutanol, or both isobutanol and ethanol simultaneously, at the Agri-Energy Facility. We may determine that it is necessary to incur additional costs to further optimize the Agri-Energy Facility, but the funds necessary may not be available when we need them, on terms that are acceptable to us or at all. In addition, our ability to raise additional funds will be subject to certain limitations in the agreements governing our indebtedness, including our secured indebtedness with Whitebox and/or TriplePoint. If additional funding is not available to us, or not available on terms acceptable to us, our ability to optimize the isobutanol production technology currently in place at the Agri-Energy Facility and achieve full-scale commercial production at this facility may be limited. Such a result could reduce the scope of our business plan and have an adverse effect on our results of operations.

The Agri-Energy Facility is our first commercial isobutanol production facility, and, as such, we may be unable to produce planned quantities of isobutanol and any such production may be more costly than we anticipate.

Since commencing initial startup operations for the production of isobutanol at the Agri-Energy Facility in May 2012, we have encountered some production challenges, including contamination issues, which have resulted in lower than planned isobutanol production. While we have resumed limited production of isobutanol at the Agri-Energy Facility, this is our first commercial isobutanol production facility and we may encounter further production challenges, including, but not limited to, being unable to manage plant contamination, and we may need to add additional processing steps or incur additional capital expenditures to achieve our target customers' product specifications. Any such production challenges may delay our ramp up of production capacity, prevent us from producing significant quantities of isobutanol, significantly increase our cost to produce isobutanol, or cause us to switch to producing ethanol or produce both products simultaneously, which could have a material adverse effect on our business, financial condition and results of operations.

Some of our Retrofits, including the Retrofit of the Agri-Energy Facility, may include additional equipment that we believe will allow us to switch between ethanol and isobutanol production, or produce both products simultaneously, but we cannot guarantee that we will be successful in switching between isobutanol and ethanol production, or producing both products simultaneously, in a timely or efficient manner at these facilities.

In July 2014, we began more consistent co-production of isobutanol and ethanol at our Agri-Energy Facility with one fermenter utilized for isobutanol production and three fermenters utilized for ethanol production. We believe that the capability to switch between ethanol and isobutanol production, or produce both products simultaneously (as evidenced by our Agri-Energy Facility) will, subject to regulatory factors and depending on market conditions, mitigate certain significant risks associated with startup operations for isobutanol production, but there can be no assurance that we will be able to revert to ethanol production, or produce both products simultaneously at future plants, or that it will make sense, based on the then-current economic conditions for the production of ethanol, to do so. Even if we are able to revert to ethanol production, or produce both products simultaneously at certain facilities, those facilities may produce ethanol less efficiently or in lower volumes than they did prior to the Retrofit and such ethanol production may not generate positive economic returns. If we are unable to produce isobutanol at the volumes, rates and costs that we expect and are unable to revert to ethanol production at full capacity, or produce both products simultaneously, we would be unable to match the facility's historical economic performance and our business, financial condition and results of operations would be materially adversely affected.

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

Our approach to the biofuels and chemicals markets will be dependent on the price of corn and other feedstocks that will be used to produce ethanol and isobutanol. A decrease in the availability of plant feedstocks or an increase in the 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, as we may be unable to pass the full amount of feedstock cost increases on to our customers.

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, farming decisions, government policies and subsidies with respect to agriculture and international trade, and 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, especially without knowing what types of plant feedstock materials we may need to use.

Fluctuations in the price and availability of natural gas may harm our performance.

The ethanol facilities that we have Retrofitted or plan to Retrofit to produce isobutanol, use significant amounts of natural gas to produce ethanol. After Retrofit with our GIFT ® technology, these facilities will continue to require natural gas to produce isobutanol and/or ethanol. Accordingly, our business is dependent upon natural gas supplied by third parties. The prices for and availability of natural gas are subject to volatile market conditions. These market conditions are affected by factors beyond our control, such as weather conditions, overall economic conditions and governmental regulations. Should the price of natural gas increase, our performance could suffer. Likewise, disruptions in the supply of natural gas could have a material impact on our business and results of operations.

Fluctuations in petroleum prices and customer demand patterns may reduce demand for biofuels and bio-based chemicals.

We anticipate marketing our biofuel as an alternative to petroleum-based fuels. Therefore, if the price of oil falls, any revenues that we generate from biofuel products could decline, and we may be unable to produce products that are a commercially viable alternative to petroleum-based fuels. Additionally, demand for liquid transportation fuels, including biofuels, may decrease due to economic conditions or otherwise. We will encounter similar risks in the chemicals industry, where declines in the price of oil may make petroleum-based hydrocarbons less expensive, which could reduce the competitiveness of our bio-based alternatives.

Changes in the prices of distiller's grains and iDGs™ could have a material adverse effect on our financial condition.

We sell distiller's grains as a co-product from the production of ethanol at the Agri-Energy Facility during any period in which the production of isobutanol is temporarily paused and our management decides, based on the then-current economic conditions for the production of ethanol, that the Agri-Energy Facility will be temporarily reverted to ethanol production, or during periods in which we produce both isobutanol and ethanol simultaneously. We may also sell distiller's grains produced by other ethanol facilities that we acquire, enter into a joint venture or tolling arrangement with, or license to in the future. We also sell the iDGs™ that are produced as a co-product of our commercial isobutanol production. Distiller's grains and iDGs™ compete with other animal feed products, and decreases in the prices of these other products could decrease the demand for and price of distiller's grains and iDGs™. Additionally, we have produced limited quantities of commercial iDGs™ and, as such, there is a risk that our iDGs™ may not meet market requirements. If the price of distiller's grains and iDGs™ decreases or our iDGs™ do not meet market requirements, our revenue from the sale of distiller's grains and future revenue from the sale of iDGs™ could suffer, which could have a material adverse effect on our financial condition.

To the extent that we produce ethanol before commencing isobutanol production, or during periods in which we make the strategic decision to revert to ethanol production, or produce both products simultaneously, we will be vulnerable to fluctuations in the price of and cost to produce ethanol.

We believe that, like the Agri-Energy Facility, the other third-party ethanol production facilities we access can continue to produce ethanol during most of the Retrofit process. In certain cases, we may obtain income from this ethanol production. Further, we have designed our isobutanol production technology (including the Retrofit of the Agri-Energy Facility) to allow us to revert to ethanol production at certain facilities, or produce both products simultaneously, when the economic conditions for ethanol production make such production desirable. Our earnings from ethanol revenue will be dependent on the price of, demand for and cost to produce ethanol. Decreases in the price of ethanol, whether caused by decreases in gasoline prices, changes in regulations, seasonal fluctuations or otherwise, will reduce our revenues, while increases in the cost of production will reduce our margins. To the extent that ethanol production costs increase or price decreases, earnings from ethanol production could suffer, which could have a material adverse effect on our business.

In recent years, the spread between ethanol and corn prices has fluctuated widely. Fluctuations are likely to continue to occur. Unfavorable weather conditions led to a smaller than expected corn harvest across affected areas of the U.S. Midwest region in the fall of 2012. This, along with smaller corn carryover in 2010 and 2011 and higher export demand for corn led to higher corn prices during 2012 and the first half of 2013 and increased corn price volatility. The price of ethanol during that time did not keep pace with rising corn prices which resulted in lower and, in some instances negative, operating margins in the ethanol industry. As a result, during the fourth quarter of 2012, our management determined that the production of ethanol at the Agri-Energy Facility would not produce a positive margin versus maintaining the Agri-Energy Facility at idle. Likewise, the recent decline in oil prices has translated into lower gasoline prices in the U.S., which have resulted in lower ethanol prices and ethanol profit margins. It is unclear when or if ethanol prices may rebound, and consequently, when or if near-term ethanol margins will increase from current levels. Our inability to rely on ethanol production as an alternative revenue source due to rising corn prices or otherwise could have a material adverse effect on our business, financial condition and results of operations.

Sustained narrow commodity margins may cause us to operate at a loss or to reduce or suspend production of ethanol and/or isobutanol at the Agri-Energy Facility, and we may or may not be able to recommence production when margins improve.

Our results from operations will be substantially dependent on commodity prices. Many of the risks associated with volatile commodity prices, including fluctuations in feedstock costs and natural gas costs, apply both to the production of ethanol and isobutanol. Sustained unfavorable commodity prices may cause our combined revenues from sales of ethanol, isobutanol and related co-products to decline below our marginal cost of production. As market conditions change, our management may decide to reduce or suspend production of ethanol and/or isobutanol at the Agri-Energy Facility.

The decision to reduce or suspend production at a facility may create additional costs related to continued maintenance, termination of staff, certain unavoidable fixed costs, termination of customer contracts and increased costs to increase or recommence production in the future. These costs may make it difficult or impractical to increase or recommence production of ethanol and/or isobutanol at the Agri-Energy Facility even if margins improve. In addition, any reduction or suspension of the production of ethanol and/or isobutanol at the Agri-Energy Facility may slow or stop our commercialization process, which could have a material adverse effect on our business, financial condition and results of operations.

We may not be successful in the development of individual steps in, or an integrated process for, the production of commercial quantities of isobutanol from plant feedstocks in a timely or economic manner, or at all.

As of the date of this filing, we have produced only limited quantities of isobutanol at commercial scale and we may not be successful in increasing our production from these limited startup production levels to nameplate production levels. The production of isobutanol requires multiple integrated steps, including:

- obtaining the plant feedstocks;
- treatment with enzymes to produce fermentable sugars;
- fermentation by organisms to produce isobutanol from the fermentable sugars;
- distillation of the isobutanol to concentrate and separate it from other materials;
- purification of the isobutanol; and
- storage and distribution of the isobutanol.

Our future success depends on our ability to produce commercial quantities of isobutanol in a timely and economic manner. Our biocatalysts have not yet produced isobutanol at nameplate production levels. While we have produced isobutanol using our biocatalysts at our laboratories in Colorado, at the one MGPY demonstration facility and at the Agri-Energy Facility in commercial-scale fermenters, such production was not at full nameplate capacity of a commercial facility. Our production since the fourth quarter of 2013 has utilized a corn mash feedstock, but risk still exists for achieving nameplate capacity at the Agri-Energy Facility. The risk of contamination and other problems rises as we increase the scale of our isobutanol production. If we are unable to successfully manage these risks, we may encounter difficulties in achieving our target isobutanol production yield, rate, concentration or purity at a commercial scale, which could delay or increase the costs involved in commercializing our isobutanol production. In addition, we have limited experience sourcing large quantities of feedstocks and in storing and/or distributing significant volumes of isobutanol. The technological and logistical challenges associated with each of the processes involved in production, sale and distribution of isobutanol are extraordinary, and we may not be able to resolve any difficulties that arise in a timely or cost effective manner, or at all. Even if we are successful in developing an economical process for converting plant feedstocks into commercial quantities of isobutanol, we may not be able to adapt such process to other biomass raw materials, including cellulosic biomass.

Prior to commencement of the Agri-Energy Facility Retrofit, we had never built (through Retrofit or otherwise) or operated a commercial isobutanol facility. We assume that we understand how the engineering and process characteristics of the one MGPY demonstration facility will scale up to larger facilities, but these assumptions may prove to be incorrect. Accordingly, we cannot be certain that we can consistently produce isobutanol in an economical manner in commercial quantities. If our costs to build large-scale commercial isobutanol facilities are significantly higher than we expect or if we fail to consistently produce isobutanol economically on a commercial scale or in commercial volumes, our commercialization of isobutanol and our business, financial condition and results of operations will be materially adversely affected.

We have entered into a licensing agreement with Porta Hnos S.A. (“Porta”) to Retrofit their facility in Argentina, and the production of isobutanol at the Porta facility could be delayed and, as a result, any royalties or other revenues expected to be derived from the licensing agreement may be delayed.

In January 2016, we entered into a license agreement and joint development agreement with Porta to construct multiple isobutanol plants in Argentina using corn as a feedstock, the first of which is expected to be wholly owned by Porta (the “Porta

Facility") and is anticipated to begin producing isobutanol in 2017. The plant is expected to have a production capacity of up to five million gallons of isobutanol per year. Once the plant is operational, Gevo expects to generate revenues from this licensing arrangement, through royalties, sales and marketing fees, and other revenue streams such as yeast sales. The agreements also contemplate Porta constructing at least three additional isobutanol plants for certain of their existing ethanol plant customers. For these projects, Gevo would be the direct licensor of its technology and the marketer for any isobutanol produced, and would expect to receive all royalties and sales and marketing fees generated from these projects. Porta would provide the engineering, procurement and construction ("EPC") services for the projects. The production capacity of these additional plants is still to be determined.

Although we will be able to apply our experience from the Retrofit of the Agri-Energy Facility, no two ethanol facilities are exactly alike, and each Retrofit or construction project will require individualized engineering and design work. Unexpected difficulties unique to the Porta Facility may cause delays in commencing production, and there is no guarantee that we will be successful in properly completing the project. Any such unexpected difficulties could delay or limit the revenues that we are able to derive from the licensing arrangement with Porta. Moreover, there can be no assurances that the Retrofit of the Porta facility will ever be completed or Porta will construct other isobutanol plants as contemplated. If the Porta Facility project is not completed or if Porta does not construct additional isobutanol facilities, Gevo will not generate any revenue. In addition, if Gevo experiences delays or is unsuccessful in completing the Porta Facility project, this may limit Gevo's ability to license its technology to others, which could reduce the scope of Gevo's business plan and have a material adverse effect on Gevo's results of operations. In addition, if we experience delays or are unsuccessful in completing the Porta Facility project, this may limit our ability to license our technology to others, which could reduce the scope of our business plan and have a material adverse effect on our results of operations.

Our development strategy relies on our relationships with partners such as Praj Industries Limited ("Praj") and Porta.

Praj is one of the leading suppliers of EPC services to the ethanol industry globally, having provided such services to approximately 350 ethanol plants across 65 countries. As a result, we believe that our alliance with Praj will allow us to more quickly achieve commercial-scale production of isobutanol derived from the Feedstock outside of the U.S. Porta is a leading supplier of EPC services to the ethanol industry in South America. As a result, we believe that our alliance with Porta will allow us to more quickly achieve commercial-scale production of isobutanol in Argentina and potentially elsewhere in South America. However, Praj and Porta may fail to fulfill their obligations to us under our agreements such as failing to meet milestones associated with our joint development agreement. If Praj and Porta fail to fulfill their obligations to us under our agreements, our ability to realize continued development and commercial benefits from our alliance could be affected and our business and prospects could be harmed.

In addition, we may be unable to secure other partners beyond Praj and Porta to assist us in developing commercial isobutanol projects globally. If we are unable to secure such additional partnerships, our business and prospects could be harmed.

We may not be able to successfully identify and acquire access to additional ethanol production facilities suitable for efficient Retrofitting, or acquire access to sufficient capacity to be commercially viable or meet customer demand.

Our strategy currently includes accessing and Retrofitting, either independently or with potential development partners or licensees, existing ethanol facilities for the production of large quantities of isobutanol for commercial distribution and sale. In addition to the Agri-Energy Facility, we have signed licensing agreements with Porta and Praj and acquired access to a 50 MGPY ethanol plant pursuant to our joint venture with Redfield. However, we may not find future development partners with whom we can implement this growth strategy, and we may not be able to identify facilities suitable for joint venture, acquisition, lease or license.

Even if we successfully identify a facility suitable for efficient Retrofitting, we may not be able to acquire access to such facility in a timely manner, if at all. The owners of the ethanol facility may reach an agreement with another party, refuse to consider a joint venture, acquisition, lease or license, or demand more or different consideration than we are willing to provide. In particular, if the profitability of ethanol production increases, plant owners may be less likely to consider modifying their production, and thus may be less willing to negotiate with us or agree to allow us to Retrofit their facilities for isobutanol production. We may also find that it is necessary to offer special terms, incentives and/or rebates to owners of ethanol facilities that allow us to access and Retrofit their facilities while our production technology is being proven on a commercial scale. Even if the owners of a facility are interested in reaching an agreement that grants us access to the plant, negotiations may take longer or cost more than we expect, and we may never achieve a final agreement. Further, our ability to raise additional funds will be subject to certain limitations in the agreements governing our indebtedness, including our secured indebtedness with Whitebox and/or TriplePoint, and we may not be able to raise capital on acceptable terms, or at all, to finance our joint venture, acquisition, participation or lease of facilities.

Even if we are able to access and Retrofit several facilities, we may fail to access enough capacity to be commercially viable or meet the volume demands or minimum requirements of our customers, including pursuant to definitive supply or distribution agreements that we may enter into, which may subject us to monetary damages. Failure to acquire access to sufficient capacity in a timely manner and on favorable terms may slow or stop our commercialization process, which could have a material adverse effect on our business, financial condition and results of operations.

Once we acquire access to ethanol facilities, we may be unable to successfully Retrofit them to produce isobutanol, or we may not be able to Retrofit them in a timely and cost-effective manner.

For each ethanol production facility to which we acquire access, we will be required to obtain numerous regulatory approvals and permits to Retrofit and operate the facility. In the U.S., these include such items as a modification to the air permit, fuel registration with the EPA, ethanol excise tax registration and others. These requirements may not be satisfied in a timely manner, or at all. Later-enacted federal and state governmental requirements may also substantially increase our costs or delay or prevent the completion of a Retrofit, which could have a material adverse effect on our business, financial condition and results of operations.

No two ethanol facilities are exactly alike, and each Retrofit will require individualized engineering and design work. There is no guarantee that we or any contractor we retain will be able to successfully design a commercially viable Retrofit, or properly complete the Retrofit once the engineering plans are completed. Prior to commencement of the Agri-Energy Facility Retrofit, we had never built, via Retrofit or otherwise, a full-scale commercial isobutanol facility. Despite our experience with the Retrofit of the Agri-Energy Facility, our estimates of the capital costs that we will need to incur to Retrofit a commercial-scale ethanol facility may prove to be inaccurate, and each Retrofit may cost materially more to engineer and build than we currently anticipate. For example, our estimates assume that each plant we Retrofit will be performing at full production capacity, and we may need to expend substantial sums to repair or modify underperforming facilities prior to Retrofit.

Furthermore, the Retrofit of acquired facilities will be subject to the risks inherent in the build-out of any manufacturing facility, including risks of delays and cost overruns as a result of factors that may be out of our control, such as delays in the delivery of equipment and subsystems or the failure of such equipment to perform as expected once delivered. In addition, we will depend on third-party relationships in expanding our isobutanol production capacity and such third parties may not fulfill their obligations to us under our arrangements with them. Delays, cost overruns or failures in the Retrofit process will slow our commercial production of isobutanol and harm our performance.

Though our Retrofit design for certain facilities will include the capability to switch between isobutanol and ethanol production, or produce both products simultaneously (as demonstrated by our Agri-Energy Facility), we may be unable to successfully revert to ethanol production, or produce both products simultaneously at certain facilities, or such facilities may produce ethanol less efficiently or in lower volumes than they did before the Retrofit. In addition, we may be unable to secure the necessary regulatory approvals and permits to switch between isobutanol and ethanol production, or produce both products simultaneously, in a timely manner, or at all. Thus, if we fail to achieve commercial levels of isobutanol production at a Retrofitted facility, we may be unable to rely on ethanol production as an alternative or additional revenue source, which could have a material adverse effect on our prospects.

Our facilities and process may fail to produce isobutanol at the volumes, rates and costs we expect.

Some or all of the facilities we choose to Retrofit may be in locations distant from corn or other feedstock sources, which could increase our feedstock costs or prevent us from acquiring sufficient feedstock volumes for commercial production. General market conditions might also cause increases in feedstock prices, which could likewise increase our production costs.

Even if we secure access to sufficient volumes of feedstock, the facilities we Retrofit for isobutanol production may fail to perform as expected. The equipment and subsystems installed during the Retrofit may never operate as planned. Our systems may prove incompatible with the original facility, or require additional modification after installation. Our biocatalyst may perform less efficiently than it did in testing, if at all. Contamination of plant equipment may require us to replace our biocatalyst more often than expected, require unplanned installation or replacement of

equipment, or cause our fermentation process to yield undesired or harmful by-products. Likewise, our feedstock may contain contaminants like wild yeast, which naturally ferments feedstock into ethanol. The presence of contaminants, such as wild yeast, in our feedstock could reduce the purity of the isobutanol that we produce and require us to invest in more costly isobutanol separation processes or equipment. Unexpected problems may force us to cease or delay production and the time and costs involved with such delays may prove prohibitive. Any or all of these risks could prevent us from achieving the production throughput and yields necessary to achieve our target annualized production run rates and/or to meet the volume demands or minimum requirements of our customers, including pursuant to definitive supply or distribution agreements that we may enter into, which may subject us to monetary damages. Failure to achieve these rates or meet these minimum requirements, or achieving them only after significant additional expenditures, could substantially harm our commercial performance.

We may be unable to produce isobutanol in accordance with customer specifications.

Even if we produce isobutanol at our targeted rates, we may be unable to produce isobutanol that meets customer specifications, including those defined in ASTM D7862 “Standard Specification for Butanol for Blending with Gasoline for Use as Automotive Spark-Ignition Engine Fuel.” 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. For example, at the Agri-Energy Facility we intend to acquire and install a product purification column, which we believe will allow us to achieve our target customers’ product

specifications without continuing to rely on third-party contract tolling providers. If we fail to meet specific product or volume specifications contained in a supply agreement, the customer may have the right to seek an alternate supply of isobutanol 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, and significantly hinder market adoption of our products.

We lack significant experience operating commercial-scale ethanol and isobutanol facilities, and may encounter substantial difficulties operating commercial plants or expanding our business.

We have very limited experience operating commercial-scale ethanol and isobutanol facilities. Accordingly, we may encounter significant difficulties operating at a commercial scale. We believe that our future facilities will, like the Agri-Energy Facility, be able to continue producing ethanol during much of the Retrofit process. We will need to successfully administer and manage this production. Though Porta, the employees of Agri-Energy and Redfield are experienced in the operation of ethanol facilities, and our future development partners or the entities that we acquire may likewise have such experience, we may be unable to manage ethanol-producing operations, especially given the possible complications associated with a simultaneous Retrofit. Once we complete a commercial Retrofit, operational difficulties may increase, because neither we nor anyone else has significant experience operating a pure isobutanol fermentation facility at a commercial scale. The skills and knowledge gained in operating commercial ethanol facilities or small-scale isobutanol plants may prove insufficient for successful operation of a large-scale isobutanol facility, and we may be required to expend significant time and money to develop our capabilities in isobutanol 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.

We may face additional operational difficulties as we further expand our production capacity. Integrating new facilities with our existing operations may prove difficult. Rapid growth, resulting from our operation of, or other involvement with, isobutanol 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 of isobutanol and/or ethanol, or failure to otherwise manage our growth, may have a material adverse effect on our business, financial condition and results of operations.

We may have difficulty adapting our technology to commercial-scale fermentation, which could delay or prevent our commercialization of isobutanol.

While we have demonstrated the ability to produce isobutanol under the demonstration plant operating conditions and under commercial scale operating conditions at the Agri-Energy Facility, and we have succeeded in reaching our commercial fermentation performance targets for isobutanol concentration, fermentation productivity and isobutanol yield in laboratory tests, we have not yet reached all performance targets in a commercial plant environment. Ultimately, our yeast biocatalyst may not be able to meet the commercial performance targets at nameplate production capacity in a timely manner, or ever. In addition, the risk of contamination and other problems may increase as we seek to ramp up our production capacity, which could negatively impact our cost of production or require additional capital expenditures to solve for these problems. If we encounter difficulties in optimizing our production, our commercialization of isobutanol and our business, financial condition and results of operations will be materially adversely affected.

We may have difficulties gaining market acceptance and successfully marketing our isobutanol to customers, including chemical producers, fuel distributors and refiners.

A key component of our business strategy is to market our isobutanol to chemical producers, fuels distributors and refiners. We have no experience marketing isobutanol on a commercial scale and we may fail to successfully negotiate marketing agreements in a timely manner or on favorable terms. If we fail to successfully market our isobutanol to refiners, fuels distributors and chemical producers, our business, financial condition and results of operations will be materially adversely affected.

We also intend to market our isobutanol to chemical producers for use in making various chemicals such as isobutylene, a type of butene that can be produced through the dehydration of isobutanol. Although a significant market currently exists for isobutylene produced from petroleum, which is widely used in the production of plastics, specialty chemicals, alkylate for gasoline blending and high octane aviation gasoline, no one has successfully created isobutylene on a commercial scale from bio-isobutanol. Therefore, to gain market acceptance and successfully market our isobutanol to chemical producers, we must show that our isobutanol can be converted into isobutylene at a commercial scale. As no company currently dehydrates commercial volumes of isobutanol into isobutylene, we must demonstrate the large-scale feasibility of the process and reach agreements with companies that are willing to invest in the necessary dehydration infrastructure. Failure to reach favorable agreements with these companies, or the inability of their plants to convert isobutanol into isobutylene at sufficient scale, will slow our development in the chemicals market and could significantly affect our profitability.

Obtaining market acceptance in the chemicals industry is complicated by the fact that many potential chemicals industry customers have invested substantial amounts of time and money in developing petroleum-based production channels. These potential customers generally have well-developed manufacturing processes and arrangements with suppliers of chemical components, and may display substantial resistance to changing these processes. Pre-existing contractual commitments, unwillingness to invest in new infrastructure, distrust of new production methods and lengthy relationships with current suppliers may all slow market acceptance of isobutanol.

A very limited market currently exists for isobutanol as a fuel or as a gasoline blendstock. Therefore, to gain market acceptance and successfully market our isobutanol to fuels distributors and refiners, we must effectively demonstrate the commercial advantages of using isobutanol over other biofuels and blendstocks, as well as our ability to produce isobutanol reliably on a commercial scale at a sufficiently low cost. We must show that isobutanol is compatible with existing infrastructure and does not damage pipes, engines, storage facilities or pumps. We must also overcome marketing and lobbying efforts by producers of other biofuels and blendstocks, including ethanol, many of whom may have greater resources than we do. If the markets for isobutanol as a fuel or as a gasoline blendstock do not develop as we currently anticipate, or if we are unable to penetrate these markets successfully, our revenue and growth rate could be materially and adversely affected.

We believe that consumer demand for environmentally sensitive products will drive demand among large brand owners for renewable hydrocarbon sources. One of our marketing strategies is to leverage this demand to obtain commitments from large brand owners to purchase products made from our isobutanol by third parties. We believe these commitments will, in turn, promote chemicals industry demand for our isobutanol. If consumer demand for environmentally sensitive products fails to develop at sufficient scale or if such demand fails to drive large brand owners to seek sources of renewable hydrocarbons, our revenue and growth rate could be materially and adversely affected.

We may be reliant on Butamax to develop certain markets for isobutanol.

As part of the License Agreement entered into with Butamax, it was agreed that Butamax would take the lead in developing the markets for on-road gasoline blendstocks. This would entail progressing the required approvals for these markets, as well as managing the marketing and distribution of our isobutanol and our potential licensee’s isobutanol in these markets beyond certain minimum volumes. If Butamax is unable to obtain the necessary approvals to sell isobutanol into the on-road gasoline blendstock markets, or if it is unsuccessful in building market demand for isobutanol as an on-road gasoline blendstock, our revenue and growth rate could be materially and adversely affected.

We may be required to pay Butamax royalties for selling isobutanol into certain markets, which could hinder our ability to competitively sell our isobutanol into those markets.

As part of the License Agreement entered into with Butamax, it was agreed that we, and our potential licensees, may be required to pay Butamax royalties for selling isobutanol into the on-road gasoline blendstock markets and the chemical isobutylene applications markets beyond certain minimum volumes. The addition of these royalties may make our isobutanol uncompetitive from a price perspective, which may hinder our ability to sell into these markets. If this is the case, our revenue and growth rate could be materially and adversely affected.

We may be unable to successfully negotiate final, binding terms related to our current non-binding isobutanol supply and distribution agreements, which could harm our commercial prospects.

In addition to a limited number of definitive supply and distribution agreements, we have agreed to preliminary terms regarding supplying isobutanol or the products derived from it to various companies for their use or further distribution. We may be unable to negotiate final terms with these or other companies in a timely manner, or at all,

and there is no guarantee that the terms of any final agreement will be the same or similar to those currently contemplated in our preliminary agreements. Final terms may include less favorable pricing structures or volume commitments, more expensive delivery or purity requirements, reduced contract durations and other adverse changes. Delays in negotiating final contracts could slow our initial isobutanol commercialization, and failure to agree to definitive terms for sales of sufficient volumes of isobutanol could prevent us from growing our business. To the extent that terms in our initial supply and distribution contracts may influence negotiations regarding future contracts, the failure to negotiate favorable final terms related to our current preliminary agreements could have an especially negative impact on our growth and profitability. Additionally, we have not demonstrated that we can meet the production levels contemplated in our current non-binding supply agreements. If our production scale-up proceeds more slowly than we expect, or if we encounter difficulties in successfully completing plant Retrofits, potential customers, including those with whom we have current letters of intent, may be less willing to negotiate definitive supply agreements, or demand terms less favorable to us, and our performance may suffer.

Even if we are successful in consistently producing isobutanol on a commercial scale, we may not be successful in negotiating sufficient supply agreements for our production.

We expect that many of our customers will be large companies with extensive experience operating in the fuels or chemicals markets. As an early stage company, we lack commercial operating experience, and may face difficulties in developing marketing expertise in these fields. Our business model relies upon our ability to successfully negotiate and structure long-term supply agreements for the isobutanol we produce. Certain agreements with existing and potential customers may initially only provide for the purchase of limited quantities from us. For example, our agreement with Alaska Airlines entered into in May 2015 provides for the initial purchase of a limited quantity of our ATJ fuel, and does not obligate Alaska Airlines to purchase any additional quantity of jet fuel in addition to the amount to be initially purchased. Our ability to increase our sales will depend in large part upon our ability to expand these existing customer relationships into long-term supply agreements. Maintaining and expanding our existing relationships and establishing new ones can require substantial investment without any assurance from customers that they will place significant orders. In addition, many of our potential customers may be more experienced in these matters than we are, and we may fail to successfully negotiate these agreements in a timely manner or on favorable terms which, in turn, may force us to slow our production, delay our acquiring and Retrofitting of additional plants, dedicate additional resources to increasing our storage capacity and/or dedicate resources to sales in spot markets. Furthermore, should we become more dependent on spot market sales, our profitability will become increasingly vulnerable to short-term fluctuations in the price and demand for petroleum-based fuels and competing substitutes.

Even if we are successful in consistently producing isobutanol on a commercial scale, we may not be successful in negotiating pricing terms sufficient to generate positive results from operations at the Agri-Energy Facility.

We expect that many of our customers will be large companies with extensive experience operating in the fuels or chemicals markets. As an early stage company, we lack commercial operating experience, and may face difficulties in developing marketing expertise in these fields. Our business model relies upon our ability to negotiate pricing terms for the isobutanol we produce that generate positive results from the operations of the Agri-Energy Facility. Many of our potential customers may be more experienced in these matters than we are. We may fail to negotiate these agreements in a timely manner, which may force us to dedicate resources to sales in spot markets. If we become more dependent on spot market sales our profitability will become increasingly vulnerable to short-term fluctuations in the price and demand for our products.

Our isobutanol may be less compatible with existing refining and transportation infrastructure than we believe, which may hinder our ability to market our product on a large scale.

We developed our business model based on our belief that our isobutanol is fully compatible with existing refinery infrastructure. For example, when making isobutanol blends, we believe that gasoline refineries will be able to pump our isobutanol through their pipes and blend it in their existing facilities without damaging their equipment. If our isobutanol proves unsuitable for such handling, it will be more expensive for refiners to use our isobutanol than we anticipate, and they may be less willing to adopt it as a gasoline blendstock, forcing us to seek alternative purchasers.

Likewise, our plans for marketing our isobutanol are based upon our belief that it will be compatible with the pipes, tanks and other infrastructure currently used for transporting, storing and distributing gasoline. If our isobutanol or products incorporating our isobutanol cannot be transported with this equipment, we will be forced to seek alternative transportation arrangements, which will make our isobutanol and products produced from our isobutanol more expensive to transport and less appealing to potential customers. Reduced compatibility with either refinery or transportation infrastructure may slow or prevent market adoption of our isobutanol, which could substantially harm our performance.

A sustained low oil price environment may negatively impact the price we receive for the sale of our isobutanol, ethanol and hydrocarbon products.

Many of our end-products such as isobutanol, ethanol and hydrocarbon products have some level of price correlation with crude oil. If crude oil prices were to remain at low levels over a sustained period of time, this may have an impact on the pricing that we are able to achieve in the marketplace for many of those end-products. This may cause us to operate at a lower, or negative, operating margins and, as a result, our management may decide to reduce or suspend production of ethanol and/or isobutanol at the Agri-Energy Facility. Unfavorable operating margins may also impact our ability to access and Retrofit, either independently or with potential development partners or licensees, existing ethanol facilities for the production of isobutanol for commercial distribution and sale.

If we engage in additional acquisitions, we will incur a variety of costs and may potentially face numerous risks that could adversely affect our business and operations.

If appropriate opportunities become available, we may acquire businesses, assets, technologies or products to enhance our business in the future. In connection with any future acquisitions, we could, subject to certain limitations in the agreements governing our indebtedness, including our secured indebtedness with Whitebox and/or TriplePoint:

- issue additional equity securities which would dilute our current stockholders;
- incur substantial debt to fund the acquisitions; or
- assume significant liabilities.

Acquisitions involve numerous risks, including problems integrating the purchased operations, technologies or products, unanticipated costs and other liabilities, diversion of management's attention from our core business, adverse effects on existing business relationships with current and/or prospective partners, customers and/or suppliers, risks associated with entering markets in which we have no or limited prior experience and potential loss of key employees. Other than our acquisition of Agri-Energy, we have not engaged in acquisitions in the past, and do not have experience in managing the integration process. Therefore, we may not be able to successfully integrate any businesses, assets, products, technologies or personnel that we might acquire in the future without a significant expenditure of operating, financial and management resources, if at all. The integration process could divert management time from focusing on operating our business, result in a decline in employee morale and cause retention issues to arise from changes in compensation, reporting relationships, future prospects or the direction of the business. In addition, we may acquire companies that have insufficient internal financial controls, which could impair our ability to integrate the acquired company and adversely impact our financial reporting. If we fail in our integration efforts with respect to acquisitions and are unable to efficiently operate as a combined organization, our business, financial condition and results of operations may be materially adversely affected.

If we engage in additional joint ventures, we will incur a variety of costs and may potentially face numerous risks that could adversely affect our business and operations.

If appropriate opportunities become available, we may enter into joint ventures with the owners of existing ethanol production facilities in order to acquire access to additional isobutanol production capacity, such as the agreement we entered into with Redfield. We currently anticipate that in each such joint venture, the ethanol producer would contribute access to its existing ethanol production facility and we would be responsible for Retrofitting such facility to produce isobutanol. Upon completion of the Retrofit, and in some cases the attainment of certain performance targets, both parties to the joint venture would receive a portion of the profits from the sale of isobutanol, consistent with our business model. In connection with these joint ventures, we could incur substantial debt to fund the Retrofit of the accessed facilities and we could assume significant liabilities.

Realizing the anticipated benefits of joint ventures, including projected increases to production capacity and additional revenue opportunities, involves a number of potential challenges. The failure to meet these challenges could seriously harm our financial condition and results of operations. Joint ventures are complex and time-consuming and we may encounter unexpected difficulties or incur unexpected costs related to such arrangements, including:

- difficulties negotiating joint venture agreements with favorable terms and establishing relevant performance metrics;
- difficulties completing the Retrofits of the accessed facilities using our integrated fermentation technology;
- the inability to meet applicable performance targets related to the production of isobutanol;
- difficulties obtaining the permits and approvals required to produce and sell our products in different geographic areas;
- complexities associated with managing the geographic separation of accessed facilities;
- diversion of management attention from ongoing business concerns to matters related to the joint ventures;

- difficulties maintaining effective relationships with personnel from different corporate cultures; and
- the inability to generate sufficient revenue to offset Retrofit costs.

Additionally, our joint venture partners may have liabilities or adverse operating issues that we fail to discover through due diligence prior to entering into the joint ventures. In particular, to the extent that our joint venture partners failed to comply with or otherwise violated applicable laws or regulations, or failed to fulfill their contractual obligations, we may suffer financial harm and/or reputational harm for these violations or otherwise be adversely affected.

Our joint venture partners may have significant amounts of existing debt and may not be able to service their existing debt obligations, which could cause the failure of a specific project and the loss by us of any investment we have made to Retrofit the

facilities owned by the joint venture partner. In addition, if we are unable to meet specified performance targets related to the production of isobutanol at a facility owned by one of our joint venture partners, we may never become eligible to receive a portion of the profits of the joint venture and may be unable to recover the costs of Retrofitting the facility.

Additionally, we plan to be a leading marketer for all isobutanol and co-products produced using our proprietary technology and sold in markets other than on-road gasoline blendstocks including, without limitation, all isobutanol that is produced by any facilities that we access via joint venture. Marketing agreements can be very complex and the obligations that we assume as a leading marketer of isobutanol may be time consuming. We have no experience marketing isobutanol on a commercial scale and we may fail to successfully negotiate marketing agreements in a timely manner or on favorable terms. If we fail to successfully market the isobutanol produced using our proprietary technology to refiners and chemical producers, our business, financial condition and results of operations will be materially adversely affected.

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, we may be unable to pursue partnerships or develop our own products and it may trigger an event of default under the agreements governing our indebtedness, including our secured indebtedness with TriplePoint.

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 loss 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. In addition, the loss of any key scientific staff, or the failure to attract or retain other key scientific employees, 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. 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 biofuels area, or due to the limited availability of personnel with the qualifications or experience necessary for our renewable chemicals and advanced biofuels 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. 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. Additionally, certain changes in our management could trigger an event of default under the agreements governing our indebtedness, including our secured indebtedness with TriplePoint, and we could be forced to pay the outstanding balance of the loan(s) in full. All of our employees are at-will employees, meaning that either the employee or we may terminate their employment at any time.

Our planned activities will require additional expertise in specific industries and areas applicable to the products and processes developed through our technology platform or acquired through strategic or other transactions, especially in the end markets that we seek to penetrate. These activities will require the addition of new personnel, and the development of additional expertise by existing personnel. The inability to attract personnel with appropriate skills or to develop the necessary expertise could impair our ability to grow our business.

Our government grants are subject to uncertainty, which could harm our business and results of operations.

We have received various government grants, including a cooperative agreement, to complement and enhance our own resources. We may seek to obtain government grants and subsidies in the future to offset all or a portion of the costs of Retrofitting existing ethanol manufacturing facilities and the costs of our research and development activities. We cannot be certain that we will be able to secure any such government grants or subsidies. Any of our existing grants or new grants that we may obtain may be terminated, modified or recovered by the granting governmental body under certain conditions.

We may also be subject to audits by government agencies as part of routine audits of our activities funded by our government grants. As part of an audit, these agencies may review our performance, cost structures and compliance with applicable laws, regulations and standards. Funds available under grants must be applied by us toward the research and development programs specified by the granting agencies, rather than for all of our programs generally. If any of our costs are found to be allocated improperly, the costs may not be reimbursed and any costs already reimbursed may have to be refunded. Accordingly, an audit could result in an adjustment to our revenues and results of operations.

We may face substantial competition, which could adversely affect our performance and growth.

We may face substantial competition in the markets for isobutanol, ethanol, polyester, rubber, plastics, fibers, other polymers and hydrocarbon fuels. Our competitors include companies in the incumbent petroleum-based industry as well as those in the nascent biorenewable 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 in the chemicals, solvents and blendstock markets.

The biorenewable industry is characterized by rapid technological change. Our future success will depend on our ability to maintain a competitive position with respect to technological advances. Technological development by others may impact the competitiveness of our products in the marketplace. Competitors and potential competitors who have greater resources and experience than we do may develop products and technologies that make ours obsolete or may use their greater resources to gain market share at our expense.

In the production of isobutanol, we face competition from Butamax. Additionally, a number of companies including Cathay Industrial Biotech, Ltd., Green Biologics Ltd., METabolic Explorer, S.A. and Eastman Chemical Company (which acquired TetraVitae Bioscience, Inc. in November 2011) are developing n-butanol production capability from a variety of renewable feedstocks.

In the ethanol market, we operate in a highly competitive industry in the U.S. According to the Renewable Fuels Association, there are over 200 ethanol facilities in the U.S. with an installed nameplate capacity of almost 15 billion gallons. Some of the key competitors in the U.S. include Archer-Daniels-Midland Company, POET, LLC and Valero Energy Corporation. We also face competition from foreign producers of ethanol. Brazil is believed to be the world's second largest ethanol producing country. Many producers have much larger production capacities and operate at a lower cost of production than we do. As a result, these companies may be able to compete more effectively in narrower commodity margin environments.

In the polyester, rubber, plastics, fibers and other polymers markets, we face competition from incumbent petroleum-derived products, other renewable isobutanol producers and renewable n-butanol producers. Our competitive position versus the incumbent petroleum-derived products and other renewable butanol producers may not be favorable. Petroleum-derived products have dominated the market for many years and there is substantial existing infrastructure for production from petroleum sources, which may impede our ability to establish a position in these markets. Other isobutanol and n-butanol companies may develop technologies that prove more effective than our isobutanol production technology, or such companies may be more adept at marketing their production. Additionally, one company in France, Global Bioenergies, S.A., is pursuing the production of isobutylene from renewable carbohydrates directly. Since conversion of isobutanol to butenes such as isobutylene is a key step in producing many polyester, rubber, plastics, fibers and other polymers from our isobutanol, this direct production of renewable isobutylene, if successful, could limit our opportunities in these markets.

In the gasoline blendstock market, we will compete with our isobutanol against renewable ethanol producers (including those working to produce ethanol from cellulosic feedstocks), producers of alkylate from petroleum and producers of other blendstocks, all of whom may reduce our ability to obtain market share or maintain our price levels. For example, Coskata, Inc. is developing a hybrid thermochemical-biocatalytic process to produce ethanol from a variety of feedstocks. If any of these competitors succeed in producing blendstocks more efficiently, in higher volumes or offering superior performance than our isobutanol, our financial performance may suffer. Furthermore, if our competitors have more success marketing their products or reach development or supply agreements with major customers, our competitive position may also be harmed.

In the production of other biofuels, key competitors include Shell Oil Company, BP, DuPont-Danisco Cellulosic Ethanol LLC, Abengoa Bioenergy, S.A., POET, LLC, ICM, Mascoma Corporation, Inbicon A/S, INEOS New Planet BioEnergy LLC, Archer Daniels Midland Company, BlueFire Ethanol, Inc., ZeaChem Inc., Iogen Corporation, Qteros, Inc., and many smaller startup companies. If these companies are successful in establishing low cost cellulosic ethanol or other fuel production, it could negatively impact the market for our isobutanol as a gasoline blendstock. In the markets for the hydrocarbon fuels that we plan to produce from our isobutanol, we will face competition from the incumbent petroleum-based fuels industry. The incumbent petroleum-based fuels industry makes the vast majority of the world's gasoline, jet and diesel fuels and blendstocks. It is a mature industry with a substantial base of infrastructure for the production and distribution of petroleum-derived products. The size, established infrastructure and significant resources of many companies in this industry may put us at a substantial competitive disadvantage and delay or prevent the establishment and growth of our business in the market for hydrocarbon fuels.

Biofuels companies may also provide substantial competition in the hydrocarbon fuels market. With respect to production of renewable gasoline, biofuels competitors are numerous and include both large established companies and numerous startups. For example, Virent Energy Systems, Inc. has developed a process for making gasoline and gasoline blendstocks and Kior, Inc. has developed a technology platform to convert biomass into renewable crude oil. Many other competitors may do so as well. In the jet

fuel market, we will face competition from companies such as Synthetic Genomics, Inc., Solazyme, Inc., Sapphire Energy, Inc. and Exxon-Mobil Corporation that are pursuing production of jet fuel from algae-based technology. Renewable Energy Group, Inc. and others are also targeting production of jet fuels from vegetable oils and animal fats. Red Rock Biofuels LLC and others are planning to produce jet fuel from renewable biomass. We may also face competition from companies working to produce jet fuel from hydrogenated fatty acid methyl esters. In the diesel fuels market, competitors such as Amyris Biotechnologies, Inc. and Renewable Energy Group, Inc. have developed technologies for production of alternative hydrocarbon diesel fuel.

In the polyester, rubber, plastics, fibers and other polymers markets and the hydrocarbon fuels market, we expect to face vigorous competition from existing technologies. The companies we may compete with may have significantly greater access to resources, far more industry experience and/or more established sales and marketing networks. Additionally, since we do not plan to produce most of these products directly, we will depend on the willingness of potential customers to purchase and convert our isobutanol into their products. These potential customers generally have well-developed manufacturing processes and arrangements with suppliers of the chemical components of their products and may have a resistance to changing these processes and components. These potential customers frequently impose lengthy and complex product qualification procedures on their suppliers, influenced by consumer preference, manufacturing considerations such as process changes and capital and other costs associated with transitioning to alternative components, supplier operating history, regulatory issues, product liability and other factors, many of which are unknown to, or not well understood by, us. Satisfying these processes may take many months or years. If we are unable to convince these potential customers that our isobutanol is comparable or superior to the alternatives that they currently use, we will not be successful in entering these markets and our business will be adversely affected.

We also face challenges in marketing our isobutanol or products derived from our isobutanol. Though we intend to enhance our competitiveness through partnerships and joint development agreements, some competitors may gain an advantage by securing more valuable partnerships for developing their hydrocarbon products than we are able to obtain. Such partners could include major petrochemical, refiner or end-user companies. Additionally, petrochemical companies may develop alternative pathways for hydrocarbon production that may be less expensive, and may utilize more readily available infrastructure than that used to convert our isobutanol into hydrocarbon products.

We plan to enter into partnerships through which we will sell significant volumes of our isobutanol to partners who will convert it into useful hydrocarbons or use it as a fuel or as a gasoline blendstock. However, if any of these partners instead negotiate supply agreements with other buyers for the isobutanol they purchase from us, or sell it into the open market, they may become competitors of ours in the field of isobutanol sales. This could significantly reduce our profitability and hinder our ability to negotiate future supply agreements for our isobutanol, which could have an adverse effect on our performance.

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.

In addition, various governments have recently announced a number of spending programs focused on the development of clean technologies, including alternatives to petroleum-based fuels and the reduction of carbon emissions. Such spending programs could lead to increased funding for our competitors or a rapid increase in the number of competitors within those markets.

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.

Business interruptions could delay us in the process of developing our products and could disrupt our sales.

We are vulnerable to natural disasters and other events that could disrupt our operations, such as riots, civil disturbances, war, terrorist acts, floods, infections in our laboratory or production facilities or those of our contract manufacturers and other events beyond our control. We do not have a detailed disaster recovery plan. In addition, we may not carry sufficient business interruption

insurance to compensate us for losses that may occur. Any losses or damages we incur could have a material adverse effect on our cash flows and success as an overall business.

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

We have historically engaged in hedging transactions to offset some of the effects of volatility in commodity prices. We have generally followed a policy of using exchange-traded futures contracts to reduce our net position in agricultural commodity inventories and forward purchase contracts to manage price risk. 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 exposes 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 isobutanol, distiller's grains, iDGs™ or ethanol. Losses from hedging activities and changes in hedging strategy could have a material adverse effect on our operations.

Ethical, legal and social concerns about genetically engineered products and processes, and similar concerns about feedstocks grown on land that could be used for food production, could limit or prevent the use of our products, processes and technologies and limit our revenues.

Some of our processes involve the use of genetically engineered organisms or genetic engineering technologies. Additionally, our feedstocks may be grown on land that could be used for food production, which subjects our feedstock sources to "food versus fuel" concerns. If we are not able to overcome the ethical, legal and social concerns relating to genetic engineering or food versus fuel, our products and processes may not be accepted. Any of the risks discussed below could result in increased expenses, delays or other impediments to our programs or the public acceptance and commercialization of products and processes dependent on our technologies or inventions.

Our ability to develop and commercialize one or more of our technologies, products, or processes could be limited by the following factors:

- public attitudes about the safety and environmental hazards of, and ethical concerns over, genetic research and genetically engineered products and processes, which could influence public acceptance of our technologies, products and processes;
- public attitudes regarding and potential changes to laws governing ownership of genetic material, which could harm our intellectual property rights with respect to our genetic material and discourage others from supporting, developing or commercializing our products, processes and technologies;
- public attitudes and ethical concerns surrounding production of feedstocks on land which could be used to grow food, which could influence public acceptance of our technologies, products and processes;
- governmental reaction to negative publicity concerning genetically engineered organisms, which could result in greater government regulation of genetic research and derivative products; and
- governmental reaction to negative publicity concerning feedstocks produced on land which could be used to grow food, which could result in greater government regulation of feedstock sources.

The subjects of genetically engineered organisms and food versus fuel have received negative publicity, which has aroused public debate. This adverse publicity could lead to greater regulation and trade restrictions on imports of genetically engineered products or feedstocks grown on land suitable for food production.

The biocatalysts that we develop have significantly enhanced characteristics compared to those found in naturally occurring enzymes or microbes. While we produce our biocatalysts only for use in a controlled industrial environment, the release of such biocatalysts into uncontrolled environments could have unintended consequences. Any adverse effect resulting from such a release could have a material adverse effect on our business and financial condition, and we may be exposed to liability for any resulting harm.

As isobutanol has not previously been used as a commercial fuel in significant amounts, its use subjects us to product liability risks, and we may have difficulties obtaining product liability insurance.

Isobutanol has not previously been used as a commercial fuel and research regarding its impact on engines and distribution infrastructure is ongoing. Though we intend to test our isobutanol further before its commercialization, there is a risk that it may damage engines or otherwise fail to perform as expected. If isobutanol degrades the performance or reduces the lifecycle of engines, or causes them to fail to meet emissions standards, market acceptance could be slowed or stopped, and we could be subject to product

liability claims. Furthermore, due to isobutanol's lack of commercial history as a fuel, we are uncertain as to whether we will be able to acquire product liability insurance on reasonable terms, or at all. 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, 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, 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 may have experienced one or more ownership changes in prior years, and the issuance of shares in connection with our initial public offering may itself have 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. If an ownership change has occurred or does occur in the future, our ability to utilize our net operating losses to offset income if we attain profitability may be limited.

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 there are no material weaknesses in our internal controls over financial reporting as of December 31, 2015. However, there can be no assurance that our controls over financial processes and reporting will be effective in the future or that additional material weaknesses or significant deficiencies in our internal controls will not be discovered in the future. If we, or our independent registered public accounting firm, discover a 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. In addition, a delay in compliance with Section 404 could subject us to a variety of administrative sanctions, including SEC action, ineligibility for short form resale registration, the suspension or delisting of our common stock from the stock exchange on which it is listed and the inability of registered broker-dealers to make a market in our common stock, which would further reduce our stock price and could harm our business.

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 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 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, such as our process for producing isobutanol, 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 administrative 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. As such, as of December 31, 2015, we owned rights to approximately 418 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 biofuels and renewable chemicals markets. We intend to continue to apply for patents relating to our technologies, methods and products as we deem appropriate.

Only approximately 39 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. Currently, one of our issued patents is being challenged in regulatory proceedings before the USPTO. These proceedings may result in the claims being amended or canceled. If the claims are amended or canceled, the scope of our patents 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. 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 issue 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.

If our biocatalysts, or the genes that code for our biocatalysts, are stolen, misappropriated or reverse engineered, others could use these biocatalysts or genes to produce competing products.

Third parties, including our contract manufacturers, customers and those involved in shipping our biocatalysts, may have custody or control of our biocatalysts. If our biocatalysts, or the genes that code for our biocatalysts, were stolen, misappropriated or reverse engineered, they could be used by other parties who may be able to reproduce these biocatalysts for their own commercial gain. If this were to occur, it would be difficult for us to discover or challenge this type of use, especially in countries with limited intellectual property protection.

During the ordinary course of business, we may become subject to lawsuits or indemnity claims, which could materially and adversely affect our business and results of operations.

From time to time, we may in the ordinary course of business be named as a defendant in lawsuits, claims and other legal proceedings. These actions may seek, among other things, compensation for alleged personal injury, worker's compensation, employment discrimination, breach of contract, property damages, civil penalties and other losses of injunctive or declaratory relief. In

the event that such actions or indemnities are ultimately resolved unfavorably at amounts exceeding our accrued liability, or at material amounts, the outcome could materially and adversely affect our reputation, business and results of operations. In addition, payments of significant amounts, even if reserved, could adversely affect our liquidity position.

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 as we move forward in our partnerships with Porta, Praj, and 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 a significant commercial advantage from the intellectual property that we develop.

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 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.

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.

Legal and Regulatory Risks

We may face substantial delays in obtaining regulatory approvals for use of our isobutanol in the fuels and chemicals markets, which could substantially hinder our ability to commercialize our products.

Large-scale commercialization of our isobutanol may require approvals from state and federal agencies. Before we can sell isobutanol as a fuel or as a gasoline blendstock directly to large petroleum refiners, we must receive EPA fuel certification. We have filed an EPA Part 79 registration to move our small business registration to a full registration (including Tier 1 EPA testing), but the approval process may require significant time. Approval can be delayed for years, and there is no guarantee of receiving it.

Additionally, California requires that fuels meet both its fuel certification requirements and a separate state low-carbon fuel standard. Any delay in receiving approval will slow or prevent the commercialization of our isobutanol for fuel markets, which could have a material adverse effect on our business, financial condition and results of operations.

With respect to the chemicals markets, we plan to focus on isobutanol production and sell to companies that can convert our isobutanol into other chemicals, such as isobutylene. However, should we later decide to produce these other chemicals ourselves, we may face similar requirements for EPA and other regulatory approvals. Approval, if ever granted, could be delayed for substantial amounts of time, which could significantly harm the development of our business and prevent the achievement of our goals.

Our isobutanol fermentation process utilizes a genetically modified organism which, when used in an industrial process, is considered a new chemical under the EPA's Toxic Substances Control Act ("TSCA"). The TSCA requires us to comply with the EPA's Microbial Commercial Activity Notice process to operate plants producing isobutanol using our biocatalysts. The TSCA's new chemicals submission policies may change and additional government regulations may be enacted that could prevent or delay regulatory approval of our isobutanol production.

There are various third-party certification organizations, such as ASTM and Underwriters' Laboratories, Inc., involved in standard-setting regarding the transportation, dispensing and use of liquid fuel in the U.S. and abroad. These organizations may change the current standards and additional requirements may be enacted that could prevent or delay approval of our products. The process of seeking required approvals and the continuing need for compliance with applicable standards may require the expenditure of substantial resources, and there is no guarantee that we will satisfy these standards in a timely manner, if ever.

In addition, to Retrofit or otherwise modify ethanol facilities and operate the Retrofitted and modified plants to produce isobutanol, we will need to obtain and comply with a number of permit requirements. As a condition to granting necessary permits, regulators may make demands that could increase our Retrofit, modification or operations costs, and permit conditions could also restrict or limit the extent of our operations, which could delay or prevent our commercial production of isobutanol. We cannot guarantee that we will be able to meet all regulatory requirements or obtain and comply with all necessary permits to complete our planned ethanol plant Retrofits, and failure to satisfy these requirements in a timely manner, or at all, could have a substantial negative effect on our performance.

Jet fuels must meet various statutory and regulatory requirements before they may be used in commercial aviation. In the U.S., the use of specific jet fuels is regulated by the Federal Aviation Administration ("FAA"). Rather than directly approving specific fuels, the FAA certifies individual aircraft for flight. This certification includes authorization for an aircraft to use the types of fuels specified in its flight manual. To be included in an aircraft's flight manual, the fuel must meet standards set by ASTM. The current ASTM requirements do not permit the use of jet fuel derived from isobutanol, and we will need to give ASTM sufficient data to justify creating a new standard applicable to ATJ fuel. Though our work testing isobutanol-based ATJ fuel with the U.S. Air Force Research Laboratory has provided us with data we believe ASTM will take into consideration, the process of seeking required approvals and the continuing need for compliance with applicable statutes and regulations will require the expenditure of substantial resources. The full ASTM specification for our ATJ fuel is expected to be approved and issued in April 2016 but due to inherent uncertainty in the regulatory process we cannot guarantee that ASTM certification will be received in a timely manner, or at all. Failure to obtain regulatory approval in a timely manner, or at all, could have a significant negative effect on our operations.

Our isobutanol may encounter physical or regulatory issues, which could limit its usefulness as a gasoline blendstock.

In the gasoline blendstock market, isobutanol can be used in conjunction with, or as a substitute for, ethanol and other widely used fuel oxygenates, and we believe our isobutanol will be physically compatible with typical gasoline engines. However, there is a risk that under actual engine conditions, isobutanol will face significant limitations, making it unsuitable for use in high percentage gasoline blends. Additionally, current regulations limit gasoline blends to low percentages of isobutanol, and also limit combination isobutanol-ethanol blends. Government agencies may maintain or even increase the restrictions on isobutanol gasoline blends. As we believe that the potential to use

isobutanol in higher percentage blends than is feasible for ethanol will be an important factor in successfully marketing isobutanol to refiners, a low blend wall could significantly limit commercialization of isobutanol as a gasoline blendstock.

We may be required to obtain additional regulatory approvals for use of our iDGs™ as animal feed, which could delay our ability to sell iDGs™ increasing our net cost of production and harming our operating results.

Many of the ethanol plants we initially plan to Retrofit use dry-milled corn as a feedstock. We plan to sell, as animal feed, the iDGs™ left as a co-product of fermenting isobutanol from dry-milled corn. We believe that this will enable us to offset a significant portion of the expense of purchasing corn for fermentation. We are currently approved to sell iDGs™ as animal feed through a self-assessed Generally Regarded as Safe ("GRAS") process via third party scientific review. In order to improve the value of our iDGs™, we are working with The Association of American Feed Control Officials ("AAFCO") to establish a formal definition for our iDGs™ as well as clearance for the materials into animal feed. We believe obtaining AAFCO approval will increase the value of our iDGs™ by offering customers of our iDGs™ further assurance of the safety of our iDGs™. If we make certain changes in our biocatalyst whereby we can no longer rely on our GRAS process, we would be required to obtain U.S. Federal Drug Administration (the "FDA") approval for marketing our iDGs™. FDA testing and approval can take a significant amount of time, and there is no guarantee that we

will ever receive such approval. While we have sold initial quantities of our iDGs ™ from the Agri-Energy Facility, if FDA or AAFCO approval is delayed or never obtained, or if we are unable to secure market acceptance for our iDGs™, our net cost of production will increase, which may hurt our operating results.

Reductions or changes to existing regulations and policies may present technical, regulatory and economic barriers, all of which may significantly reduce demand for biofuels or our ability to supply isobutanol.

The market for biofuels is heavily influenced by foreign, federal, state and local government regulations and policies. For example, in 2007, the U.S. Congress passed an alternative fuels mandate that required nearly 14 billion gallons of liquid transportation fuels sold in 2011 to come from alternative sources, including biofuels, a mandate that grows to 36 billion gallons by 2022. Of this amount, a minimum of 21 billion gallons must be advanced biofuels as defined by the U.S. Congress. In the U.S., and in a number of other countries, these regulations and policies have been modified in the past and may be modified again in the future. Any reduction in mandated requirements for fuel alternatives and additives to gasoline may cause the demand for biofuels to decline and deter investment in the research and development of biofuels. For example, the Energy and Commerce Committee of the U.S. House of Representatives has undertaken an assessment of the Renewable Fuel Standard program and has published five white papers on the subject during the current congressional period. The EPA has also said that it plans to assess the E10 blendwall and current infrastructure and market-based limitations to the consumption of ethanol in gasoline-ethanol blends above E10. In particular, the EPA is proposing to cut the volume requirements for advanced biofuels by more than 40% when compared to the requirements currently written into the statute. This proposal has created significant concerns throughout the biofuels industry, many of which were voiced by the biofuels industry during the public comment period. This type of legislative activity can create concern in the marketplace about the long-term sustainability of governmental policies. The absence of tax credits, subsidies and other incentives in the U.S. and foreign markets for biofuels, or any inability of our customers to access such credits, subsidies and incentives, may adversely affect demand for our products, which would adversely affect our business. The resulting market uncertainty regarding current and future standards and policies may also affect our ability to develop new renewable products or to license our technologies to third parties and to sell products to our end customers.

Concerns associated with biofuels, 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, like the ethanol facilities that we Retrofit, our isobutanol plants will emit greenhouse gases. 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 isobutanol and iDGs™ and increase our operating costs, which could have a material adverse effect on our business, financial condition and results of operations.

We use hazardous materials in our business and we must comply with environmental laws and regulations. Any claims relating to improper handling, storage or disposal of these 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.

Enacted and proposed changes in securities laws and regulations have increased our costs and may continue to increase our costs in the future.

In recent years, there have been several changes in laws, rules, regulations and standards relating to corporate governance and public disclosure, including the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act"), the Sarbanes-

Oxley Act of 2002 and various other new regulations promulgated by the SEC and rules promulgated by the national securities exchanges.

The Dodd-Frank Act, enacted in July 2010, expands federal regulation of corporate governance matters and imposes requirements on publicly-held companies, including us, to, among other things, provide stockholders with a periodic advisory vote on executive compensation and also requires compensation committee reforms and enhanced pay-for-performance disclosures. While some provisions of the Dodd-Frank Act are effective upon enactment, others will be implemented upon the SEC's adoption of related rules and regulations. The scope and timing of the adoption of such rules and regulations is uncertain and accordingly, the cost of compliance with the Dodd-Frank Act is also uncertain. These and other new or changed laws, rules, regulations and standards are, or will be, subject to varying interpretations in many cases due to their lack of specificity. As a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies, which could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices. Our efforts to comply with evolving laws, regulations and standards are likely to continue to result in increased general and administrative expenses and a diversion of management time and attention from revenue-generating activities to compliance activities. Further, compliance with new and existing laws, rules, regulations and standards may make it more difficult and expensive for us to maintain director and officer liability insurance, and we may be required to accept reduced coverage or incur substantially higher costs to obtain coverage. Members of our board of directors and our principal executive officer and principal financial officer could face an increased risk of personal liability in connection with the performance of their duties. As a result, we may have difficulty attracting and retaining qualified directors and executive officers, which could harm our business. We continually evaluate and monitor regulatory developments and cannot estimate the timing or magnitude of additional costs we may incur as a result of such developments.

Our expanded 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 Praj, Porta and future 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.

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. For example, since February 19, 2011, when we became a public company, through March 1, 2016, the closing sales price for one share of our common stock has reached a high of $383.27 and a low of $0.33.

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 financial condition and operating results;
- the position of our cash and cash equivalents;
- 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 isobutanol at the Agri-Energy Facility and ramp up production to nameplate capacity;
- additions or losses of customers or partners;
- our ability to obtain certain regulatory approvals for the use of our isobutanol 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, including the Renewable Fuel Standard program, 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. Because our Convertible Notes are convertible into our common stock and our warrants are exercisable into our common stock, volatility or a reduction in the market price of our common stock could have an adverse effect on the trading price of our Convertible Notes and our warrants. Holders who receive common stock upon exercise of the warrants will also be subject to the risk of volatility and a reduction in the market price of our common stock. In addition, the existence of our Convertible Notes and our outstanding warrants may encourage short selling in our common stock by market participants because the conversion of the Convertible Notes or exercise of the warrants could depress the price of our common stock.

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 Convertible Notes or warrants as a more attractive means of equity participation in us and by hedging or arbitrage activity involving our common stock. The hedging or arbitrage could, in turn, affect the trading prices of the warrants, or any common stock that holders receive upon exercise of the warrants.

Sales of a substantial number of shares of our common stock or securities linked to our common stock, such as our Convertible Notes and warrants, 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 (including shares of our common stock issuable upon the conversion of certain Convertible Notes or upon exercise of certain outstanding warrants) 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.

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. In order to maintain that listing, we must satisfy minimum financial and other continued listing requirements and standards.

On January 25, 2016, we received a deficiency letter from the Listing Qualifications Department of the NASDAQ Stock Market ("NASDAQ"), notifying us that, for the prior 30 consecutive business days, the closing bid price of our common stock was not maintained at the minimum required closing bid price of at least $1.00 per share as required for continued listing on The NASDAQ Capital Market. In accordance with NASDAQ Listing Rules, we have an initial compliance period of 180 calendar days, or until July 25, 2016, to regain compliance with this requirement. To regain compliance, the closing bid price of our common stock must be $1.00 per share or more for a minimum of 10 consecutive business days at any time before July 25, 2016. If we regain compliance, NASDAQ will have provided written notification and close the matter.

If we do not regain compliance by July 25, 2016, we may be eligible for an additional 180 calendar day compliance period. To qualify, the Company would need to meet the continued listing requirement for market value of publicly held shares ($1 million), and all other initial listing standards, with the exception of the bid price requirement, and would need to provide written notice of its intention to cure the deficiency, or if the Company is otherwise not eligible, NASDAQ would notify the company that its securities would be subject to delisting. In the event of such a notification, the Company may appeal the NASDAQ's determination to delist its securities, but there can be no assurance the NASDAQ would grant the Company's request for continued listing.

We cannot provide any assurance that our stock price will recover within the permitted grace period. If our common stock is delisted, it could be more difficult to buy or sell our common stock and to obtain accurate quotations, and the price of our stock could suffer a material decline. Delisting may also impair our ability to raise capital.

In the event that our common stock is not eligible for quotation on another market or exchange, trading of our common stock could be conducted in the over-the-counter market or on an electronic bulletin board established for unlisted securities such as the Pink Sheets or the OTC Bulletin Board. In such event, it could become more difficult to dispose of, or obtain accurate price quotations for, our common stock, and there would likely be a reduction in our coverage by security analysts and the news media, which could cause the price of our common stock to decline further. In addition, it may be difficult for us to raise additional capital if we are not listed on a major exchange.

Furthermore, it would be a fundamental change under the indentures governing the Convertible Notes if our common stock is not listed on a national securities exchange. In such circumstance we would be required to offer to repurchase the Convertible Notes at 100% of principal plus accrued and unpaid interest to, but not including, the repurchase date. We would also be required to pay the holders of the 2017 Notes a fundamental change make-whole payment equal to the aggregate amount of interest that would have otherwise been payable on such notes, to, but not including, the maturity date of such notes. Repurchase offers for the 2022 Notes would be prohibited by the agreements governing our secured indebtedness with TriplePoint.

Our quarterly operating results may fluctuate in the future. As a result, we may fail to meet or exceed the expectations of investment research analysts or investors, which could cause our stock price to decline.

Our financial condition and operating results have varied significantly in the past and may continue to fluctuate from quarter to quarter and year to year in the future due to a variety of factors, many of which are beyond our control. Factors relating to our business that may contribute to these fluctuations are described elsewhere in this report and other reports that we have filed with the SEC. Accordingly, the results of any prior quarterly or annual periods should

not be relied upon as indications of our future operating performance.

Future issuances of our common stock or instruments convertible or exercisable into our common stock, including in connection with conversions of Convertible Notes or exercises of warrants, may materially and adversely affect the price of our common stock and cause dilution to our existing stockholders.

We may obtain additional funds through public or private debt or equity financings in the near future, subject to certain limitations in the agreements governing our indebtedness, including our secured indebtedness with Whitebox and/or TriplePoint. 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. In addition, the conversion of some or all of the Convertible Notes and/or the exercise of some or all of the warrants may dilute the ownership interests of our stockholders, and any sales in the public market of any of our common stock issuable upon such conversion or exercise could adversely affect prevailing market prices of our common stock. Additionally, under the terms of certain warrants in the event that a warrant is exercised at a time when we do not have an effective registration statement covering the underlying shares of common stock on file with the SEC, such warrant may be net exercised, which will dilute the

ownership interests of existing stockholders without any corresponding benefit to the Company of a cash payment for the exercise price of such warrant.

As of December 31, 2015, we had $22.4 million in outstanding 2022 Notes, which were convertible into 4,434,535 shares of common stock at the conversion rate in effect on December 31, 2015 (which amount includes 4,172,202 shares of common stock issuable in full satisfaction of the coupon make-whole payments due in connection therewith). The anticipated conversion of the $22.4 million in outstanding 2022 Notes into shares of our common stock could depress the trading price of our common stock. In addition, we have the option to issue common stock to any converting holder in lieu of making any required coupon make-whole payment in cash. If we elect to issue our common stock for such payment, the stock will be valued at 90% of the simple average of the daily volume weighted average prices of our common stock for the 10 trading days ending on and including the trading day immediately preceding the conversion date. If our stock price decreases, the number of shares we would be required to deliver in connection with the coupon make-whole payments would increase. Given that the agreements governing our indebtedness, including our secured indebtedness with TriplePoint, may prohibit us from paying, repurchasing or redeeming the 2022 Notes or making cash payments in respect of the coupon make-whole payments due upon a conversion, we may be unable to make such payment in cash. If we issue additional shares of our common stock in satisfaction of such payments, this may cause significant additional dilution to our existing stockholders.

As of December 31, 2015, we had $26.1 million in outstanding 2017 Notes, which were convertible into 1,689,533 shares of our common stock at the conversion rate in effect on December 31, 2015. The 1,689,533 shares includes 185,712 shares of common stock that may be issuable from time to time in the event that the Company pays a portion of the interest on the 2017 Notes in kind or elects to pay make-whole payments due upon conversion of the 2017 Notes, if any, in shares of common stock. The anticipated conversion of the outstanding 2017 Notes (including any interest that is paid in kind) into shares of our common stock could depress the trading price of our common stock. In addition, subject to certain restrictions, we have the option to issue common stock to any converting holder in lieu of making any required make-whole payment in cash. If we elect to issue our common stock for such payment, it will be at the same conversion rate that is applicable to conversions of the principal amount of the 2017 Notes. If we elect to issue additional shares of our common stock for such payments, this may cause significant additional dilution to our existing stockholders.

The indebtedness under our 2017 Notes and our loan agreement with TriplePoint are secured by substantially all of our assets. As a result of these security interests, such assets would only be available to satisfy claims of our general creditors or to holders of our equity securities if we were to become insolvent to the extent the value of such assets exceeded the amount of our indebtedness and other obligations.

Indebtedness under our 2017 Notes is secured by a first lien, and TriplePoint is secured by a second lien, on substantially all of our assets. Accordingly, if an event of default were to occur under our credit facilities, holders of our 2017 Notes and then TriplePoint would have a priority right to our assets, to the exclusion of our general creditors, in the event of our bankruptcy, insolvency, liquidation, or reorganization. In that event, our assets would first be used to repay in full all indebtedness and other obligations secured by them, resulting in all or a portion of our assets being unavailable to satisfy the claims of our unsecured indebtedness. Only after satisfying the claims of our unsecured creditors and our subsidiaries' unsecured creditors would any amount be available for distribution to holders of our equity securities

The terms of the agreements governing our indebtedness, including our secured indebtedness with Whitebox and/or TriplePoint and the indentures governing the Convertible Notes, may restrict our ability to engage in certain transactions.

The terms of the agreements governing our indebtedness, including our secured indebtedness with Whitebox and/or TriplePoint and the indentures governing the Convertible Notes, may prohibit us from engaging in certain actions, including disposing of certain assets, granting or otherwise allowing the imposition of a lien against certain assets, incurring certain kinds of additional indebtedness, acquiring or merging with other entities, or making dividends and other restricted payments unless we receive the prior approval of the requisite lenders or the requisite holders of the Convertible Notes. If we are unable to obtain such approval, we could be prohibited from engaging in transactions which could be beneficial to our business and our stockholders or could be forced to repay such indebtedness in full.

The indentures governing the Convertible Notes may prohibit us from engaging in certain mergers or acquisitions and if a fundamental change of the Company occurs prior to the maturity date of the Convertible Notes, holders of the Convertible Notes will have the right, at their option, to require us to repurchase all or a portion of their Convertible Notes and, in certain circumstances, to pay the holders of Convertible Notes a make-whole payment equal to the aggregate amount of interest that would have been payable on such Convertible Notes from the repurchase date through the maturity date of such Convertible Notes. With respect to the 2022 Notes, if a fundamental change occurs prior to the maturity date of the 2022 Notes, we will in some cases be required to increase the conversion rate for a holder that elects to convert its 2022 Notes in connection with such fundamental change. With respect to the 2017 Notes, the Company has the right to increase the conversion rate of the 2017 Notes by any amount for a period of at least 20 business days if the Company’s board of directors determines that such increase would be in the Company’s best interest. In

addition, if a fundamental transaction occurs, holders of warrants will have the right, at their option, to require us to repurchase the unexercised portion of such warrants for an amount in cash equal to the value of the warrants, as determined in accordance with the Black Scholes option pricing model and the terms of the warrants. These and other provisions could prevent or deter a third party from acquiring us, even where the acquisition could be beneficial to you.

The conversion or exercise prices, as applicable, of the Convertible Notes and warrants can fluctuate under certain circumstances which, if triggered, can result in potentially material further dilution to our stockholders.

The conversion price of the 2022 Notes can fluctuate in certain circumstances, including in the event that we undertake certain stock dividends, splits, combinations or distributions, or if there is a fundamental change prior to the maturity date of the 2022 Notes. In such instances, the conversion price of the 2022 Notes can fluctuate materially lower than the current conversion price of $85.39 per share. The conversion price of the 2017 Notes can fluctuate in certain circumstances, including in the event that there is a dividend or distribution paid on shares of our common stock or a subdivision, combination or reclassification of our common stock. In such instances, the conversion price of the 2017 Notes can fluctuate materially lower than the current conversion price of $17.36 per share.

The number of shares of common stock for which certain of our warrants, are exercisable may be adjusted in the event that we undertake certain stock dividends, splits, combinations, distributions, and the price at which such shares of common stock may be purchased upon exercise of the warrants may be adjusted in the event that we undertake certain issuances of common stock or convertible securities at prices lower than the then-current exercise price for the warrants. These provisions could result in substantial dilution to investors in our common stock.

The interest rates of the Convertible Notes can fluctuate under certain circumstances which, if triggered, can result in potentially material further dilution to our stockholders.

The interest rates of the Convertible Notes can fluctuate in certain circumstances, including in the event of a default of our obligations under the indentures governing the Convertible Notes or the registration rights agreements, if any, entered into in connection with such notes. In addition, the interest on the 2017 Notes will be payable 50% in cash and 50% in-kind if (i) no event of default has occurred and is continuing under the indentures governing the 2017 Notes and (ii) the last reported sales price of our common stock on the 10th trading day immediately preceding the relevant interest payment date is more than $16.50 per share. As the Company may be required to pay a portion of the interest on the 2017 Notes in kind, by either increasing the principal amount of the outstanding 2017 Notes or issuing additional 2017 Notes, any increase to the interest rate applicable to the 2017 Notes could result in additional dilution to investors in our common stock.

We may not have the ability to pay interest on the Convertible Notes or to repurchase or redeem the Convertible Notes.

If a fundamental change (as defined in the indentures governing the Convertible Notes) occurs, holders of the Convertible Notes may require us to repurchase, for cash, all or a portion of their Convertible Notes. In such circumstance we would be required to offer to repurchase the Convertible Notes at 100% of principal plus accrued and unpaid interest to, but not including, the repurchase date. We would also be required to pay the holders of the 2017 Notes a fundamental change make-whole payment equal to the aggregate amount of interest that would have otherwise been payable on such notes to, but not including, the maturity date of such notes. If we elect to redeem the Convertible Notes prior to their maturity, the redemption price of any Convertible Notes redeemed by us will be paid for in cash. Our ability to pay the interest on the Convertible Notes, to repurchase or redeem the Convertible Notes, to refinance our indebtedness and to fund working capital needs and planned capital expenditures depends on our ability to generate cash flow in the future. To some extent, this is subject to general economic, financial, competitive,

legislative and regulatory factors and other factors that are beyond our control. We cannot assure you that we will maintain sufficient cash reserves or that our business will generate cash flow from operations at levels sufficient to permit us to pay the interest on the Convertible Notes, to repurchase or redeem the Convertible Notes or to pay any cash amounts that may become due upon conversion of the Convertible Notes, or that our cash needs will not increase. In addition, any such repurchase or redemption of the Convertible Notes, even if such action would be in our best interests, may result in a default under the agreements governing our indebtedness, including our secured indebtedness with TriplePoint, unless we are able to obtain the applicable lender's consent prior to the taking of such action.

Our failure to repurchase tendered Convertible Notes at a time when the repurchase is required by the indenture governing such notes would constitute a default under such notes and would permit holders of such notes to accelerate our obligations under such notes. Such default may also lead to a default under the agreements governing any of our current and future indebtedness. If the repayment of the related indebtedness were to be accelerated after any applicable notice or grace periods, we may not have sufficient funds to repay such indebtedness and repurchase the Convertible Notes or make cash payments upon conversions thereof.

If we are unable to generate sufficient cash flow from operations in the future to service our indebtedness and meet our other needs, we may have to refinance all or a portion of our indebtedness, obtain additional funds through public or private debt or equity financings, reduce expenditures or sell assets that we deem necessary to our business. Our ability to take some or all of these actions

will be subject to certain limitations in the agreements governing our indebtedness, including our secured indebtedness with Whitebox and/or TriplePoint, and we cannot assure you that any of these measures would be possible or that any additional financing could be obtained on favorable terms, or at all. The inability to obtain additional financing on commercially reasonable terms could have a material adverse effect on our financial condition, which could cause the value of your investment to decline. Additionally, if we were to conduct a public or private offering of securities, any new offering would be likely to dilute our stockholders' equity ownership.

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

We may, subject to certain limitations in the agreements governing our indebtedness, including our secured indebtedness with Whitebox and/or TriplePoint, 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 their 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.

The issuance of share-based payment awards under our stock incentive plan may cause dilution to our existing stockholders and may affect the market price of our common stock.

We have used, and in the future we may continue to use, stock options, stock grants and other equity-based incentives, either pursuant to the 2010 Plan, or outside of the 2010 Plan, to provide motivation and compensation to our directors, officers, employees and key independent consultants. The award of any such incentives will result in an immediate and potentially substantial dilution to our existing shareholders and could result in a decline in the value of our stock price.

As of December 31, 2015, there were 481,786 shares subject to outstanding options that are or will become eligible for sale in the public market to the extent permitted by any applicable vesting requirements and Rules 144 and 701 under the Securities Act. The exercise of these options and the sale of the underlying shares of common stock and the sale of stock issued pursuant to stock grants may have an adverse effect upon the price of our common stock, which in turn may have an adverse effect upon the trading price of the warrants.

As of December 31, 2015, there were 59,316 shares of common stock available for future grant under our 2010 Plan and 76,629 shares of common stock reserved for issuance under our Employee Stock Purchase Plan. These shares can be freely sold in the public market upon issuance and once vested.

We may pay vendors in stock as consideration for their services; this may result in additional costs and may cause dilution to our existing stockholders.

In order for us to preserve our cash resources, we may in the future pay vendors, including technology partners, in shares, warrants or options to purchase shares of our common stock rather than cash. Payments for services in stock may materially and adversely affect our stockholders by diluting the value of outstanding shares of our common stock. In addition, in situations where we agree to register the shares issued to a vendor, this will generally cause us to incur additional expenses associated with such registration.

Except as set forth in the applicable warrant, holders of our warrants will have no rights as common stockholders until such holders exercise their warrants and acquire our common stock.

Until you acquire shares of our common stock upon exercise of your warrants, you will have no rights with respect to the shares of our common stock underlying such warrants, except for those rights set forth in the applicable warrant. Upon exercise of your warrants, you will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

The exercise prices for our warrants will not be adjusted for all dilutive events.

The exercise prices of certain warrants are subject to adjustment for certain events, including the issuance of stock dividends on our common stock and, in certain instances, the issuance of our common stock at a price per share less than the exercise price of such

warrants. However, the exercise prices will not be adjusted for other events, including the issuance of certain rights, options or warrants, distributions of capital stock, indebtedness, or assets and cash dividends. Accordingly, an event that adversely affects the value of the warrants may occur, and that event may not result in an adjustment to the exercise prices.

We may not be permitted by the agreements governing our indebtedness, including our secured indebtedness with Whitebox and/or TriplePoint, to repurchase our warrants, and we may not have the ability to do so.

Under certain circumstances, if a “fundamental transaction” or “extraordinary transaction” (as such terms are defined in our various warrants) occurs, holders of our warrants may require us to repurchase, for cash, the remaining unexercised portion of such warrants for an amount of cash equal to the value of the warrant as determined in accordance with the Black Scholes option pricing model and the terms of the warrants. Our ability to repurchase the warrants depends on our ability to generate cash flow in the future. To some extent, this is subject to general economic, financial, competitive, legislative and regulatory factors and other factors that are beyond our control. We cannot assure you that we will maintain sufficient cash reserves or that our business will generate cash flow from operations at levels sufficient to permit us to repurchase the warrants. In addition, any such repurchase of the warrants may result in a default under the agreements governing our indebtedness, including our secured indebtedness with Whitebox and/or TriplePoint, unless we are able to obtain such lender’s consent prior to the taking of such action. If we were unable to obtain such consent, compliance with the terms of the warrants would trigger an event of default under such agreements.

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

Under the terms of the agreements governing our indebtedness with TriplePoint, subject to certain limited exceptions, Agri-Energy is only permitted to pay dividends if the following conditions are satisfied: (i) the Retrofit of the Agri-Energy Facility is complete and the facility is producing commercial volumes of isobutanol, (ii) its net worth is greater than or equal to $10.0 million, and (iii) no event of default has occurred and is continuing under the agreement. Agri-Energy is also permitted to make dividends and distributions to Gevo, Inc. for certain defined purposes related to the Convertible Notes. Accordingly, even if we decide to pay cash dividends in the future, we may not be able to access cash generated by Agri-Energy if amounts are then outstanding pursuant to such agreements.

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 these analysts. If one or more of the analysts who cover us downgrade our stock or change their opinion of our stock, our stock price would likely decline which in turn would likely cause a decline in the value of the warrants and Convertible Notes. If one or more of these analysts cease coverage of the Company or fail to regularly publish reports on us, we could lose visibility in the financial markets, which could cause our stock price and the price of the warrants to decline or the trading volume of such securities to decline.

We are subject to anti-takeover provisions in our amended and restated certificate of incorporation, our amended and restated 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 amended and restated certificate of incorporation and our amended and restated bylaws may delay or prevent an acquisition of the Company. Among other things, our amended and restated certificate of incorporation and amended and restated 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, 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.

Item 1B. Unresolved Staff Comments
None.

Item 2. Properties
Our corporate headquarters and research and development laboratories, included in our Gevo, Inc. segment, are located in Englewood, Colorado, where we currently occupy approximately 29,865 square feet of office and laboratory space. Our lease for this facility expires in July 2016. In January 2016, we amended our lease to extend the term until July 2021 and to reduce the amount of leased space from 29,865 square feet to approximately 19,241 square feet, effective July 2016. We believe that the facility with the reduced square footage will be adequate for our needs for the immediate future and that, should it be needed, additional space can be leased to accommodate any future growth.

Our subsidiary, Agri-Energy, included in our Gevo Development/Agri-Energy segment, owns and operates an ethanol and isobutanol production facility in Luverne, Minnesota on approximately 55 acres of land and contains approximately 50,000 square feet of building space. The production facility was originally constructed in 1998. The land and buildings are owned by Agri-Energy, which granted to Whitebox and TriplePoint a mortgage lien and security interest in such property to secure its obligations under Whitebox Notes Indenture and the Amended Agri-Energy Loan Agreement with TriplePoint.

Item 3. Legal Proceedings
On January 14, 2011, Butamax filed a complaint (the “Complaint”) against us in the United States Court for the District of Delaware (the “Delaware District Court”), as Case No. 1:11-cv-00054-SLR, alleging that we were infringing one or more claims made in U.S. Patent No. 7,851,188, entitled “Fermentive Production of Four Carbon Alcohols.”

On August 11, 2011, Butamax amended the Complaint to include allegations that we were infringing one or more claims made in U.S. Patent No. 7,993,889, also entitled “Fermentive Production of Four Carbon Alcohols”. On March 12, 2012, Butamax filed a complaint in the Delaware District Court, as Case No. 1:12-cv-00298-SLR, alleging that we were infringing one or more claims made in U.S. Patent No. 8,129,162, entitled “Ketol-Acid Reductoisomerase Using NADH.”

On May 15, 2012, Butamax filed a complaint in the Delaware District Court, as Case No. 1:12-cv-00602-SLR, alleging that we were infringing one or more claims made in U.S. Patent No. 8,178,328, entitled “Fermentive Production of Four Carbon Alcohols.”

On August 6, 2012, Butamax filed a complaint in the Delaware District Court, as Case No. 1:12-cv-01014-SLR, alleging that we were infringing U.S. Patent No. 8,222,017, entitled “Ketol-Acid Reductoisomerase Using NADH.”

On August 14, 2012, Butamax filed a complaint in the Delaware District Court, as Case No. 1:12-cv-01036-SLR, alleging that we were infringing U.S. Patent No. 8,241,878, entitled “Recombinant Yeast Host Cell with Fe-S Cluster Proteins and Methods of Using Thereof.”

On September 25, 2012, Butamax filed a complaint in the Delaware District Court, as Case No. 1:12-cv-01200-SLR, alleging that we were infringing U.S. Patent No. 8,273,558, entitled “Fermentive Production of Four Carbon Alcohols.”

On October 8, 2012, Butamax filed a complaint in the Delaware District Court, as Case No. 1:12-cv-01300-SLR, alleging that we were infringing U.S. Patent No. 8,283,144, entitled “Fermentive Production of Four Carbon Alcohols.”

On August 22, 2015, the Company entered into a Settlement Agreement and Mutual Release (the “Settlement Agreement”) with Butamax, E.I. du Pont de Nemours & Company (“DuPont”) and BP Biofuels North America LLC (“BP” and, together with Butamax and DuPont, the “Butamax Parties”), that resolves the various disputes, lawsuits and other proceedings between one or more of the Butamax Parties and the Company mentioned above (the “Subject Litigation”), and creates a new business relationship pursuant to which Butamax and the Company have granted rights to each other under certain patents and patent applications in accordance with the terms of the License Agreement which was entered into by the Company and Butamax concurrently with the Settlement Agreement.

Pursuant to the terms of the Settlement Agreement, the parties filed a joint motion of dismissal with prejudice subject to certain continuing permitted activities such as the rights of each of the Company and Butamax to take further actions in connection with

existing appeals and reexaminations for purposes of resolving existing disputes. The Delaware District Court vacated and withdrew its decisions and orders concerning certain of the parties' substantive motions, specifically the Delaware District Court's Claim Construction Memorandum Opinion and Order in matter 11-54, dated March 19, 2013, and the Delaware District Court's memorandum Opinion and Order dated August 3, 2015 in matters 12-1036, 12-1300 and 12-1200.

The Butamax Parties have also agreed to release, on behalf of themselves and their affiliates, the Company and its affiliates from and against all claims that the Butamax Parties have or may have with respect to any matter arising from or related to the Subject Litigation. Likewise, the Company has agreed to release, on behalf of itself and its affiliates, the Butamax Parties and their affiliates from and against all claims that the Company has or may have with respect to any matter arising from or related to the Subject Litigation. The parties have also agreed to certain limitations on the making or participating in a challenge of the other party's patents that are at issue in the Subject Litigation.

The Settlement Agreement will continue in effect until the expiration of the licensed patents, unless earlier terminated by all parties in writing, except that certain obligations under the Settlement Agreement including the mutual release and obligations to pay royalties and other fees under the License Agreement will survive the termination of the Settlement Agreement.

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 for Common Stock

In December 2014, the Company received a positive determination from the Listing Qualifications department of The NASDAQ Stock Market ("NASDAQ"), granting approval of the Company's request to transfer its listing to The NASDAQ Capital Market from The NASDAQ Global Market in order to continue to pursue compliance with NASDAQ's minimum bid price requirement. The Company's securities began trading on the NASDAQ Capital Market effective at the start of trading on January 5, 2015. The transfer of the Company's listing to the NASDAQ Capital Market is not expected to have any impact on trading in the Company's securities, and the Company's securities will continue to trade on the NASDAQ Capital Market under the symbol 'GEVO'. Prior to January 5, 2015 and since February 9, 2011, our common stock had been traded on the NASDAQ Global Market under the symbol "GEVO".

The following table sets forth, for the period indicated, the high and low sales prices for our common stock, as reported by the NASDAQ Global Market and NASDAQ Capital Market, for the periods indicated below.

	Common Stock			
	Price 2015		Price 2014	
	High	Low	High	Low
First Quarter	$5.25	$1.80	$23.25	$17.10
Second Quarter	5.46	2.01	20.10	10.95
Third Quarter	3.26	1.72	13.95	4.50
Fourth Quarter	2.21	0.61	8.10	3.75

Holders of Record

The last sale price of our common stock on March 28, 2016, as reported by the NASDAQ Capital Market, was $0.46 per share. As of March 25, 2016, there were approximately 75 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.

Under the terms of the Amended Agri-Energy Loan Agreement, subject to certain limited exceptions, Agri-Energy is only permitted to pay dividends if the following conditions are satisfied: (i) the Retrofit of the Agri-Energy Facility is complete and the facility is producing commercial volumes of isobutanol, (ii) its net worth is greater than or equal to $10.0 million, and (iii) no event of default has occurred and is continuing under the agreement.

Equity Compensation Plan Information

The information required to be disclosed under Item 201 of Regulation S-K is included in this Report under Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.

Performance Graph

Set forth below is a graph comparing the yearly change in the cumulative total return of Gevo's common stock with the cumulative total return of the Standard & Poor's SmallCap 600 Value Index and with the NASDAQ Clean Edge Green Energy Index over the period from the initiation of public trading of the Company's common stock in February 2011 through December 31, 2015.

It is assumed in the graph that $100 was invested (i) in our common stock; (ii) in the stocks of the companies in the Standard & Poor's SmallCap 600 Value Index; and (iii) in the stocks of the NASDAQ Clean Edge Green Energy Index.

The stock price performance shown on the following graph is not indicative of future price performance.

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

None.

Purchases of Equity Securities by the Issuer and Affiliated Purchasers

None.

Item 6. Selected Financial Data

The following selected historical consolidated financial data should be read together with our consolidated financial statements and the accompanying notes appearing in Part II, Item 8 of this Report, and "Management's Discussion and Analysis of Financial Condition and Results of Operations." The selected historical consolidated financial data in this section is not intended to replace our historical consolidated financial statements and the accompanying notes. Our historical results are not necessarily indicative of our future results.

We derived the consolidated statements of operations data for the years ended December 31, 2015, 2014, and 2013 and the consolidated balance sheet data as of December 31, 2015 and 2014 from our audited consolidated financial statements in Part II, Item 8 of this Report. The consolidated statements of operations data for the years ended December 31, 2012 and 2011 and the consolidated balance sheet data as of December 31, 2013, 2012 and 2011 has been derived from our audited consolidated financial statements not included in this Report. The data should be read in conjunction with the consolidated financial statements, related notes, and other financial information included herein.

(In thousands except share and per share amounts)	Years Ended December 31,				
Consolidated statement of operations data:	2015	2014	2013	2012	2011
Total revenue (1) (2)	$30,137	$28,266	$8,224	$24,385	$64,549
Costs of goods and corn sold	38,762	35,582	17,913	32,410	60,588
Operating expenses	23,302	32,461	45,826	63,412	48,654
Loss from operations	(31,927)	(39,777)	(55,515)	(71,437)	(44,693)
Net loss (3) (4) (5) (6) (7)	(36,194)	(41,145)	(66,806)	(60,712)	(48,214)
Net loss per share - basic and diluted	(2.58)	(7.67)	(22.23)	(27.92)	(31.57)
Weighted-average number of common shares outstanding - basic and diluted	14,025,048	5,366,162	3,004,775	2,174,606	1,527,328

	As of December 31,				
Consolidated balance sheet data:	2015	2014	2013	2012	2011
Cash and cash equivalents	$17,031	$6,359	$24,625	$66,744	$94,225
Total assets	103,128	98,928	116,355	156,111	133,030
Derivative warrant liability	10,493	3,114	7,243	-	-
Secured debt	485	773	10,127	23,958	28,243
2017 notes recorded at fair value	21,565	25,460	-	-	-
2022 notes, net	14,636	13,679	14,501	25,554	-
Total liabilities	54,802	51,964	45,380		